MARIN COUNTY
LOCAL COASTAL PROGRAM
UNIT 1 - *Amended*

MARIN COUNTY COMMUNITY DEVELOPMENT AGENCY
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M A R I N C O U N T Y

L O C A L C O A S T A L P R O G R A M

U N I T I

Amended

ADOPTED BY MARIN COUNTY BOARD OF SUPERVISORS

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CERTIFIED BY STATE COASTAL COMMISSION

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The following document is the current amended version of the 1981 Marin County LCP Unit I, which reflects all policy text amendments approved by the California Coastal Commission from 1982 to 2004. Following each amended policy is a note that provides the details of the Resolution(s)/Ordinance(s) passed by the Marin County Board of Supervisors that proposed and adopted each text amendment, as well as the corresponding action(s) of the California Coastal Commission. All information contained herein is current as of April 16, 2010, and is the most accurate portrayal of the amended LCP Policies to the best knowledge of the Marin County Community Development Agency at this time.

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INTRODUCTION

This document is the Land Use Plan for the Local Coastal Program (LCP) for Unit I of the Coastal Zone of Marin County. The boundaries of the Unit I Coastal Zone are shown on Figure 1, and generally consist of the southern portion of Marin County's coastline, including Bolinas, Stinson Beach, and Muir Beach. Policies for the remaining portion of Marin's Coastline, Unit II, are found in a separate document.

This document was prepared pursuant to the Coastal Act of 1976, which required all coastal jurisdictions to prepare a Local Coastal Program. A local Coastal Program is "a local government's land use plans, zoning ordinances, zoning district maps, and implementing actions which, when taken together, meet the requirements of, and implement the provisions and policies" of the Coastal Act at the local level.

The purpose of the Local Coastal Program is to ensure that the local government's development plans, policies, and ordinances conform to the policies of the Coastal Act of 1976. The Act's goals are to protect and conserve the State's coastal resources and to maximize public use and enjoyment of them. The policies of the Coastal Act, Chapter 3, have formed the basis for the policies contained within this document. Where any question is raised concerning the interpretation of policies within the LCP, Chapter 3 of the Coastal Act may be used to provide clarification of LCP policies. In preparing the ordinances that will implement this LCP, minor modification to a small number of policies has been made. The implementing ordinances shall be used to provide clarification of policies as necessary.

This document is a composite of that adopted by the Board of Supervisors and the one subsequently certified by the State Coastal Commission. This revised document was completed in May, 1981.

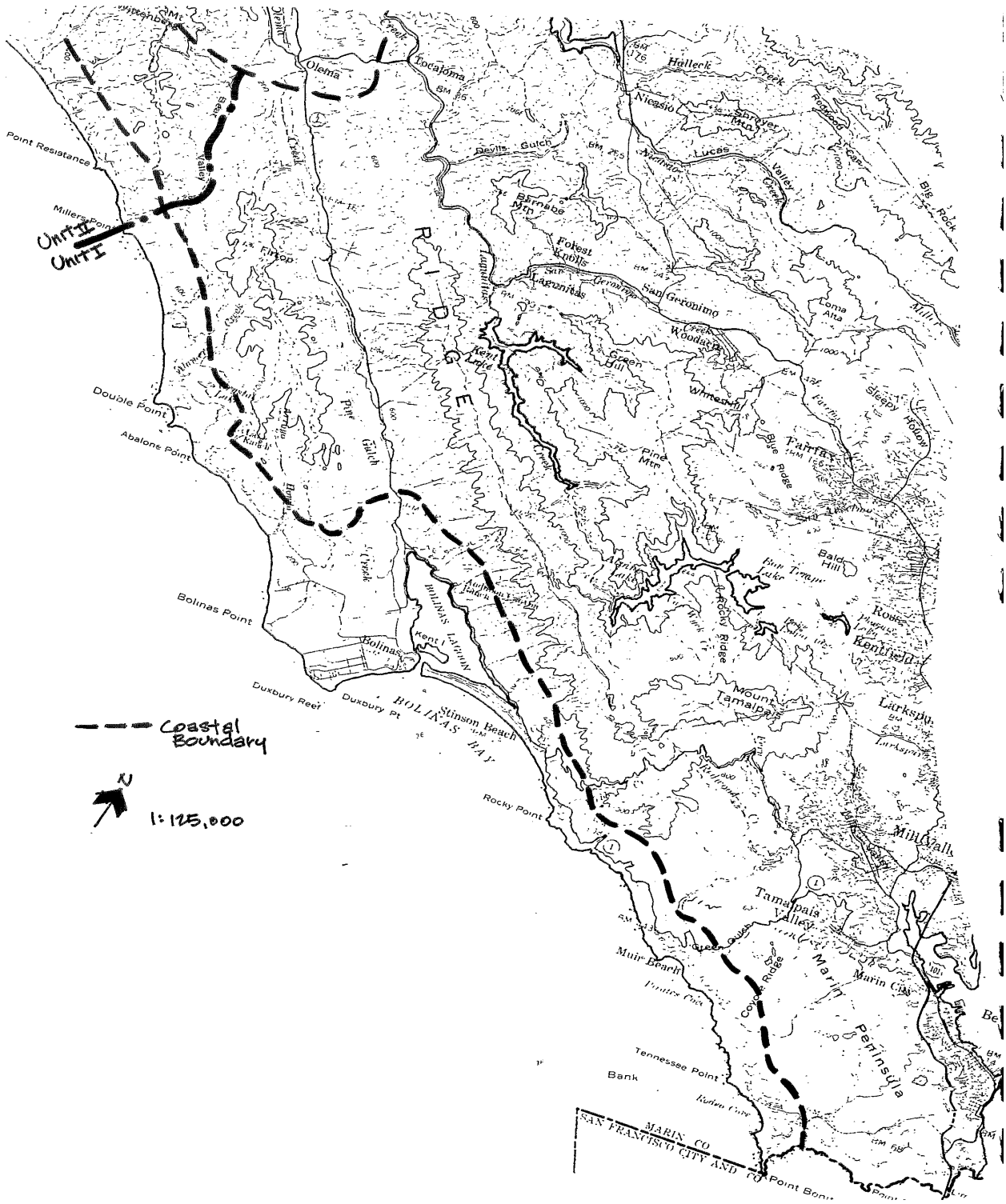

Figure 1: Unit 1 Local Coastal Program Boundary

I. PUBLIC ACCESS AND RECREATION

PUBLIC ACCESS

Existing Public Access

Virtually all lands within Unit I, with the exception of the communities of Muir Beach, Stinson Beach and Bolinas, are in public ownership for recreational purposes: the Point Reyes National Seashore, Golden Gate National Recreation Area, Mt. Tamalpais State Park and several county parks. Public access to these lands seems to be assured. Planning for proposed uses is currently taking place for both the federal and state park lands and will be completed in the near future. Public access to the shoreline bounded by the three villages and other private lands is also available.

Muir Beach. The shoreline at Muir Beach includes the areas known as Big Beach, Little Beach and stretches of steep rocky shoreline. The main beach or Big Beach is part of the Golden Gate National Recreation Area (GGNRA) and includes an unpaved parking lot that can accommodate 250 cars and restroom facilities. It is a short walk from this area along the shore to Little Beach, which is also open for public use. The remainder of the shoreline at Muir Beach is generally steep and inaccessible; however, in the north of this area there is a federally owned observation point (Muir Beach Overlook). The point of land which forms the westernmost extension of the Muir Beach area, Spindrift Point, is owned by the Nature Conservancy. Users of Big Beach and the observation point numbered approximately 375,000 in 1978, but this figure has fallen in 1979 to 298,000.

Stinson Beach. The shoreline at Stinson Beach is composed entirely of a broad sandy beach. Public access to Stinson Beach currently involves land owned by three different entities. The most accessible entrance to the beach is on the federal lands at the southern end of the beach. Most of the public comes to this area since it contains the only developed recreational site (picnic areas, lifeguards, etc.) and it has a large parking area which can accommodate up to 1,200 cars. Further north public access depends upon the County owned and maintained street at Calle Del Sierra, plus the private roads at Calles Del Occidente, Embarcadero, Ribera, Risaca, Onda, Padera and Pinos. These private roads are all unpaved and are periodically roped off with signs indicating that they are private lands. Nevertheless, they are a common point of access and thus there is strong evidence that prescriptive rights exist in this area. Next to the Calles are the Patios (Sonoma, Sacramento, Rafael, Jose, Joaquin, Francisco and Alamedo). These cul-de-sacs off Calle Del Arroyo are also privately owned unpaved streets. The Assessor's Parcel maps indicate that five foot wide private easements run from the patios between the lots to the paper street of Mira Vista. Indeed, one of these easements (at Jose Patio) has been dedicated to the public. However, use of the access trails in this area has been blurred by time and by development, with the consequence that the public has little awareness of the existence of these paths and public access opportunities through the Patios are minimal. At the end of the Patios is the final street before reaching the Seadrift Subdivision, Walla Vista. Walla Vista is currently being developed by private parties pursuant to the conditions imposed on Coastal Permits #179 through 182. A Quitclaim deed for Walla Vista has been conveyed to the "People of California" by the applicants, but the issue of legal title remains clouded.

Regardless of these developments, however, Walla Vista is a frequently used access point to the beach, and there is strong evidence of the existence of prescriptive rights over this area. The County owns the lot at the end of Walla Vista. Parking exists for these access points along the north side of the County owned street of Calle Del Arroyo.

An exact determination of the number of visitors to Stinson Beach each year is difficult to make because of the great amount of access that occurs in the privately owned sectors. Figures for the Federal lands indicate that 835,000 members of the public visited the Federal portion of the beach in 1978. The number of visitors dropped 17.4 percent in 1979 to 642,000. Despite this decrease the Federal parking area was closed six times that year because it had reached capacity (compared to 12 times the year before). In addition, the drop in attendance is not expected to begin a pattern of decreased visitation. (The 1979 drop is thought to be due to gasoline awareness and unseasonable weather.) Therefore, it seems safe to assume that while Stinson Beach will be able to meet public demand an overwhelming majority of the time, there will be occasions when its access areas will reach capacity. To ensure that this access situation maintains its current level of effectiveness the County has adopted a policy which requires the signing of access points at Calle del Arroyo and proposed County ownership of several more access points if access availability diminishes.

Related to the issue of access at Stinson Beach is the status of beach use at the Seadrift Subdivision. Comprising the northern 2 miles of ocean front in the Stinson Beach area, access to the beach is currently assured only within the mean high tide line. The rest of the beach is in private ownership although there is evidence to indicate that prescriptive rights do exist in this area. The Coastal Commission is attempting to establish an overall agreement with the oceanfront property owners allowing public use of the beach. The County also has a policy to this effect. In the absence of an overall agreement the Coastal Commission's policy has been to make individual applicants make irrevocable offers of dedication of an easement for lateral access on the beach. To date this has included four lots. Policy I-13(a) (see below) will continue this practice. Parking and vertical access requirements can be met by the use of existing areas in the Calles and Patios.

Public access to the inner or Bolinas Lagoon side of the Seadrift Spit is guaranteed only by walking the length of the spit on the ocean side and remaining within the mean high tide line. The policy in the Seadrift section states that no development of any lots owned by the developer (The William Kent Estate Co-) at the time of adoption of the LCP shall occur until the developer dedicates the unsubdivided 17 acres that front on Bolinas Lagoon for educational and scientific purposes. This would establish a limited public access to and along this shoreline.

Most of the remainder of the Bolinas Lagoon Shoreline is either in public ownership, GGNRA, Mt. Tamalpais State Park, County park, or is in private ownership, Audubon Canyon Ranch, which allows public access.

Bolinas The ocean shoreline in the Bolinas area is primarily in private ownership. Access to the shoreline in the downtown section is from two public roads (Wharf Road and Brighton Avenue), which terminate at the beach. Blufftop viewing of the ocean is available along much of Ocean

Parkway (although this street is not continuous since it has eroded in some areas), and a small, five car parking area and bench is provided for this purpose at the end of Overlook Drive. In the Duxbury Point area, access is primarily from the County maintained Agate Beach Park. A 30 car parking lot is provided there. North of Agate Beach to' the southern boundary of the Point Reyes National Seashore, the land is in private ownership but has been proposed for inclusion in the National Seashore. The beach area along this section of coast provides seclusion and a different. type of recreational use. Horseback riders, beach hikers and surfers have traditionally been the principal groups using this beach. Presently, the Coastal Commission's permit conditions on the Commonweal project provides for both the potential development of parking facilities and the continued use of two access paths from Mesa Road to the sea. These facilities, developed and maintained for public use, provide limited access to this rugged beach area. As a function of future investigation of both federal park management plans and agriculture uses of the lands, further determinations on the need or desirability of additional access provisions will be examined.

Proposed Access

Because much of the shoreline in Unit I is already in public ownership, provision for additional access will be limited to those lands recently authorized for addition to the National Park and public access easements on private lands in the three communities to be required as a condition of coastal permit approval.

The County's general access program for the above mentioned areas will be conducted in the following manner. In conformance with Section 30604(c) of the Coastal Act, Policy 1-1 requires that each coastal permit project located between the sea and the' first public road will be reviewed to determine what access and recreation conditions shall be imposed to meet the public access requirements of the Coastal Act. The parcel will be evaluated to determine what types of public interests may be involved, whether there is evidence of public prescriptive rights (historic public use), and the most appropriate means of guaranteeing access to beaches and recreation areas.

As Section 30212 of the Coastal Act recognizes, there are situations in which public access would not be appropriate because, for example, it would be inconsistent with the protection of fragile coastal resources, public safety or agriculture. Policy I incorporates much of the intent of Section 30202, but has also recognized that in many situations the negative impact can be mitigated with adequate setbacks, screening, trail and stairway development or regulated hours and seasons of use. Where public access is not required as a condition of development approval, specific findings must be made that none of these mitigation techniques would be feasible or desirable.

The Coastal Commission's Access Guidelines list three types of access easements which may be required as a condition of a permit. Policy 1-2 incorporates these types of easements into the County's access program. Specifically, lateral access dedications may be required for access along the shoreline on a beach or rocky shore immediately adjacent to the mean high tide to the first line of terrestrial vegetation. Where easements along blufftops are desirable for tidal viewing or trail purposes, blufftop easements will be required. Vertical access dedications can be required in conjunction with lateral or blufftop access dedications to allow public access to the shore or bluff.

Section 30211 of the Coastal Act mandates that where prescriptive rights exist, they must be protected. A legal determination of whether prescriptive rights exist can only be made by the courts; however, where evidence of possible prescriptive rights is found as a result of permit application review, the legislature's intent must be implemented by the reviewing agency. Therefore, Policy 1-3 requires easements be established as a condition of permit approval where evidence of historic public use is discovered. In accordance with the Coastal Commission's Access Guidelines, some flexibility has been incorporated into this policy to allow the resiting of accessways created by historic public use where the applicant provides equivalent areas for use elsewhere in the vicinity.

The County of Marin believes the most effective means of fulfilling Coastal Act access and recreation policies is by dedication of an easement to a specific agency. Thus, where there is a public agency that will immediately accept an easement or parcel, this method will be used. The County will be the accepting agency in -certain situations, although the obligation to open the easement will not accrue until the County has sufficient finances. It is expected that the issue of financing will be alleviated by recent legislative amendments to the Public Resources Code, which give the Coastal Conservancy the power to finance local government acquisition and development of accessways. When no agency or association is currently ready to accept the dedication, an offer to dedicate, available for 20 years, will be required. This requirement will ensure that such offers do not lapse before they receive adequate attention from potentially interested agencies. Additionally, the California Coastal Commission and Coastal Conservancy will be immediately notified of any such offers of access easements.

Pursuant to Section 30212.5 of the Coastal Act, the development of adequate access support facilities, including parking, should be distributed within the Coastal zone. As a part of access considerations, the need for and feasibility of limited size parking areas shall be determined and required. However, parking area easement dedications and/or subsequent parking area construction must be consistent with the LCP policies encouraging public transit as the primary method of accommodating future demand for access to coastal areas. Therefore, the LCP policies require the consideration of the effect and relationship of parking areas to the overriding policy of encouraging public transit. To encourage use of public transit, when it is available, parking areas may be closed, reduced in size, or not developed.

LCP POLICIES ON PUBLIC ACCESS

1. The County's policy is to require provisions for coastal access in all development proposals located between the sea and the first public road. This policy recognizes, however, that in certain locations public access may not be appropriate. Upon specific findings, that public access would be inconsistent with the protection of 1). public safety, 2) fragile coastal resources or 3) agricultural production or, upon specific findings that public use of an accessway would seriously interfere with the privacy of existing homes, provision for coastal access need not be required. In determining whether access is inconsistent with the above, the findings shall specifically consider whether mitigation measures such as setbacks from sensitive habitats, trail or stairway development, or regulation of time, seasons, or types of use could be developed which would adequately mitigate any potential adverse impacts of public access. A finding that an access way can be located 10 feet or more from an existing single family residence or be separated by a landscape buffer or fencing if necessary should be considered to provide adequately for the privacy of existing homes.

2. The provision of coastal access may include any of the following types of easements, either singularly or in a combination:

   (a) Vertical easements to the ocean
   (b) Lateral easements along the dry sand adjacent to tidelands
   (c) Bluff top easements along bluffs for public viewing or trail purposes or where no continuous sandy beach exists.

3. Where evidence of prescriptive rights (historic public use) on a project site is determined to exist as a result of permit application review, public easements to protect the types, intensity and areas of historic use shall be established as a condition of project approval. Development may be allowed in an area which has been historically used by the public for vertical access to the beach only when equivalent access which will accommodate the same types and intensity of use has have existed on the subject site, has been assured in the same vicinity.

4. Construction of shoreline protection measures otherwise permitted by LCP policies shall accommodate previously existing shoreline access.

5. Where appropriate and feasible, parking areas should be provided in conjunction with access easements. The need for parking areas shall be evaluated based upon the parking. and/or public transit opportunities available in the area. As transit service becomes available, parking capacities should be reduced or eliminated since transit opportunities reduce reliance on the private automobile.

6. The County will accept, and as resources permit, open access easements in the following situations:

   (a) When the offer to dedicate an easement is made pursuant to evidence of prescriptive rights, or
   (b) Where the offered easement is in a developed area (density of one unit per acre or higher) where a substantial amount of the use could be expected to be made by local residents.

   In all other situations the County shall attempt to find appropriate agencies, including County agencies, to accept and maintain the public access easements. Whenever the County agrees to accept an access easement, the County will be responsible for maintenance and signing of the accessway. If no agency or association is immediately available to accept the grant of an easement, a 20-year irrevocable offer to dedicate the easement shall be recorded by the applicant prior to the commencement of project construction. The County shall immediately notify the California Coastal Conservancy of the existence of such offers to dedicate.

7. The County shall post all County owned shoreline accessways which are open and available to the public.

8. The County and CALTRANS shall, as resources permit, post informational signs at appropriate intersections and turning points on Highway 1, the Bolinas-Olema Road, and Mesa Road, in order to direct coastal visitors to public recreation and nature study areas in the Unit I coastal zone. Where only limited public access or use of an area can be permitted in order to protect resource areas from overuse, such signing should identify the appropriate type and levels of use which is consistent with resource protection.

9. Adequate public access to Stinson Beach currently exists across Federal park lands, County land at Calle Del Sierra and private land at the Calles and Walla Vista. To encourage the continuance of access availability in these areas the County shall post the existing pedestrian access easements along Calle Del Arroyo. However, should the current levels of usage be jeopardized in the future, the County shall open and maintain at least two additional pedestrian access easements on Calle Del Arroyo. One of these will be at Walla Vista; the other would be situated where appropriate in the Calles. On street parking along the northerly side of Calle Del Arroyo shall continue to be available for day-use beach access.

10. Public access to Duxbury Reef shall continue to be protected consistent with current State laws prohibiting the collecting of most intertidal animals.

11. Historic public use of the two access trails across Bolinas Mesa to the RCA beach and of the beach area itself shall be protected in accordance with the access program approved by the North Central Coast regional Commission in its action on Permit No. 31-78 (Commonweal). As provided by the conditions of the Commonweal permit approval, use of the access trails and beach areas shall be limited to the level and character of the historic use of the property (including but not limited to use for beach access, hiking, swimming, and horseback riding) in order to protect the natural resources of Duxbury Reef. Upon acceptance by a public agency of easements over the access trails, trailheads, and beach areas which are to be offered as a condition of the Commonweal permit approval, limited signing shall be provided to identify the access trails and caution trail users of the fragile coastal resources of the area.

12. A determination of the necessity to provide additional access trails across other large agricultural holdings on the Bolinas Mesa should be deferred pending a review of the adequacy of public access opportunities to be provided in the vicinity as part of the Golden Gate National Recreation Area General Management Plan. The necessity for additional access will be reconsidered during the Unit II planning process when appropriate land use designations for the large agricultural holdings in the Bolinas Mesa area will be developed as part of a Countywide approach to the protection of large agricultural holdings.

13. The provision of public access to and use of the Seadrift Beach for low-intensity recreational uses shall be assured (1) by requiring, as part of the coastal development permit process for new development projects on ocean front parcels in Subarea 1, dedications of public access consistent with the standards of the suggested settlement agreement as set forth below, and (2) by establishing an overall solution to obtaining access at Seadrift Beach through either (a) an access agreement with the property owners, (b) litigation to establish the public's prescriptive rights gained by historic use, or (3) public purchase. In order to minimize the public costs involved in acquisition or in litigation of the prescriptive rights issue, in addition to requiring dedications, obtaining an access agreement. presents the preferred approach to achieving access to the Seadrift Beach.

    In order to facilitate an agreement between the County of Marin, the Coastal Commission, and beachfront property owners, the County or Coastal Commission shall offer a settlement- agreement incorporating the following provisions to the above parties for a period of 18 months from the final certification of the Unit I LCP. These provisions establish the minimum standards necessary to assure public access to Seadrift, but are not intended to represent all of the proposed terms of the agreement in its final form. Minimum standards shall be interpreted to mean that the offered agreement may provide additional access along the beach and additional amenities within the. Easement area but may not in any way diminish the public rights which would be established as a result of an agreement incorporating the following provisions.

(a) A grant to the County of Marin on behalf of the public by the agreeing property owners of a non-exclusive easement for access to and use of the beach. This easement shall include the beach area between the ocean and a line 25:: feet seaward of the toe of the Seadrift sand dunes, provided, however, that the easement shall not extend any closer than 100 feet to the rear building setback line on each ocean front lot. In addition to the above easement, the grant shall also include provision for a floating five-foot wide lateral access easement to be located landward for any wave run-up where such run-up extends further inland than the above easement. In no case, however, shall the five-foot floating easement extend inland beyond the rear building setback line or the toe of the dunes, whichever point is the farthest seaward.

In return for the grant, the agreement shall include an assurance by the state that the existence of public prescriptive rights over any portion of the property affected by the agreement will not be litigated further while the agreement is in effect.

(b) Use of the easement area shall be limited to low-intensity recreational activities, such as strolling, sunbathing, birding, picnicking, fishing, and general viewing. Structures, camping, group sports, fire, private recreational vehicles, and horses shall be prohibited in the easement areas. Use of the five-foot lateral access easement as described above shall be limited to strolling and viewing purposes only.

(c) The agreement shall become effective upon its signing by representatives of the Coastal Commission, the State Lands Commission, and the Attorney General on behalf of the State of California, and by no less than seventy-five (75) percent of the beachfront property owners.

(d) The Attorney General or District Attorney may pursue litigation to establish the existence of public prescriptive rights over the beach, should the agreement not become effective within 18 months from the final certification of the Unit I LCP. Should the agreement become effective, the Attorney General may pursue such litigation on lots which have not been made a party to the agreement.

(e) Nothing in this policy or the agreements or easements described shall be interpreted as affecting the right of the public to use any portion of the beach subject to the public trust.

(f) In the absence of an overall agreement providing access and use along the Seadrift beach, the County, as part of coastal permit review, shall require dedications of such access per the standards of the suggested agreement.

RECREATION AND VISITOR SERVING FACILITIES

This section examines the need for and methods of providing private land uses to serve the visitor to the coast. Making land available for visitor-serving and commercial recreation facilities is a- two-pronged issue.[1] One question is the amount of demand for such facilities in Unit I. The second question is how much land can be supplied given competing policies in the Coastal Act.

Demand. There are two basic groups of visitors to the Unit I Coastal Zone. The first is made up of residents of the greater Bay Area who come to Marin's coast for the day. A member of this group is not a candidate for overnight facilities, but instead comes to enjoy the beach, take a hike, take a scenic drive, browse in a few shops, or perhaps all four. This group makes up the majority of visitors to the coastal zone, according to The Visitor in Marin (page 6). The study is now ˜a bit dated (1970), but the importance of this group is highlighted by the emphasis placed on transit in the GGNRA/PRNS General Management Plan and the Golden. Gate Recreational Travel Study.

The second basic group of visitors to Unit I is made up of residents from outside the Bay Area. These visitors are frequently traveling Highway 1 the length of the State and so pass through Marin's coastal zone. Others pass through as part of tours to Muir Woods. Some come during the summer and spend a few days-enjoying the coast.

The number of visitors needing overnight facilities is small, particularly in the non-summer months. While no firm estimate of the visitors needing overnight facilities is available, three facts indicate a low demand. First, existing motels in Stinson Beach have not been able to survive on visitor business. Of four motels in the village only one continues to do the bulk of its business with visitors. Second, Bolinas has not been able to support the half-dozen restaurants which have recently tried to remain open. Third, the physical location of Unit I suggests that overnight business is drawn to San Francisco and eastern Marin. These two areas are no more than one hour from the coastal zone (Bolinas to San Francisco), and each contains overnight facilities with broader services than those available in the coastal zone. San Francisco itself is a destination some travelers pass through Marin's coastal zone to reach.

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1 "Visitor-serving facilities" means overnight accommodations, food, services, shopping and amusement areas for tourists. "Commercial recreation facilities" means facilities such as riding stables, chartered fishing boats, amusement or marine parks, operated for private profit. Most commercial recreation facilities require large land or water areas, make intensive use of those areas, and therefore have significant potential adverse environmental effects. No water areas exist in Unit I which can accommodate such impacts. The only land areas capable of supporting such use are in the northern portions of Bolinas community. These lands are agriculturally productive and are therefore not suitable for conversion Section 30242 of the Act). For these reasons Commercial Recreation is not planned in Unit I.

Supply. Setting demand. aside, what land areas can be made available for visitor-serving facilities? The most obvious constraint is the large proportion of Unit I land held for park purposes by the state and federal governments. A second constraint is the Coastal Act policies that protects unique communities (Section 30253 (5)). Bolinas, Stinson Beach, and Muir Beach are unique coastal communities. First, their distance from the metropolitan center and suburban communities removes them from day-to-day urban problems. Second, their physical growth is cut off by surrounding parklands. Third, their residents include significant numbers who live in these villages because of their uniqueness and who are committed to preserving a rural, isolated environment. Each of these communities is a visitor-serving use in its entirety, providing a change of pace to visitors who pass through it. Large-scale visitor facilities could undermine the uniqueness of these communities and perhaps destroy them as coastal resources. The provision of land for visitor-serving facilities must therefore be within the existing patterns of these villages. These patterns are identified on the LCP land use maps. Existing visitor-serving uses are listed in Appendix A.

In Muir Beach, the community is essentially built out and surrounding lands are planned for agricultural use. one commercial use, the Pelican Inn, exists at Highway 1 and Pacific Way. No future commercial use is recommended at Muir Beach.

In Stinson Beach commercial development adjoins Highway 1, particularly at its intersection with Calle del Mar. There are 3 vacant parcels in this area suitable for visitor-serving uses that are zoned Village Commercial Residential (VCR). Two other commercially zoned parcels further west, near the highway's intersection with Calle del Arroyo, are also available. There are no other unbuilt areas of the community that are suitably located for visitor-serving facilities.

In Bolinas, commercial uses exist along Wharf Road and Brighton Road. Five vacant parcels in this area are suitable for visitor-serving uses. A particularly unique visitor-serving facility is the Bed and Breakfast program in Bolinas. In this program, rooms and breakfast are made available to visitors in private homes. Coordination of the program is handled by the Art Gallery on Brighton Avenue. Bed and Breakfast facilities are located in individual residences scattered throughout the community. Development of visitor-serving facilities in other parts of the community would involve conversion of agricultural lands and therefore conflicts with local open space and agricultural uses.

Zoning. As a part of its community planning process, the County has developed a Village Commercial Residential (VCR) zoning district for its village core areas. The zone was developed for Stinson Beach's village core and was subsequently applied in other coastal villages, including Bolinas. The stated purposes of the Village Commercial-Residential zone are to maintain the established character of village commercial areas; promote village commercial self-sufficiency; foster opportunities for Village commercial growth; maintain a balance between resident and non-resident commercial uses; protect, without undue controls, established residential, commercial and light industrial uses, and maintain community scale.

These purposes implement the coastal policy on visitor-serving facilities as it relates to the constraints and contending policies of the Coastal Act. Combined, they encourage the maintenance of the existing commercial stock and some expansion of it consistent with the preservation of established village character and scale: those qualities that make Marin's coast a unique destination. By permitting both residential and commercial uses, flexibility is maintained by this zoning district.

The VCR zoning classification has many very positive aspects and is helpful in implementing selected Coastal Act objectives. However, the one drawback of the zone is the lack of regulatory authority to preclude residential development in favor of commercial uses in view of at least two Coastal Act sections (Section 30222 and 30254) that strongly suggest that land uses serving the coastal visitor should be provided and have priority over residential uses. In communities effectively precluded from outward expansion and with. a restricted amount of land otherwise suited for commercial uses, the possibility of losing this small potential inventory of commercial land to exclusive residential use is substantial. Instead, a more definitive, enforcement monitoring system, coupled with minor VCR ordinances changes, is necessary to find that the village commercial land use designations are consistent with the Coastal Act. Essentially, with only approximately 10 vacant parcels in VCR zoning in Unit I (5 in Stinson Beach and 5 in Bolinas) a more explicit, enforceable implementation program is necessary to both encourage and assure development of new commercial uses.

The proposed policies-are intended to retain the positive aspects of the VCR zone in order to protect the established village character of both Stinson Beach and Bolinas. The policy language, however, does provide an additional mechanism to assure that excessive numbers of the existing VCR sites are not lost to exclusive residential uses, in accordance with the land use priorities established by the Coastal Act.

LCP POLICIES ON RECREATION AND VISITOR SERVING FACILITIES

14. Commercial facilities shall be channeled into the existing properties in Bolinas and Stinson Beach zoned for VCR and commercial uses. In order to maintain the established character of the village commercial areas-, a mixture of residential and commercial uses shall be permitted within the VCR zone. The principal permitted use of the VCR zone in the two village centers shall include commercial and residential uses. Exclusive residential uses shall be a permitted use subject to coastal permit review; however, in no case shall such use be permitted on more than 25 percent of the lots that are vacant as of the certification date of LCP I (4-1-80). Replacement of any existing residential use destroyed by natural disaster shall be exempt from the above provision and shall be permitted. The development of motels and hotels in the VCR zone shall require a conditional use permit and is therefore not identified as a principal permitted use in that District.
    [Amended pursuant to BOS Resolution No. 83-253 [6/14/83], approved by CCC as submitted 8/11/83]

15. The current Bed and Breakfast program Bolinas shall be continued, and the program shall be encouraged in the following manner:

    (a) The County shall encourage the National Park Service and State Parks and Recreation Department to make available advertising space to those homeowners who wish to participate in the Bed and Breakfast program.

    (b) The County shall encourage the Marin Coast Chamber of Commerce to make available advertising space to those homeowners who wish to participate in the Bed and Breakfast program.

STATE AND FEDERAL PARKLANDS

The issues of planning and management of state and federal parklands is being evaluated in Unit II of the LCP. The following are interim policies that will be followed until they are revised or superseded by the policies of LCP II.

LCP POLICIES ON STATE AND FEDERAL PARKLANDS

16. Role and Relationship of Federal Parklands to LCP Policies

    The extensive amount of federal parkland within the coastal zone of Unit I provides significant opportunities for development of coastal access, recreational facilities and visitor support services. Such development opportunities reduce the need to plan for and provide such facilities on the private lands within the coastal zone. The LCP assumes that a major proportion of the access and visitor service needs within Unit I would and can be successfully integrated into federal park development and management programs.

17. Mt. Tamalpais State Park and Lands

    The development of additional recreational and visitor services on those portions of the Mount Tamalpais State Park within the coastal zone, including hiking trails, equestrian trails, a "primitive" hostel at the Steep Ravine cabins and improved parking and support facilities at Red Rock are consistent with the LCP policies. Such facilities shall be similar in design, size and/or location as those proposed by the Mount Tamalpais State Park Plan. Consistent with the protection of significant resources, additional trail development to improve access to public tidelands is encouraged.

II. NATURAL RESOURCE PROTECTION

STREAM PROTECTION

Streams and riparian vegetation provide valuable and limited habitat for bird and animal life that must be protected under the policies of the Coastal Act. Riparian vegetation helps maintain a high level of water quality by filtering sediment from surface runoff and stabilizing soil on adjacent stream banks. In addition, the shading offered by streamside vegetation maintains cool streamwater temperatures for fish and promotes a favorable habitat for fish by contributing insects to the stream for food. Riparian vegetation growing at the edges of wetland areas acts as a noise and visual buffer between developed areas and wildlife habitat.

Such streams and adjacent vegetation are fragile habitats which can be easily disturbed or destroyed by stream alterations or by adjacent uses. The loss of riparian vegetation on streambanks can cause erosion and sedimentation to the stream, increased runoff, and higher streamwater temperatures which, in turn, adversely affect fish and wildlife. The proposed policies will assure protection to these fragile habitats through the establishment of limitations on stream alterations, protection of riparian vegetation, and the creation of stream buffer zones in accordance with Sections 30230, 30231, 30236, and 30240 (a) and (b) of the Coastal Act.

Two streams within Unit I are of special significance because they support annual runs of steelhead trout and silver salmon. Because of the importance of these fishery resources, the resource values of both Pine Gulch Creek and Redwood Creek are described in more detail below.

Pine Gulch Creek.

Pine Gulch Creek is an approximately 7 mile long perennial stream that drains a watershed of about 7.8 square miles. Of the 7 mile stream length, 3 miles are within the coastal zone. The portion of the stream within the coastal zone is partially within lands of the Point Reyes National Seashore, but the majority flows through the agricultural lands of Paradise Valley and the Pine Gulch Creek Delta. Upstream from the coastal zone, the creek flows entirely within lands of the Point Reyes National Seashore. Recorded flows have varied from a high of 715 cfs (cubic feet per second) to periods, during very dry years, or no recorded surface flow in late summer. The mean flow, the flow occurring 50 percent of the time, in Pine Gulch Creek is 2 cfs (Ritter, 1975).

Pine Gulch Creek is the principal source of freshwater to Bolinas Lagoon and probably contributes about one-half of the Lagoon's freshwater inflow. This flow is especially important in the summer when the remaining tributary streams dry up or are reduced to very low flows.

The stream supports annual runs of steelhead trout and silver salmon.

The stream provides good spawning and rearing habitat for both species, and is the most important steelhead and salmon stream tributary to Bolinas Lagoon. In addition to the anadromous species, there are resident populations of rainbow trout, stickleback, and sculpin.

Steelhead and silver salmon spawning migrations occur during the period from late November through April in years of normal runoff. Most upstream migration occurs during and immediately following periods of heavy storm runoff. All silver salmon die after spawning. Steelhead, however, begin a return migration to the ocean soon after completion of spawning.

Both juvenile steelhead and silver salmon require a period of residency in the stream before migrating downstream to the ocean. The length of freshwater residency may vary from one to three years or more depending on the living conditions in the stream. The major downstream migration of juvenile steelhead and silver salmon occurs during the period from February through June, depending on the water year and pattern of winter-spring runoff.

Fish habitat is physically reduced to a minimum during the low-flow period of July through October. This is the most critical time for survival of fish populations in Pine Gulch Creek. At this time, the actual physical habitat supporting fish life is at its minimum and the amount of available habitat becomes a limiting factor in the health and survival of fish populations.

Pine Gulch Creek offers excellent summer nursery habitat for juvenile salmonids and other fishery resources. Stream surveys and observations on the Creek have revealed the presence of high populations of juvenile steelhead and silver salmon during the summer and fall months. Headwater springs produce a perennial streamflow that maintains nursery habitat throughout the length of stream utilized by anadromous fishes.
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in addition to the anadromous resource, Pine Gulch Creek helps support a wide variety of riparian associated species. Riparian vegetation is dense, consisting of alders and willows in the overstory with a variety of understory shrub and herbaceous species. Wildlife species are especially abundant in riparian zones and virtually all species common to the riparian type could be expected here. In one of the more unusual observations, sharp-tailed sparrows have been found wintering in the Pine Gulch Creek Delta.

Diversion dams and other in-stream structures or streambed alterations can seriously delay, impede or completely block the upstream and downstream migrations of anadromous salmonids. The free passage of fish is required to maintain viable populations. The migration of steelhead and silver salmon on Pine Gulch Creek require unimpeded passage from November through June.

Water diversions can be equally harmful to the salmonid resource. This is especially critical during the low-flow period of July through October when diversions can seriously limit or completely eliminate available habitat.

There are six existing water diversions on file with the Division of Water Rights, State Water Resources Control Board for Pine Gulch Creek. A seventh diversion, by the Bolinas Community Public Utility District, is in the process of being cancelled. The existing filed users can divert approximately 1.8 cfs at maximum allowed use. There may be additional diverters using water under a riparian right, pre-1914 appropriative right, or other claim of right who have not filed with the State.

The anadromous fish resource is the most sensitive wildlife use of the Creek, but most other species found in the riparian zone are dependent on the flow of water to some extent. The diversion, reduction, or elimination of flows in the Creek will reduce the quality of the habitat for these species as well.

Land use along the Creek in the Coastal Zone includes several different agricultural zonings ranging from A-5 to A-60. The majority of the A-60 land is located west of the Creek and at the southern edge of the national seashore, and about half of it is proposed for addition to the seashore. Grazing of cattle is the principal agricultural activity on this land. The land zoned A-5 and A-10 is located in the Paradise Valley, Horseshoe Hill, and Gospel Flat section of Bolinas. Parcel sizes vary, as do the variety of agricultural uses. The Bolinas Community Plan mentions the following agricultural uses in the area: livestock grazing (cattle, horse, goat, sheep), raising other domestic animals (chickens, rabbits, bees), and both small and large scale vegetable growing.

Some agricultural practices can result in adverse impacts upon the fishery resources of the creek and ultimately upon the resource values of Bolinas Lagoon. Land erosion and resulting sedimentation can be accelerated via improper or inadequate soil conservation practices.

Redwood Creek.

Redwood Creek is an approximately 4.8 mile long perennial stream that drains a watershed of about 9.9 square miles. Of the 4.8 mile stream length, approximately one mile is within the coastal zone. The remainder of the stream flows through land owned by several public agencies including the National Park Service, State Department of Parks and Recreation, and Marin Municipal Water District... The portion of the. stream within the coastal zone flows through land either owned by the Park Service in the Golden Gate National Recreation Area (GGNRA) or proposed for acquisition by them. No records of stream flow have been kept on a long term basis. Department of Fish and Game personnel measured streamflow on June 18, 1975 at two stations in the Creek. The upper station located at the southern border of Muir Woods measured 0.284 cfs (cubic feet/second). The lower station at the shoreline highway crossing measured 0.07 cfs. These flows were taken at the end of one of the driest rain seasons in this region's recorded history and probably do not represent normal flows for a mid-June period. It is more likely they represent late summer, early fall flows before the onset of the winter rains.

The stream supports annual runs of steelhead trout and silver salmon. The stream provides good spawning conditions and slightly less important juvenile rearing habitat. In addition to the anadromous species, there is also a resident population of rainbow trout in the upper reaches of the stream.

The life history and habitat requirements of steelhead and silver salmon are discussed in the section on Pine Gulch Creek and will not be repeated here. The impacts of stream alteration including diversion dams, streambed alteration, water diversions, and vegetation removal are also discussed in that section, and these impacts apply to Redwood Creek as yell as Pine Gulch Creek. The State Division of Water Rights has no record of filings made to divert water from this Creek. There may be diverters using water under a riparian right, pre-1914 appropriative right, or other claim of right who have not filed statements of Water Diversion and Use with the State. A 1976 Department of Fish and Game stream survey reported two diversions.

The section of stream, through Muir Woods National Monument represents the stream's best spawning substrate and riffle system but provides the least shelter and pool habitat. This has been a result of past bank stabilization and removal of fallen trees and branches. This results in a reduction in the number of juvenile salmonids the stream is able to support. Downstream from Muir Woods, the frequency of 1 and 2 year old salmonids increases markedly where the banks have not been riprapped and where fallen vegetation is not removed.

The approval of the Pelican Inn by the Coastal Commission included a condition that requires a water quality monitoring program of Redwood Creek be instituted. The testing will be done in the adjacent section of Redwood Creek to determine if septic effluent from the Ina is reaching the Creek.

Land use along the Creek in the coastal zone includes a mix of agricultural and residential uses. North of the Shoreline Highway Creek crossing, the land has historically supported a fresh cut flower farm. This land is now partially within the GGNRA with the remainder involved in the acquisition process.

South of the Shoreline Highway Creek crossing are a number of small lots owned by the Zen Center, Audubon Canyon Ranch, and other private owners, zoned R-A:B-2. The majority of these lots have been included for acquisition by the GGNRA in the Burton Omnibus Parks Bill. Five flood plain parcels located along Shoreline Highway, where it crosses Redwood Creek and immediately downstream, were not included in the acquisition bill. The proposed acquisition will place the entire length of the Creek in the coastal zone into public ownership with the exception of three parcels (199-181-06, 13 and 14) owned by the Zen Center, which have about 460 feet of creek frontage. The three parcels are located within the floodplain of the Creek in an area which has flooded regularly. Vegetation is primarily riparian with impressive stands of Red Alder, California Buckeye, and Willow. Wildlife species are especially abundant in riparian zones, and virtually all species common to the riparian type could be expected here.

Based on existing County zoning and standards, development of this land to the highest density allowed by zoning (10,000 sq. ft, lots) could significantly impact the Creek. It would require the removal of significant amounts of riparian vegetation, seriously reducing its value to wildlife. The installation of septic systems or similar waste disposal method would be necessary and would require a 100 foot setback from the Creek. Percolation rates acceptable to the County are not assured due to the periodic flooding and high water table of the properties.

In order to assure protection of the resource values of Redwood Creek, the privately owned parcels along the Creek should be rezoned to a minimum one-acre lot size, including those parcels proposed for acquisition by the GGNRA. Pending acquisition, such lands are still subject to the provisions of the Coastal Act and must be designated for an intensity of use consistent with the resource protection policies of the Act.

LCP POLICIES ON STREAM PROTECTION

The following policies are applicable to all USGS Blue-line Streams.

1. Stream impoundments and diversions shall be limited to necessary water supply projects, flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development, or developments where the primary function is the improvement of fish and wildlife habitat. Before any such activities are permitted, minimum flows necessary to maintain fish habitat and existing water quality, and to protect downstream resources (e.g. riparian vegetation, groundwater recharge areas, receiving waters, estuarine habitats, spawning areas) and other downstream users shall be determined by the Department of Fish and Game and the Division of Water Rights of the State Water Resources Control Board. New impoundments or diversions which, individually or cumulatively, would decrease streamflows below the minimum shall not be permitted.

2. The alteration of stream channels and banks shall be allowed only for the developments identified in Policy II-1 in order to protect streamwater quality and the volume and rate of streamflow. All such developments shall incorporate the best mitigation measures feasible, including erosion and runoff control measures and revegetation of disturbed areas with native species.

3. A riparian protection area and a stream buffer area shall be established for all streams within Unit I. The riparian protection area shall include all existing riparian vegetation on both sides of the stream. The stream buffer area shall extend a minimum of 50 feet from the outer edge of the riparian vegetation, but in no case shall be less than 100 feet from the banks of the stream.

4. No construction, alteration of land forms, or vegetation removal, shall be permitted within the riparian protection area. However, if a parcel is located entirely within the stream buffer, design review shall be

required for any proposed structure and shall consider impacts on water quality, riparian vegetation/and the rate and volume of streamflow. in general, development shall be located on that portion of the site which results in the least impact on the stream, and shall include provision for mitigation measures to control erosion and runoff and to provide restoration of disturbed areas by replanting with plant species naturally found on the site.

The following policies are applicable to Pine Gulch Creek.

5. The USGS should install a stream gaging station as part of the Army Corps study of Lagoon to measure creek flow below the last significant stream diversion or at a location selected by the Department of Fish and Game, This station shall be monitored by the County Employee who patrols the Duxbury Reef/Bolinas Lagoon area.

6. The Department of Fish and Game should begin studies to empirically determine the instream flow requirements of Pine Gulch Creek necessary to maintain the steelhead and silver salmon resource. In the event no funding is available for this work, Coastal Conservancy funds should be sought.

7. The County, landowners within the Pine Gulch Creek watershed, and the Soil Conservation Service should undertake a joint study to recommend agricultural uses and practices which will protect the water quality of the creek and also Bolinas Lagoon. The report should be prepared by the Soil Conservation Service. This report should also recommend alternative methods of supply water to agricultural users in the event stream diversions must be halted to protect anadromous resources. The report shall be distributed to all landowners within the watershed. SCS will be contacted to undertake the study upon adoption of this LCP. Where necessary, the findings of the study should be incorporated into the LCP as amendments. Recommended restoration techniques appropriate to permit applications should be included as conditions of permit approval.

The following policies are applicable to Redwood Creek.

8. The biotic resources of Redwood Creek shall be protected from intense development by the redesignation of the privately owned parcels along the Creek from 10,000 square feet lot size zoning to a 1 acre lot size zoning. (See Policy IV-27).

9. The USGS should install a stream gaging station to measure creek flow below the last significant stream diversion at a location selected by the National Park Service and California Department of Fish and Game. This station should be monitored by the Park Service.

10. The Department of Fish and Game should begin studies to empirically determine the instream flow requirements of Redwood Creek necessary to maintain the steelhead and silver salmon resource.. In the event no funding is available for this work, Coastal Conservancy funds shall be sought.

11. The National Park Service should be encouraged to investigate the possibility of creating artificial pools through Muir Woods National

Monument to increase the streams carrying capacity of one and two year old salmonids. This would increase the number of salmonids spawning within the boundaries of the National Monument, and provide a better opportunity for the public to view salmonid reproductive behavior.

LAGOON PROTECTION

Bolinas Lagoon is a 1400 acre estuarine area composed of salt water, tidal mudflats, marshlands, and sandbars of which approximately 1100 acres are flooded by high tides. Its condition varies from a wintertime estuary to a summertime lagoon, based on the amount of freshwater runoff it receives. Pine Gulch Creek is the principal source of fresh water to the lagoon, probably contributing about one-half of the lagoon's fresh water inflow. The other fifty percent is runoff from creeks which enter the lagoon on the east side. They all flow largely through GGNRA land with flows tied closely to. the rainfall pattern. There is increased flow in winter and little or no surface flow in the summer. The Lagoon has a watershed of about 17 square miles or 10,600 acres. The majority of this land is in some form of public ownership for park use or is privately owned and maintained as a natural area (Audubon Canyon Ranch). The remaining private land is within the planning areas of the Bolinas and Stinson Beach Community Plans. Specific subjects of concern within this area are included in other portions of this report (Pine Gulch Creek, Seadrift, Bolinas Gridded Mesa, Shoreline Development).

The Lagoon has been extensively studied. Topics include its geology (Galloway, 1977), (Gluskoter, 1962 and 1969), and (Wahrhaftig, 1971); hydrology and sedimentation (Burghy, 1971), (Isselhardt and Wilde, 1968) and (Ritter, 1969 and 1973); wildlife (California Dept. of Fish and Game, 1970), (Gustafson, 1968), (Lewis and Sibley, undated), (Page and Stenzel, 1975) and (Rowntree, 1971); marine organisms (Chan, 1967), (Gustafson, 1968), (Molina and Rathburn, 1968) and many papers from the College of Marin, Bolinas Marine Station; and planning issues (Marin County Planning Dept., 1966) and {Sedway, 1971).

The Army Corps of Engineers has begun a major 5 year study of flow hydrodynamics, sedimentology, water quality, and marine and wildlife resources. They plan to produce a model that incorporates these physical processes. By varying the conditions that affect the Lagoon, it will be possible to predict the consequences of proposed actions.

The physical condition of the Lagoon has been affected by two degrading impacts in the recent past: sedimentation and pollution/contamination. Sedimentation is a natural process that all enclosed bodies of water undergo over time. Bolinas Lagoon has two principal sources of sediments: watershed erosion and sediments of a marine origin, principally the eroding Bolinas cliffs outside the mouth of the Lagoon. The exact contribution of each source has not been established, but several researchers feel the marine source is now contributing over half the current sediment load. Watershed erosion was of greater significance in the past when logging, cordwood cutting, overgrazing and poor farm management all increased sediment loads. This source of sediments has been substantially reduced with the inclusion of most watershed land into parks and a halting of poor

land management. Sedimentation will continue in the future as a natural process from the watershed but at a reduced rate. (See Chapter IV for a discussion of development standards proposed to reduce erosion and sedimentation into the Lagoon.) ''

Pollution/contamination of the Lagoon has been a recent problem. Pollutants have been identified from three principal sources: watershed runoff, direct sewage discharge into the Lagoon channel, and septic system failure in the Stinson Beach area. The contribution of pollutants from the watershed has dropped substantially with the creation of the federal and state parks and the discontinuance of dairy operations. The contribution from direct sewage discharge has largely been eliminated by the construction of the Bolinas Public Utilities District (BPUD) treatment facility on the Mesa. The problem of septic failures in the Stinson Beach area has also been largely corrected through actions taken by the Regional Water Quality Control.

A quarantine was established on August 12, 1970 to address the problem of Lagoon contamination by BPUD which was discharging raw sewage into the mouth of the Lagoon. The waters of the Lagoon and the immediately adjacent open ocean were quarantined against the uses of water contact sports and shellfish harvesting. The quarantine was to remain in effect until the State and Marin County Public Health Departments determined that sewage treatment facilities adequate to prevent contamination of the Lagoon had been provided by the Bolinas Public Utility District. BPUD has completed sewage conveyance and treatment facilities which under normal operation are . adequate to prevent raw sewage contamination of the Lagoon. The State Department of Health, however, will not make a recommendation to lift the quarantine until two problems are corrected: improving a sewer line on Brighton Street that interchanges fluids with a storm drain and improving the reliability of a lift station that has failed on at least one occasion and allowed raw sewage to flow to the Lagoon. The lifting of the existing quarantine would likely be followed by a new quarantine in the southeast corner of the Lagoon, where sampling has consistently recorded high pollutant levels.

Toxic substances have also been released into the Lagoon. In efforts to control the growth of algae in the Seadrift Lagoon, the water has been treated with copper sulfate. A further treatment measure is a periodic flushing of the lagoon when the tides are of sufficient height. This flushing action of the Seadrift Lagoon releases any toxic substances from it into the Bolinas Lagoon where their effects on aquatic organisms, particularly mollusks, are extremely deleterious.

Management of Bolinas Lagoon is the responsibility of the Marin County Parks and Recreation Department. This responsibility was granted to the County in 1969 through S.B. 2295, which gave the County title to the tidelands in "Bolinas Bay". The legislative grant included numerous conditions upon which the grant was established, such that the lands be used for purposes in which there is a general Statewide interest (shallow draft vessel emergency refuge, park, recreation, fishing, preservation/restoration of biological resources). To implement this grant, the County was to prepare a management plan acceptable to the State Lands Commission and which was to be reviewed

five years after its adoption to determine if it was being implemented. This plan was prepared by the County Parks and Recreation Department and adopted by the Board of Supervisors in February, 1972. The State Lands Commission approved the plan in February, 1973. The County has prepared a five year report describing their actions in implementing the plan for review by the State Lands Commission and which has been approved by them.

The adopted Bolinas Lagoon Plan was developed with one primary goal in mind; "...that the proposals are based on the protection, conservation, and ecological health of the tidelands, while allowing education, scientific study, and recreation which will not be destructive". Elements in the plan include observation points at several locations around the Lagoon, a pedestrian/bike path system from Stinson Beach to Bolinas, an educational facility, and a limited power boat use area between the end of the Seadrift Spit to the existing Bolinas and Seadrift docks. No other developed uses were included and the majority of the Lagoon and the land immediately surrounding it was to remain undeveloped. The major recommendations and policies of the Bolinas Lagoon Plan are summarized below:

1. Restoration and preservation of the intertidal and subtidal marine environment is this plan's primary emphasis. Such a goal permits a dual use of the area for nature education and scientific research purposes of a character unmatched anywhere else in California, especially within the boundaries of a major metropolitan area.

2. Picnicking, pedestrian and bicycle paths, nature interpretation and study areas, a non-powered boat launching float and related facilities may be provided. These areas and the general setting of the lagoon will permit the pursuit of many recreational activities of Statewide significance, also including fishing, clamming and photography, for instance. Expansion of the small boat harbor facility is not recommended as being detrimental to the main.

3. An all weather harbor of refuge has previously been rejected because of its inordinately high cost and detrimental long term effects on the lagoon's biological community. Present boating facilities are to be retained with minor channel and related improvements aimed at perpetuating the access of shallow draft vessels to authorized areas, The Corps of Engineers is to study monitored rehabilitative dredging under its existing authority.

Since the adoption of the plan, the Bolinas Lagoon Technical Advisory Committee has been formed. The Committee consists of representatives from several institutions or agencies with a direct interest in Bolinas Lagoon and citizen representatives from Bolinas and Stinson Beach. They advise the Parks and Recreation Commission on important planning issues concerning the Lagoon. Their role and membership is further defined in the Bolinas Lagoon Five Year Report.

An important action taken on the advice of the Bolinas Lagoon Technical Advisory Committee was to initiate the actions which led to the designation of Bolinas Lagoon as a "Nature Preserve", as defined in Marin County Code 10.06. Nature preserves are County parks "...where the primary objective is

to retain the area it its natural state". This formal action implements the primary goal of the 1973 plan.

There are two remaining areas of land use resource conflict on or near the Lagoon, excluding Seadrift which is discussed in a separate section of this report. One concerns the marshy pastures south of the Pine Gulch Creek Delta. These lands have been identified by Page and Stenzel (1975) as important feeding and resting areas for shorebirds. A portion of this land has been acquired by the County, but the section adjacent to the Bolinas-Olema Road is in private ownership. The land is zoned A-10, but none of the parcels are ten acres in size. Homes are found on several of the parcels. The land known as the "Wilkins" parcel contains the majority of the significant marshy areas. Under the existing zoning, one home could be built on this land. The value of the land to shorebirds could be greatly reduced if current agricultural uses were to change.

A second area along Bolinas Lagoon where resource conflicts remain includes the lots along the northerly side of Calle del Arroyo in Stinson Beach. Many of these small (40 feet by 80 feet) lots consist of unfilled marsh area, while other parcels have been historically filled and/or now support houses.

Section 30240 of the Coastal Act requires that environmentally sensitive habitat areas be protected against any significant disruption of habitat values, that proposed development in areas adjacent to sensitive area , s be sited and designed to prevent impacts which would significantly degrade such habitat, and that the development be compatible with the continuance of the habitat areas. Based upon the preponderance of evidence that has been developed in connection with the impacts on Bolinas Lagoon of additional development in the adjacent Seadrift subdivision (where the nearest lagoon lots are located on the other side of a road and over 100 feet away from the lagoon), the type and intensity of development which would be permitted under the present zoning for existing lots northerly of Calle del Arroyo would also significantly degrade the habitat values of the adjacent marsh area and would be inconsistent with this section of the Coastal Act. Lots on Calle del Arroyo are only 80 feet in depth and are therefore severely constrained both in their suitability for the use of septic systems, and the difficulty in providing an adequate setback from the lagoon to assure that such development will not adversely impact the adjacent habitat areas.

The types of impacts that would result from such development in conflict with Section 30240 of the Act would be both indirect and direct. These impacts include the preconstruction activities, such as grading, filling, and other such activities which involve the use of heavy equipment. Such activities would significantly increase the production of sediment into the lagoon, increase the ambient noise level in the area, and would be severely disruptive of wildlife use of the adjacent marsh areas that are located less than 80 feet away. (Such activities will be even closer where development would take place on those lots which consist primarily of marsh.) Completed construction and use of structures permitted under the present A-1 zone would generate additional disturbances of the marsh wildlife, and would potentially contribute to degradation of the area's water quality through the increased coverage of the area by impervious surfaces, which would increase stormwater runoff and the quantity of heavy metals, hydrocarbons, and nitrates

discharged into the lagoon. Such development adjacent to the marsh would also increase the likelihood of increased intrusion into these habitat areas, especially by domestic pets and by the residents of the dwellings.

To mitigate these impacts this plan proposes a resource management area designation that would permit use of the property for various low-intensity activities by right and by special use permit. This designation will assure protection of the fragile resources contained within the adjacent marsh area. The uses proposed will provide for reasonable use of the property in recognition of the severe development constraints which affect development of these lots. These development constraints have generally been recognized in the existing real estate market since land values on this portion of Calle del Arroyo are less than one tenth those of similar shorefront properties in the Seadrift area. Redesignation of the property, however, will assure that the land use on the property will be consistent with the Coastal Act and that it will not encourage future speculation and the development of expectations that such lots may indeed be usable in the future for single-family development creating future pressure for such incompatible development.

The area along Calle del Arroyo has long functioned as the only location in this entire of Stinson Beach where members of the public can park on the street in order the roadway to obtain access to Seadrift Beach. Construction of structures along the northerly side of would eliminate a substantial portion of the existing parking which has historically been available to the public by the construction of driveways and by potential pre-emption of on-street parking by residents within the new houses. The proposed resource management area designation would therefore be consistent with Section 30211 of the Coastal Act, which provides that development shall not interfere with the public's right of access to the sea where acquired by use.

Construction of structures on the northerly side of Calle del Arroyo would substantially degrade public views from Calle del Arroyo into the adjacent lagoon, and would also degrade scenic views of the slopes of Bolinas Ridge which are also available from Calle del Arroyo. Therefore, the proposed designation is consistent with Section 30251 of the Coastal Act, which provides, in part, that permitted development shall be sited to protect views to and along the ocean and scenic coastal areas.

LCP POLICIES ON LAGOON PROTECTION

12. A single, coordinated resource management plan to guide the future use and activities in and around Bolinas Lagoon shall be developed with the involvement of the various public agencies that have specific legislative and regulatory responsibilities over different activities in and around the Lagoon. This plan would identify:

    - The level, type and location of recreational facilities and uses;
    - The level, type and location of commercial fishing and aquaculture activities;
    - The location and types of educational and scientific programs and facilities;
    - The legal and physical programs necessary to protect and enhance specific wildlife and marine resources and habitats; and
    - The management techniques, programs and responsibilities to successfully implement such a resource management plan.

Such a joint agency/organization resource planning program shall be established within 12 months of final certification of the LCP. The County of Marin would seek Coastal Commission or Conservancy funding to establish this management program.[1]

13. Prior to the completion of the joint agency resource planning program described in Policy 11-12, above, the following policies shall apply:

    (a) Except where modified below, the Bolinas Lagoon Plan's Policies are incorporated by reference as the LCP policies governing uses and development in and around the Lagoon.

    (b) The diking, filling, dredging and other alterations of these wetlands shall occur only for minor public works projects and shall be in conformance with Coastal Act Section 30233. The construction of physical improvements along the Bolinas Lagoon parklands is not consistent with these Lagoon policies.

    (c) Maintenance dredging of existing boating channels may occur prior to final recommendations of the present Army Corps of Engineers study. Additional alteration of these wetlands will be considered as an LCP amendment following review of this study's recommendations.

    (d) Commercial extraction of marine species should be prohibited pending completion of adequate base studies and the management program. Recreational fishing activities should be monitored by the Department of Fish and Game to establish any necessary modifications in open areas or take limits.

    (e) The Lagoon's waters continue to experience significant pollution and degraded quality from past and present adjoining land use activities. The correction of those factors contributing to poor water quality shall continue. However, until tests substantiate conclusive improvements in water quality, the health, safety and welfare of the general public require continuation of existing health quarantine for the Lagoon.

    (f) A five mile per hour speed limit will be established within the Lagoon in order to protect wildlife habitat from disturbances and to minimize conflicts between swimmers, fishermen, naturalists, boaters, and other lagoon users. An ordinance that, at the minimum, includes such a speed limit shall be presented to the State Coastal Commission for certification within 120 days of the adoption of the land use plan.

14. The use of toxic substances to control algae growth in any body of water which is discharged into a public waterway shall be subject to a discharge permit from the Regional Water Quality Control Board.

15. The possibility of a publicly-sponsored restoration project to eliminate all vacant lots along the north side of Calle del Arroyo through acquisition or the transfer of what limited development potential such parcels may have to another area is encouraged. The Coastal Conservancy, the Audubon Society and other potentially interested agencies or organizations should be advised of the importance of pursuing such a restoration project.

[1] This project has been completed as of January, 1981.

16. Pending implementation of a restoration project for the vacant lots along the north side of Calle del Arroyo, the area shall be redesignated as a "Resource Management Area" for a use or uses consistent with the maintenance of the marsh areas located both on and adjacent to the lots. The designation of the area as a "Resource Management Area" will recognize the severe development constraints affecting these properties due to their size and location in proximity to Bolinas Lagoon, and will thus assure conformity with Sections 30233 and 30240 (a) and (b) of the Coastal Act.

    Permitted uses of the Resource Management Area shall include fishing, birdwatching, photography, nature study, and other similar scientific and recreational uses. In addition, other uses may be permitted by use permit which will assure that such uses are sited and designed to be of controlled intensity and location such that they will not adversely affect the adjacent marsh area. The use permit procedure shall also assure that the uses are compatible with the character of the adjacent community. Uses which may be permitted by use permit shall include: small boat and equipment storage, non-commercial private parking, apiaries, truck farming, (provided that the application of pesticides, herbicides and other toxic chemicals is prohibited), and other uses of similar type and intensity.

    Existing dwellings shall be designated non-conforming uses but shall be allowed to rebuild if damaged or destroyed by natural disaster, provided however, that the floor area, height and bulk of the new structure shall not exceed that of the destroyed structure by more than 10 percent, and that the new structure is set back as far as feasible from the wetland area. Any proposed improvement to an existing home which results in more than a 10 percent increase in internal floor area of the structure shall require a coastal permit in order to assure that such an improvement is sited and designed to minimize impacts on the adjacent marsh. Such improvements shall only be permitted if an acceptable wastewater system is provided in accordance with the applicable LCP policy, and if the improvements are located as far as feasible from the adjacent wetland area.

17. The eleven-acre Henry Wilkins property (Assessor Parcel Numbers 195290-13 and 24) is the only remaining hightide roost for shorebirds and water fowl in Bolinas Lagoon that is protected from significant disturbance, and is the only habitat adjacent to the lagoon for snipe (Capella gallinago), with a population of about 100 individuals. In addition, it is one of the few locations around the lagoon where there is a transition from salt marsh to freshwater marsh habitats and thereby adds to the total diversity of habitat areas around the lagoon. In order to protect the wetland and upland habitat values of the parcel, changes in existing grazing use of the site shall be preceded by detailed environmental investigation and shall assure protection of the habitat values of the site in accordance with other policies in the LCP. Public acquisition of the site is encouraged.

18. To the maximum extent feasible, a buffer strip, a minimum of 100 feet in width, shall be maintained in natural condition along the periphery of all wetlands as delineated by the Department of Fish and Game and in accordance with Section 30121 of the Coastal Act and with the criteria developed by the U.S. Fish and Wildlife Service. No uses other than those dependent upon the resources shall be allowed within the buffer strip.

DUNE AND SANDY BEACH PROTECTION

The natural dune formations and sandy beach areas require protection to assure consistency with several different policies of the Coastal Act. Such dunes and the sandy beach areas (formed as a result of natural shoreline processes) provide natural protection from wave runup generated from prolonged storms and high seas, and provide environmentally sensitive habitat for several species of plants and animals that have been able to adapt to the harsh environment of the shoreline and the rigors of wind, sand, and salt. Such plants form an integral part of the dune ecosystem by stabilizing dune formations and providing feeding and nesting habitat for several wildlife species. The dune and plant associations are fragile systems that are especially subject to disruption. Natural sand dunes and sandy beach areas are also part of the natural shorelines process of littoral sand transport along the coast. Sandy beach areas, while providing essential protection to upland areas from wave runup, also provide habitat area and are a valuable resource which must also be protected under the Coastal Act. Natural dune formations and sandy beach areas are located primarily in the Seadrift and Stinson Beach areas.

Section 30240 of the Coastal Act provides that environmentally sensitive habitats be protected against any significant disruption of habitat values, that proposed development in areas adjacent to sensitive areas be sited and designed to prevent impacts which would significantly degrade such habitat, and that the development be compatible with the continuance of the habitat areas.

Section 30235 of the Coastal Act specifically limits any construction that alters natural shoreline processes to situations where it is required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion and where it is designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Residential development on natural sand dunes and on sandy beach areas, if permitted, would significantly disrupt the natural shoreline process. Therefore, consistent with this policy of the Coastal Act, LCP Policies restrict residential development from natural dune areas and areas of sandy beach, since such development is not a coastal dependent use for which alteration of natural shoreline processes is permitted under the Coastal Act. Such a policy, which requires preservation of the natural system of protection from wave run-up and high seas, will also minimize the necessity for shoreline protective devices, in accordance with the policy of the Coastal Act.

Of particular concern is the protection of the natural dune formations and sandy beach area located west of the paper street Mira Vista in the

Patios of Stinson Beach, The dunes and beach area were historically subdivided into residential lots and could some day be potentially subject to pressure for development. At this time, the lots are generally owned by contiguous properties across Mira Vista, partially as protection to these lot owners to assure future protection of their existing views of the ocean. While the Stinson Beach Plan proposes to achieve protection of these dune areas through a land trade between these property owners and the land now within the street-right-of-way, such a trade now appears very difficult to implement because of uncertainty as to the ownership of the existing street-right-of-way. Lot consolidation with the contiguous lots across Mira Vista Street will assure protection of this significant dune system in a manner which simply memorializes the existing pattern of land ownership in the area.

Section 30211 of the Coastal Act provides that development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation. (Emphasis added.) The LCP public access policies serve to incorporate this provision of the Coastal Act policy into the LCP in order to assure that the dry sand areas along Seadrift and Stinson Beach to the first line of terrestrial vegetation shall be protected for both public use and enjoyment consistent with the protection of private property rights. These beach areas have historically received tremendous use from residents of the entire Bay Area and provide one of the sunniest, most fog-free climates of any coastal area in the immediate vicinity. Under the above cited section of the Coastal Act, such historic public use of these beach areas must be protected.

LCP POLICIES ON NATURAL DUNE AND SANDY BEACH PROTECTION

19. In order to preserve the natural sand dune formation and sandy beach habitat, and to protect potential prescriptive rights over the dry sand areas west of the Patios, development of the existing lots west of the paper street Mira Vista shall not be permitted. These lots shall be rezoned from R-1 to RSP-2.0, and contiguous ownerships across Mira Vista shall be consolidated in order to assure protection of the existing sandy beach areas. No development, including erection of fences, signs, or other structures, shall be permitted west of Mira Vista in order to preserve both the natural dune habitat values, vegetation and contours, as well as the natural sandy beach habitat, and to protect potential public prescriptive rights over the area.

    The County shall continue to pursue a land trade between the lots seaward of Mira Vista and the street right-of-way as proposed in the Stinson Beach Community plan, in order to more clearly establish and define the boundaries between public and private beach areas.

20. Development of other shorefront lots within the Stinson Beach and Seadrift areas shall assure preservation of the natural sand dune formations in order to protect environmentally sensitive dune habitat and vegetation and to maintain the natural protection from wave runup that such natural dunes provide. Where no dunes are evident, any new development

on shorefront lots shall be set back behind the first line of terrestrial vegetation to the maximum extent feasible, in order to minimize the need for protective works, to protect sandy beach habitat, and to provide a buffer area between private and public use areas in order to protect both the scenic and visual character of the beach, and the public right of access to the use and enjoyment of dry sand areas.

21. No additional subdivision of beachfront lots shall be permitted in recognition of the cumulative negative impacts such divisions would have on both public and private use of the beach, except if a finding is made that such a subdivision will be consistent with the above policy. Similarly, the erection of fences, signs, or other structures seaward of any existing or proposed development and the modification of any dune or sandy beach area shall not be permitted except as provided in Chapter III of the LCP in order to protect natural shoreline processes, the scenic and visual character of the beach, and the public and private use of dry sand areas in accordance with Section 30211 of the Coastal Act.

HABITAT PROTECTION

Coastal Communities

Various resource and habitat areas have generally been identified in the community plans for the Muir Beach, Stinson Beach, and Bolinas communities, as well as in a publication entitled: "Natural Resources of the North Central Coast Region" prepared in 1975 for the North Central Coastal Commission. They include:

Muir Beach. The Elizabeth Terwilliger Butterfly Trees are located at Pacific Way and Lagoon Drive and consist of a grove of introduced Monterey Pine Trees. Additional Butterfly Trees are located along both sides of Pacific Way and are one of the few local resting places for Monarch Butterflies on their yearly migration. These trees are reported to contain 60,000 to 70,000 butterflies from October through February (Berhnheim, 1973).

Stinson Beach. The Stinson Beach community contains many large cypress trees which also provide roosting habitat for the Monarch butterflies on their annual migration. In addition, there are significant stands of native bay trees as well as an alder grove at the juncture of Stinson Creek and Bolinas Lagoon.

Audubon Canyon Ranch. The Ranch contains approximately 1300 acres and supports a large egret and heron rookery in the redwood grove located in Audubon Canyon.

Bolinas. The Bolinas area contains several important habitats which have been identified in the Bolinas Community Plan and the document "Natural Resources of the North Central Coast Region". These habitat areas are described below.

Upland Grasslands: Shorebirds of many species forage on the grassy uplands during high tides and winter storms when suitable habitat at Bolinas Lagoon is unavailable. Limited grazing of these lands does not seem to affect the habitat value of these lands and may even tend

to improve it since tall vegetation can obstruct the movements of the feeding birds.

Egret and Heron roosting areas: Trees located at the foot of Francisco Mesa and Kent Island provide roosting habitat for herons and egrets, including the Black-crowned Night Heron.

Bolinas Quail Refuge: The entire mesa became a quail refuge in the 1920's probably to provide a means of prohibiting hunting. The Coastal Scrub vegetation on the mesa provides habitat for large populations of many different species of wildlife,

Butterfly Trees: Bolinas contains several groves of introduced tree species which serve as resting places for wintering Monarch Butterflies. Although each grove is not used every year, all groves have been used in the past.

White-tailed Kite Habitat: Within the United States, the white-tailed kite is currently only found in California and is designated as a protected species by the Department of Fish and Game. Grasslands on the Bolinas Mesa and along Horseshoe Hill Road provide feeding areas for this species. The kites also use oak trees for roosting at night and as nesting sites during the breeding season.

The location of these habitat resource areas are shown on the natural resource maps on file with the Marin County Planning Department.

While some of these areas, such as the Elizabeth Terwilliger Butterfly trees and the Alder Wood in Muir Beach, are proposed for acquisition by the GGNRA, The LCP must include policies to assure their protection while the lands remain under the Commission's jurisdiction. Similarly, other resource and habitat areas exist within the Unit I area which must be protected in order to assure consistency with Section 30240 (a) and (b) of the Coastal Act.

Duxbury Reef

Duxbury Reef is an approximately 66 acre intertidal shale reef which extends for two and one-half miles off the Bolinas Peninsula. At minus tides, the exposed reefs stretch as much as one-half mile from the shore. It is the largest reef on the west coast of the United States and the largest shale reef in the country (Chan and Molina, 1969). It supports unusual and large populations of California-Mussel, rockboring invertebrates, and other marine organisms. Studies of Duxbury Reef marine invertebrates have been carried out by Chan (.1974), Chan and Molina (1969) and Gosliner and Williams (1970). Studies have also been conducted by Chan (1970, 1971) on the effects of educational use on the Reef.

The Reef has been designated a Marine Life Reserve in the California Fish and Game Code and is identified as an "Area of Special Biological Significance" by the State Water Resources Control Board. The marine reserve was established in 1972 in recognition of the special biological significance of the area. 'Basically, this means that only market and rock crabs, abalone, and those marine fish for which the Department of Fish and Game has set size, seasonal and bag limits can be taken within the boundaries of the

reserve. The limitations are contained in Section 27.20 of the Fish and Game regulations, which states:

> In the Duxbury Reef area in Marin County no fish expect abalone, market crabs (Cancer spp.), rockfish (Sebastes spp.), lingcod, cabezon, perch (Embiotocidae), halibut, flounder, sole, turbot, salmon, kelp greenling, striped bass, steelhead, monkey face-eel, rock-eel, wolf-eel, and smelt (Atherinidae and Osmeridae) may be taken between the high tide mark and 1,000 feet beyond the low tide mark at any place on the coastline or any reef or rock situated between the westerly extension of the southerly boundary of the Pt. Reyes National Seashore and the southerly extension of the centerline of Kale Road in Bolinas Beach. All other fish and forms of aquatic life are protected and may not be taken without a written permit from the Department.

"Areas of Special Biological Significance" are those areas designated by the State Water Resources Control Board as requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable. The Duxbury Reef reserve is described geographically in State law as follows:

> From Point 1 determined by the intersection of the mean high tide line and the southerly extension of the centerline of Kale Road at Bolinas Beach; thence northerly and westerly along a meander line following the mean high tide line to Point 2 determined by the intersection of the mean high tide line and the westerly extension of the southern boundary of Point Reyes National Seashore; thence along the westerly extension of the southern boundary of Point Reyes National Seashore to a distance of 2,000 feet beyond the mean high tide line; thence southerly and westerly parallel to the mean high tide line at a distance of 2,000 feet to the intersection with the southerly extension of Kale Road; thence along the aforesaid extension northerly to Point 1.

Figure 2 shows the location and extent of Duxbury Reef.

The Reef is currently patrolled by a representative of the County Parks and Recreation Department on a daily basis. It is on a route which includes Bolinas Lagoon and other nearby County maintained facilities, The Reef is also patrolled by two Department of Fish and Game wardens (one marine and one land based) who patrol the area routinely on a biweekly basis. More intensive coverage is given during periods of minus tides.

In the past, Duxbury Reef has been subject to over use by rock clammers and educational visitors. Rock clammers regularly chopped up the soft shale to harvest the abundant boring clams. This activity resulted in a leveling of portions of the Reef and a reduction in the available habitats (crevices) for many marine animals. Educational visitors were in the habit of collecting virtually any marine animal which they discovered (especially the larger species such as sea stars and crabs) as they moved over the Reef, greatly reducing the population levels of many species. Since the establishment of the Duxbury Reef Marine Reserve, State laws prohibiting the collecting of most intertidal animals, and the regular patrol of the reef area by

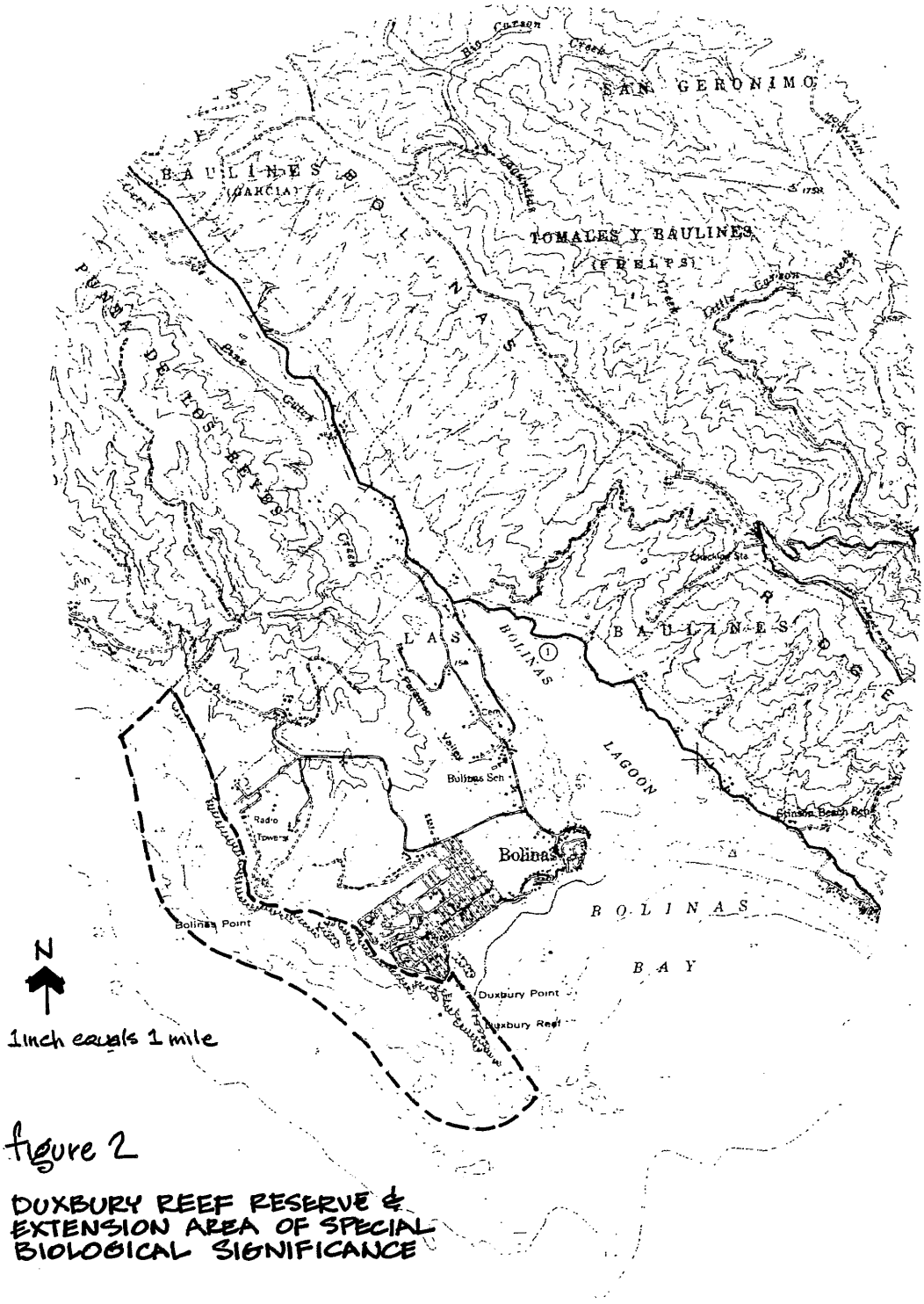


Figure 2: Duxbury Reef Reserve and Extension Area of Special Biological Significance

County of Marin Parks and Recreation Department personnel, impacts associated with human use have been greatly reduced. (Zeigler, 1978) The present level of protection and patrol coverage is adequately protecting the marine resources. The proposed expansion of the Point Reyes National Seashore to land south of the present boundary would include the north section of the Reef and would increase patrol activity by park service rangers to the least patrolled section. This will also reduce the possibility of deleterious land uses occurring on lands above the Reef.

LCP POLICIES ON HABITAT PROTECTION

22. Butterfly trees and other trees or vegetation identified on the natural resource maps on file with the Marin County Planning Department, which provide roosting and/or nesting habitat of wildlife, shall be considered major vegetation, and significant alteration or removal of such vegetation shall require a coastal project permit pursuant to Section 30106 of the Coastal Act. Such trees shall not be altered or removed except where they pose a threat to life or property.

23. Development adjacent to wildlife nesting and roosting areas shall be set back a sufficient distance to minimize impacts on the habitat area. Such development activities shall be timed so that disturbance to nesting and breeding wildlife is minimized and shall, to the extent practical, use native vegetation for landscaping.

24. Public access to these identified sensitive habitat areas, including the timing, intensity, and location of such access, shall be controlled to minimize disturbance to wildlife.

25. Fences, roads, and structures which significantly inhibit wildlife movement, particularly access to water, shall be avoided.

26. Upland grassland feeding areas shall be protected against any significant disruption of habitat values.

27. Use of Duxbury reef shall continue to be regulated in accordance with existing State laws. The area should continue to be patrolled by a representative of the County Parks and Recreation Department on a daily basis.

28. Invasive exotic plant species are proliferating in the Coastal Zone at the expense of native plants. In order to preserve indigenous native plant species within the Coastal Zone, development permits shall be conditioned, where applicable, to require the removal of any invasive, non-indigenous plant species such as Pampas Grass, Brooms, and Thistles.

AGRICULTURE

The issue of agricultural land use in Unit I can be examined at two levels. First, there are those larger land holdings historically mostly involved in grazing or other extensive agricultural operations. Such agricultural

operations are limited in Unit I and are concentrated around the Bolinas area. The second type of general agricultural land use consists of smaller, more intensively operated agricultural use and "rural-residential" type land use. Again, for the most part, the smaller parcel size agricultural zoning is concentrated in and around Bolinas.

Of these two general levels of agricultural land use, the first, consisting of the larger agricultural holdings on Bolinas Mesa, is presently zoned as minimum 60-acre lot size zoning. These lands, however, share the same issues and potential responses as many of the agricultural lands in Unit II. While development of appropriate LCP policy response could be attempted now, it is more appropriate and expeditious to delay consideration of this issue in Unit I and combine its consideration with Unit II's agricultural land use policy formation. This would facilitate development and application of a coordinated and consistent approach to the vital and somewhat complex issue of protection of the large agricultural holdings which exist in the County's coastal zone. This approach seems particularly appropriate given the very small proportion of such agricultural lands in Unit I.

The second type of agricultural use is much more unique to the southern part of Marin County's coastal zone, and thus can be examined as part of the Unit I approval process for conformity with the Coastal Act Sections 30241, 30242 and 30250. These sections establish as a general objective the preservation of coastal agriculture and set forth the standards of land divisions outside community areas in order to encourage the concentration of development. The LCP policies suggest the designation of these smaller agricultural lands be modified from the present A-5 and A-10 zoning to ARP-5 and ARP-10 zoning districts, respectively. Such redesignation provides project review flexibility to assist in implementing the intent of the LCP policies on protection of agriculture and wildlife habitat areas.

LCP POLICIES ON AGRICULTURE

Large (.+60-acre) Agricultural Properties

29. Certification of the remaining large agricultural holdings within Unit I which are greater than 60 acres in size shall be deferred until consideration of the Unit II LCP in order to facilitate development and application of a coordinated and consistent approach to the protection of large agricultural holdings within the total Marin County Coastal Zone. These areas consist of the following Assessor's Parcel Numbers:

    188-090-02, 04, 05, 06, 09, 10, 11
    188-120-09, 11, 15, 19
    188-170-01, 06, 18, 56, 57
    199-150-20, 21

Small Agricultural Holdings

30. In order to preserve the maximum amount of agricultural land, protect important upland grassland feeding areas and to promote the concentration of development in accordance with Section 30240 (a) and (b),

30241, 30242 and 30250 of the Coastal Act, the land now designated as A-5 and A-10 zoning districts shall be rezoned to APR-5 and APR-10 to encourage greater flexibility in the design of future land divisions within the area. New land divisions shall be designed to provide the maximum feasible clustering of new units and by easement or similar recorded instrument shall provide both the retention of the maximum amount of land in agricultural use and the protection of important upland feeding areas, which are identified on the resource maps on file in the Maria County Planning Department.

III. SHORELINE PROTECTION AND HAZARD AREAS

Policies within this issue group cover several areas of concern with development in selected locations of Unit I. Policy areas include bluff top setback requirements, shoreline protective works, earthquake and other geologic hazard identification, mitigation and policy programs for notice of such hazards, and disclaimers of government liability resulting from damage by subsequent geologic activities. These policies are intended to address the specific issues discussed below, as well as implement the intent of Coastal Commission policies and Coastal Act Sections 30235 and 30253.

SEACLIFF RETREAT

The major slope stability problem in the Bolinas area is the coastal sliding, which is nearly continuous along the seacliffs. In the Bolinas planning area, this includes the bluffs from the boundary of the National Seashore to the cliffs between Brighton and Wharf Road on the Little Mesa. This is virtually the entire shoreline of the Bolinas Planning Area.

Structural weaknesses, inherent in the Monterey Shale, and the energetic erosion by the surf combine to cause active landsliding of the seacliffs. The Monterey shale involved in this sliding is intensely fractured, which significantly reduces its stability. The surf along this part of the cliff is brown and muddy, showing that it is laden with material being removed from the cliff. This process occurs year round but is most severe during winter storms.

The cliffs between Brighton Street and Wharf Road are made up of the soft sediments of the Merced formation. Galloway (1977) points out that these cliffs are protected from the open sea but bear the brunt of southerly winter storms. During these storms, waves pound the soft sediments, causing extensive falls and slumps.

Retreat rates vary depending on the location, Between the downtown section of Bolinas and Duxbury Point, landsliding has caused the cliff to retreat an average of 0.3 to 0.6 meters per year (Wahrhaftig, 1970). Along the west-facing cliffs, exposed to the open sea, retreat has been monitored since 1859 and has progressed at a rate of about .75 meters/year (Galloway, 19-77). In the vicinity of-the RCA station, rates vary from one and one-half feet per year to one quarter foot per year, depending on the location (Wagner, 1977). Retreat rates on the Little Mesa average about a half a meter per year (Galloway, 1977).

Destruction of improvements and property in this area has occurred over time and will continue to do so as long as they are placed in this zone of active sliding. Wagner (1977) describes incidences of past damage. During the winter of 1977-1978 five blufftop homes were threatened by rapidly retreating cliffs. Three homes were declared unsafe by the Bolinas Fire Department and the two others will be threatened in the future. (Howe, in press). Slumping was evident in many other sections of the Bolinas Coast but did not directly threaten property.

There is a need to determine setback distances for developments near the retreating cliffs. The Coastal Commission in its Interpretive Guidelines for Marin County recommend a minimum setback of 150 feet from the blufftop for new construction. This setback is based on a retreat rate of 3 feet per year multiplied by an economic life expectancy for a structure of 50 years. They also require a geologic investigation and report for all blufftop development. The Environmental Hazards Element of the Marin Countywide Plan calls for adherence to the guidelines adopted by the Coastal Commission. The Bolinas Community Plan recommends a variable setback. From Little Mesa to Duxbury Reef, they recommend an 80 foot (two feet per year times 40 years) setback and from Duxbury Reef to Point Reyes National Seashore, they recommend a setback of 120 feet (three feet per year times 40 years). This is based on an economic life expectancy of 40 years for a structure and the retreat rates indicated in parenthesis.

While not as completely documented as Bolinas, Muir Beach's seacliffs also experience relative rapid rates of shoreline erosion. While development potential is limited to a few vacant ocean bluff lots, these lots were often earlier by-passed as representing more difficult or even dangerous building sites. Development on these lots must be carefully evaluated under the LCP policies to assure that the site can adequately support the proposed development without undue risk or the necessity to construct shoreline protective devices.

The LCP policies will assist in identification of lots where new construction would be hazardous and/or require future shoreline protection. Coordinated research and development of programs to reduce such hazards are encouraged. Since such programs are for the benefit of private properties, they should be financed primarily by those to be so benefited. The County would provide limited assistance in such organizing and reviewing such studies.

SEISMICITY

In November 1974, the Marin County Board of Supervisors passed Resolution 74-426, which implemented the requirements of the Alquist-Priolo Act as they pertained to Marin County. The Department of Public Works subsequently prepared a set of policies, "Policies and Criteria for Implementation of the Alquist-Priolo Geologic Hazard Zones Act", which are distributed to all applicants who propose projects, as defined by the Act, within the Special Study Zones. Appendix B contains the Alquist-Priolo Act and Marin County's implementing resolution and policies.

Development shall continue to be required to meet the seismic safety standards of the Alquist-Priolo Act, as it has been implemented by the County through Board of Supervisors Resolution 74-426, and the policies and criteria for its implementation developed by the Department of Public Works pursuant to resolution 74-426.

However, recent geologic studies indicate that the San Andreas Fault Zone covers a greater area than that indicated on the Alquist-Priolo Special Study

Zone maps. The zone of fault activity extends to approximately the eastern shore of Bolinas Lagoon and continues out to sea about one third the distance north of the Seadrift Gate. It was also determined that the Lagoon area is probably a graben, a block of material that is subsiding in relation to the surrounding land surface. This occurs as a result of earthquake activity.

The-County shall request the State Geologist's Office review the recent Study: "Depositional History and Fault-Related Studies, Bolinas Lagoon, California", Joel R. Bergquist, U.S.G.S. Open File Report 78-802, to determine if the Alquist-Priolo Special Study Zone should be extended in the Bolinas Lagoon vicinity.

SHORELINE EROSION:
STINSON BEACH SANDSPIT

Shoreline development is located on the dunes of the Stinson Beach sandspit, a mile and a half long barrier beach that separates Bolinas Lagoon from the Pacific Ocean. The spit is characterized by a short sloping section which ordinarily contains the wash of the waves, a broad level beach section which occasionally is washed over by the runup of waves at high tide, and a set of dunes 10 to 15 feet high on which the homes are built. The dunes extend a maximum of about 50 feet from the rear of the homes; where the winter storms of 1977/78 caused extensive erosion only about 10 feet of dune remains. The height and width of the dunes were artificially. increased at the time Seadrift was developed.

The function of beaches and dunes is to act as an energy absorber; the waves break on the slope of the beach and energy is consumed as the water rushes up the slope and onto the broad, flat berms. The dunes act as the last natural barrier to flooding of the inland section during storms. They retreat in the face of storm waves and rebuild during later calm periods. During intense storm activity in natural situations, the dunes are occasionally washed over by waves. The shape of the spit is controlled by several factors, including the location of the Bolinas bluffs. Changes in these factors result in changes in the shape and size of the spit:

The winter of 1977/78 saw a series of severe storms batter the California coast. The combination of high waves, high tides and recurring storm activity led to extensive damage of coastal structures from shoreline erosion. At Stinson Beach this took the form of eroding away the beach and dune system. Eight homes in Seadrift were threatened by this erosion, and an emergency revetment was placed. Research by Howe (in press) suggests that the conditions experienced that winter were not a "freak" or rare occurrence, and areas which experienced damage will likely experience similar conditions in the future.

The section of Seadrift threatened by the shoreline erosion consisted of nine lots, one of which did not contain a home. Several emergency measures, which failed, were attempted to protect these properties before the revetment (a type of seawall, that is laid on the dune or bluff to prevent wave attack from removing sand) was constructed by the County. The seawall runs the length of the nine lots and at its highest point was 14 to 15 feet high at the time of construction. Beach replenishment over the summer has reduced this height to about 10 feet, but rock still remains exposed above the beach in front of the dunes.

As noted in the "Final Staff Report and Recommendations on Issues Raised by Development of Seadrift Subdivision, Stinson Beach", May 1978, as amended, there is a wave erosion hazard to beach front lots and homes at Seadrift. The precise extent of this hazard is not known. It is likely the hazard will vary over time, depending on the severity of the winter, and place, because of the constantly shifting nature of both the beach and off-shore sand bars. The fact that the dunes were artificially increased in size at the time Seadrift was constructed and have now been significantly reduced by last winter's storm activity with little summer replenishment could further increase this hazard.

Given the unpredictable occurrence of this hazard and its generally localized area of impact (only nine lots were significantly threatened during the winter of 1977/78), it is likely the majority of permit applications will be on an emergency basis for a small number of lots. This would result in a haphazard placement of emergency erosion control structures. How these structures would physically and visually impact the remainder of the beach could not be determined in an emergency situation.

PROTECTION OF EXISTING STRUCTURES AND COUNTY LIABILITY

In addition to policies that address development standards and new project review for areas of seacliff retreat, earthquake hazards, shoreline and dune erosion, this chapter also establishes policies that encourage investigation and development of joint programs to protect existing structures from shoreline erosion. These policies are desirable to successfully implement Coastal Act goals regarding development of shoreline protective works. Through identification of areas potentially subject to shoreline erosion, there exists an opportunity to develop programs to mitigate such hazard before emergency situations development. This provides flexibility in design techniques, financing and engineering feasibility to assure the balancing of public and private interests can be accomplished in a nonemergency period.

The policies identify strong review standards for new development in hazardous areas, coupled with attempts to adequately evaluate and respond to potential geologic hazards prior to their occurrence. The County of Marin does not accept responsibility for the protection of areas subject to shoreline erosion. Additionally, the County accepts no liability for approved development in areas identified as subject to geologic hazards. A waiver of liability would be recorded on all new development otherwise permitted by this
section's policy standards.

LCP POLICIES ON SHORELINE PROTECTION AND HAZARD AREAS

1. New structure shall be set back from the Bolinas and Mir Beach bluffs a sufficient distance to ensure with reasonable certainty that they are not threatened from cliff retreat within their economic life expectancies. Adequate setback distances will be determined from information contained in required geologic reports and the setback formula established below. These setbacks will be of sufficient distance to eliminate the need for shoreline protective works.

In view of the fact that the retreat rate varies markedly along the cliffs, and that the life expectancy of different kinds of structures varies greatly, the following formula will be used to determine setbacks from the bluff for new structures:

Setback (meters) = structure life (yrs.) X retreat rate (meters/yr.) In areas where vigorous sliding is taking place, an additional 15 meters should be added as a safety factor.

The retreat rate will be determined by a complete geotechnical investigation which will be required if one or both of the following conditions are met: The building or proposed development site is within 150 feet of the blufftop, or the site is located in stability zones 2, 3 or 4 as indicated on the Slope Stability of the Bolinas Peninsula Study Area map which accompanies Wagner's 1977 report, "Geology for Planning, Western Marin County". This report and accompanying maps is incorporated by reference as part of the LCP.

2. Development shall continue to be required to meet the seismic safety standards of the Alquist-Priolo Act as it has been implemented by the County.

   The County shall request that the State Geologist's Office review the recent study, "Depositional History and Fault-Related Studies, Bolinas Lagoon, California", by Joel R. Bergquist, U.S.G.S. Open File Report 78-802, to determine if the Alquist-Priolo Special Study Zone should be extended in the Bolinas Lagoon vicinity.

3. The County shall seek public funds to contract with the State Division of Mines and Geology to initiate a study to identify lots and/or structures threatened with cliff retreat within their economic life expectancy. The results of this study shall be incorporated into the general restoration program for the Bolinas Mesa as described in Chapter II of the LCP.

4. Many of the building sites in Unit I are characterized by one or more potential geologic hazards. The development of residential structures on such parcels may be subject to often sudden and destructive geologic phenomenon. The County of Marin does not encourage new residential development of such parcels and expressly states that the issuance of a coastal development permit for such property does not warrant said property's safety_ from geologic hazards. Further, the County of Marin will not accept liability for subsequent personal or property damage caused by geologic processes on said properties. To assure that the builder and subsequent purchasers are expressly aware of the policy, a "waiver of liability" shall be executed and recorded by said for short-term, emergency food, shelter, and said property owner prior to the issuance of a coastal development permit. Further, clothing, the County of Marin will not participate in emergency or disaster relief funding for properties so identified and would recommend such limitations on State and/or federal disaster/emergency grants and/or loans.

Existing geologic information indicates this geologic hazard policy shall apply to new development (excluding improvements to existing structures that would not result in an increase of 50 percent or more of internal floor area of the structure) on lots located in the following areas:

- Lands located in the "Alquist-Priolo" earthquake hazard zones, as said zones may be amended.
- Development within 300 feet of the mean high tide of the sea.
- Development on parcels with slopes averaging over 35 percent.
- All lots within the Seadrift sandspit to include the Patios, Calles and Seadrift Subdivision.

(Those lands covered by this "geologic hazards" policy are shown on the geologic hazard maps on file in the Marin County Planning Department)

5. The following policy from Section 30235 of the Coastal Act is incorporated into the County LCP:
   Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline process shall be permitted when required to serve coastal-dependent uses or to protect existing structures (constructed before adoption of the LCP), or public beaches in danger from erosion and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply.

6. To minimize visual and sand transport impacts on Stinson Beach, any permit granted to construct erosion control structures shall require the re-establishment of the former dune contour and appearance. In case of emergency permits, the property-owner of record shall agree, in writing, that such restoration work will be accomplished within 60 days after the threat of damage has passed.

7. Because revetments, seawalls or other shoreline protective works can be detrimental to maintenance of natural shoreline processes and can interfere with visual enjoyment and coastal access, such works are discouraged. The County of Marin through the LCP and other documentation has identified those coastal areas potentially subject to significant wave and run-off erosion. Because such probable risk areas are identified, sufficient opportunity for private investigation and response to such hazards is available. Therefore, the County of Marin shall not finance or construct emergency shoreline protective devices for the benefit of private developments.

8. It shall be County policy to encourage property owners subject to ocean-front erosion hazards to develop responses to such hazards prior to emergency conditions. Where contiguous properties are subject to generally similar erosion hazards, joint program development should occur. The County will not finance such engineering studies (or any subsequent construction activities), but will seek aid from Federal

and State agencies, colleges and universities to assist private consulting engineers in such review and recommendations. Where existing community organizations or special districts are unable to provide organizational support for such area-wide joint studies, the County, upon request, will assist in the organization and administration of such privately funded studies.

9. In the absence of an overall wave hazard/shoreline erosion study, any-permit application for seawalls, riprap or other protective structures on beaches, shall be accompanied by engineering reports stating the nature and extent of wave erosion hazard along the beach area and an explanation of how the proposed protective works will mitigate the hazard, both on and off the project site. This policy shall not apply to emergency permit applications applied for within three years of the date of adoption of the LCP. Emergency permit applications after that date shall be subject to report requirement or shall specifically establish why the need for such protective devices was not foreseen.

IV. PUBLIC SERVICES AND NEW DEVELOPMENT

PUBLIC SERVICES

In determining whether existing and planned water and sewer facilities can accommodate only a limited amount of new development, it is necessary to know the current status of their services.

Water Supply

Muir Beach Community Services District. Because there is no potential for additional visitor-serving uses in Muir Beach, additional water use will be limited to the build out of the residential lots and increased demand from the beach park.

The District has two wells and three storage tanks. The wells draw from aquifers in Redwood Creek, whose precise magnitude and dependability are not known. During periods of droughts, normal demand may exceed estimated flow capability of these underground sources. This condition sometimes requires rationing measures. No expansion of production or storage facilities is planned.

Stinson Beach County Water District. The Water District has recently developed a Capital Improvement Plan to meet the water demands of the. community at buildout. The District's Plan (Montgomery, 1977) estimates the following demand, based on the Community Plan:

Water in Gallons per Minute (GPM)		
	1977	*Ultimate*
Average Day	173	322
Maximum Day	300	550
Fireflow	1500	1500
Maximum Day& Fireflow	1800	2050
Peak	581	1057

The District plans its service facilities on the basis of maximum day requirements (550 gallons per minute (GPM) at buildout). "Maximum day" is the average GPM for a summer holiday weekend day. "Peak" is the peak demand within that day. To meet ultimate demand, the District intends to install additional wells. The District's existing production comes from 7 stream catchments and 3 wells. The District is in the final stages of installing a new well, which will be on-line by April, 1979. The District is further planning two additional wells which will be processed and installed in a common package. At this time, these wells are expected to be on-line by June, 1980.

The exact production of these new wells will not be known until they are purged and put into operation. However the District's Improvement Plan projects that these wells, combined with improvements to the system now

being completed will provide a maximum day production of 500 GPM. Additional planned improvements to existing production catchments and wells, anticipated to be accomplished by June 1980, will raise total District maximum day production to 550 GPM, sufficient to serve the community at buildout. The District carries 740,000 gallons in storage capacity (exclusive of fire capacity).

Bolinas Public Utility District (BPUD). The District has had a moratorium on new water hook-ups in effect for the past six years, because of an insufficient water supply to meet any additional demand. Bolinas PUD draws water out of Arroyo Honda to the north of the village and stores it in two reservoirs (Woodrats I and II). The District operates on a yearly cycle: water is stored in the reservoirs during the rainy season for use during the dry summer months. Storage capacity is thus the constraint on supplying additional water. Demand and supply are now balanced on the basis of the moratorium at about 50,000,000 gallons per year.

The lifting of the moratorium is dependent on the construction of a third reservoir. The District has identified three potential dam sites north of the village. These are the Trust for Public Land, Neiman-Schell, and Holter parcels. Under a recent settlement of its legal suit with the Trust for Public Land, the District is barred for three years from constructing a reservoir on the Trust for Public Land site; it is severely restricted for seven additional years from such construction. The District is also receiving cash in this settlement which will, together with other sources, allow the District to purchase the Holter dam site.

Actual construction of the reservoir and related system improvements will require the passage of a bond election by District residents. The District Board expects to put such a bond measure on the ballot in the near future, probably for a small reservoir, allowing a small increment of new connections.

Assuming the bond election did pass, it would be at least five years before the reservoir was functioning because of lengthy design and construction lead times. The District does not expect, therefore, that additional water supplies will be available before the first five-year review of the LCP.

Water Well Standards. The Coastal Act provides (Section 30231) that the biological productivity and quality of coastal waters be protected through, among other mechanisms, preventing depletion of ground water supplies. Additionally, Section 30250 of the Coastal Act requires new development be served by adequate public services, including water service. Therefore, coastal developments involving development of water wells must be judged under these standards to assure the accomplishment of the Coastal Act objectives.

Sewage Disposal

Bolinas Public Utility District. Bolinas PUD provides sewerage treatment to the downtown village area. The treatment plant is sized for 200 household equivalents, the ultimate demand of the existing downtown service area. The District currently serves 161 household equivalents. The commercial area, within which visitor serving facilities are appropriate, is within this service area.

The District's ponding basins and spray fields cannot easily be expanded because of their location. Expansion would, therefore, be costly and the District has no current plans for such expansion.

Septic System. The protection of coastal waters and the assurance of adequate support facilities to accommodate new development are both objectives of the Coastal Act and require clear specific procedures for the review of septic systems. Except for a relatively small area of Bolinas, new development in Unit I depends on septic systems for sewage disposal. Therefore, standards for the review of septic system construction must assure that the installation and use of systems will not have, either individually or cumulatively, an adverse impact on coastal waters. Such standards should be rigorously applied; however, provisions for addressing individual, unique situations must also be provided.

Transportation

When Congress authorized the creation of the GGNRA, they also requested that a study be prepared to plan methods of carrying visitors to and within the park areas. This study was titled, "The Golden Gate Recreational Travel Study" (GGRTS) and the final report was issued in 1977. The report is available for review from many agencies, including the Regional Coastal Commission and Marin County Planning Department and only the Plan's recommended additions, or modifications to transit routes in Marin County are included here, although. it should be pointed out that the road network in the coastal zone, particularly access ways, consists of narrow, windy, two-lane roads.

The GGRTS Plan for early implementation recommends two basic additions to the existing transportation system - Transit/Information Junctures and Park Shuttles.

Transit/Information Junctures are locations where many-existing public transit routes already converge and where a transfer may be made to a shuttle service direct to park locations. information about both transit service and the parks would be available for passengers. The following junctures, Marin City or Manzanita and Larkspur Ferry Terminal, are recommended for Marin County. Both are located outside the Coastal Zone.

Park Shuttles are short bus routes connecting popular destinations with the GGRTS study area. The system would operate on 33 peak weekend and holiday days during the summer, including Memorial and Labor Days. The National Park Service would be the agency responsible for this program.

Additional information on the traffic situation in the GGNRA and Point Reyes National Seashore is available in the "Assessment of Alternatives, for the General Management Plan, 1977". In it, they present current traffic conditions largely derived from the GGRTS Study and two possible alternatives to manage traffic, continue existing access and improve transit service. The latter alternative includes most of the recommendations made in the GGRTS Study.

Previously, the National Park Service was unable to provide or participate in funding transit service from urban areas to park properties due to an interpretation of enabling legislation by the Office of Management and Budget. The passage of S.B. 975 by the Congress, allows the Park Service to provide funding for public transit service to and within National Parks. This bill now enables the Park Service to participate in outside transit programs but did not provide any funding to implement the proposals discussed here.

LCP POLICIES ON PUBLIC SERVICES

General

1. Roads, flood control projects and utility service expansions shall be limited to the minimum necessary to serve development as identified by LCP land use policies. All such public works projects shall be reviewed under resource and visual policies of the LCP.

2. Because of the unique, natural resources and recreational opportunities of the Unit I coastal zone, industrial and energy facilities are not appropriate and shall not be permitted.

Water Supply

3. Within the service area of a community or mutual system the use of individual domestic water wells to serve new construction shall be permitted provided: a) the community or mutual system is unable or unwilling to provide service, or, b) the distribution system improvements are physically and/or economically unfeasible to construct to the site. Additionally, wells or water sources shall be at least 100 fee from property lines or, a finding shall be made that no development constraints are placed on neighboring properties.
   [Amended pursuant to BOS Resolution No. 83-253 [6/14/83], approved by CCC as submitted 8/11/83]

4. New community and mutual water wells serving five or more parcels shall demonstrate by professional engineering studies, including, as necessary, long-term monitoring programs, that such groundwater withdrawal will not adversely affect coastal resources, including groundwater aquifers. Such engineering studies shall provide the basis of establishing safe sustained yields from these wells.

5. Prior to the authorization of subdivision or construction of projects utilizing individual water wells, the applicant shall demonstrate that a sustained water yield of at least 1.5 gallons per minute per residential unit. Additional requirements for fire protection, including increased yield rates, water storage facilities and fire hydrants shall be installed as recommended by the applicable fire protection agency.

6. In acting on any coastal project permit for expansion of the water facilities of the Bolinas Public Utility District, the County shall determine that adequate water is guaranteed from the expanded facilities to serve VCR-zoned property in the village core.

Septic System Standards

7. All septic systems within the Coastal Zone shall conform with the Minimum Guidelines, for the Control of Individual Wastewater Treatment and Disposal Systems adopted by the Regional Water Quality Control Board on April 17, 1979. No waivers shall be permitted except where a public entity has formally assumed responsibility for inspecting, monitoring and enforcing the maintenance of the system in accordance with criteria adopted by the Regional Water

   Quality Control Board, or where such waivers have otherwise been reviewed and approved under standards established by the Regional Water Quality Control Board.

8. Alternate waste disposal systems shall be approved only where a public entity has formally assumed responsibility for inspecting, monitoring and enforcing the maintenance of the system in accordance with criteria adopted by the Regional

Water Quality Control Board.

9. Where a Coastal Development permit is necessary for any enlargement or change in type or intensity in use of an existing structure, a septic system that is adequate to conform to current Regional Water Quality Control Board Guidelines or such other program and standards approved by the Board shall be installed.

10. In order to minimize the generation of wastewater and to encourage the conservation of Coastal water resources, the use of water saving devices shall be required in all new developments.

11. The existing water quality monitoring agreement between the North Central Coast Regional Commission, the Stinson Beach County Water District, and the Regional Water Quality Control Board, and conducted by the Water District, shall be continued.

Bolinas Sewage Disposal System

12. In acting on any coastal project permit for the extension or enlargement of the sewer treatment facilities of the Bolinas Public Utility District, the County shall determine that adequate treatment capacity is available in the system to serve VCR-zoned property in the village core.

Transportation

13. Highway 1 provides an important and limited access route to the coastal zone. The narrow, twisting two-lane roadway successfully complements the rugged, open character of this coastal area. Highway 1 shall remain a scenic, two-lane roadway. Roadway improvement projects shall not, either individually or cumulatively distract from the rural scenic characteristics of the present roadway. Improvements (beyond repair and maintenance) shall be limited to minor roadway improvements as identified below:

    - Slope stabilization, drainage control and minor safety improvements such as guardrail placement, signing, etc.

    - Expansion of roadway shoulder paving to accommodate bicycle/ pedestrian traffic along the highway shoulder.

    - Creation of slow traffic and vista turnouts, as a safety and convenience improvement.

    - Other minor selected roadway improvements necessary to adequately accommodate public transit consistent with the goals of the following policy: no filling of streams or wetlands shall be permitted.

14. Public transit service to and through Unit I is presently limited to commuter services and selected recreational service routes. The expansion of public and recreational areas and facilities in Unit I will accelerate the need to increase opportunities in providing public access to the coastal areas of Marin. The development of such programs shall rely extensively on public transit as the most appropriate and consistent method of increasing public access and recreational opportunities in Unit I. The development of new transit service routes and associated loading and turn areas, is consistent with the policy to utilize public transit in meeting the increased use of coastal access and recreational areas.

NEW DEVELOPMENT AND LAND USE

Historical Resources

Section 30253 of the California Coastal Act of 1976 mandates the protection of communities and neighborhoods "which, because of their unique characteristics, are popular visitor destination points for recreational uses." The intent of this policy is to protect the unique character of existing coastal communities.

The Unit I coastal communities are historically important and aesthetically unique. The LCP proposes that structures in the coastal zone built prior to 1930 should be reviewed through the coastal permit procedure before being altered or demolished. Additionally the LCP designates specific areas with the Unit I coastal zone as "historic areas." New construction and additions to or demolition of existing structures will require a Coastal Permit.

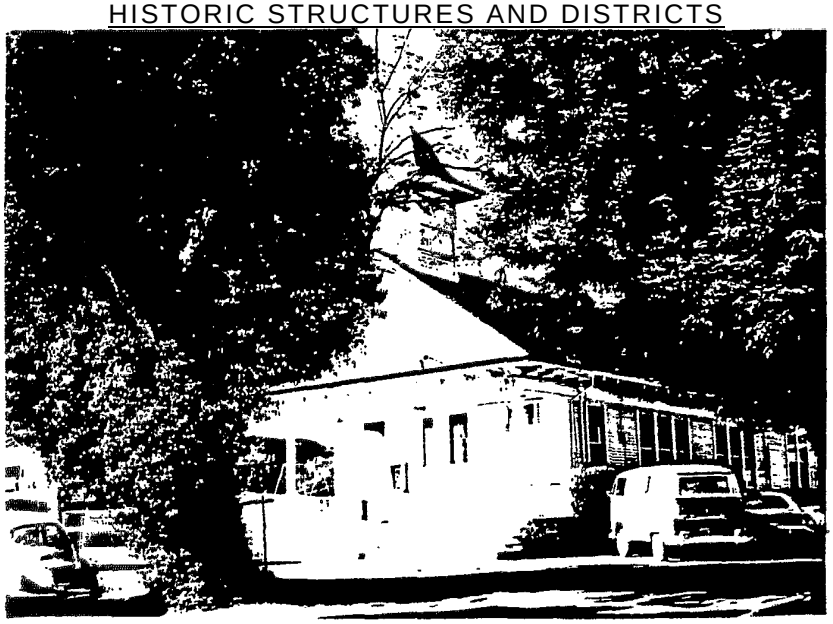
Boundaries for historic areas were selected to include groups of unique and architecturally significant structures that are visually accessible to both local residents and visitors. Community input and additional historic surveys are encouraged as part of the Coastal Plan. After survey, historic area boundaries could be revised through the public review process.

All pre-1930s structures in the coastal zone are eligible for utilization of the State Historic Building Code, and alternative to the Uniform Building Code. This alternative code can aid property owners in the retention of historic character of buildings that undergo restoration and rehabilitation, and can result in cost savings.

This section illustrates some of the other historic structures in Unit 1. These are by no means all of the historic structures in Unit I. The descriptions that follow are based on Discovering Marin (1974).

[Amended pursuant to BOS Resolution No. 82-256 [6/22/82], approved as submitted by CCC 9/7/82]

HISTORIC STRUCTURES AND DISTRICTS



1. Bolinas School

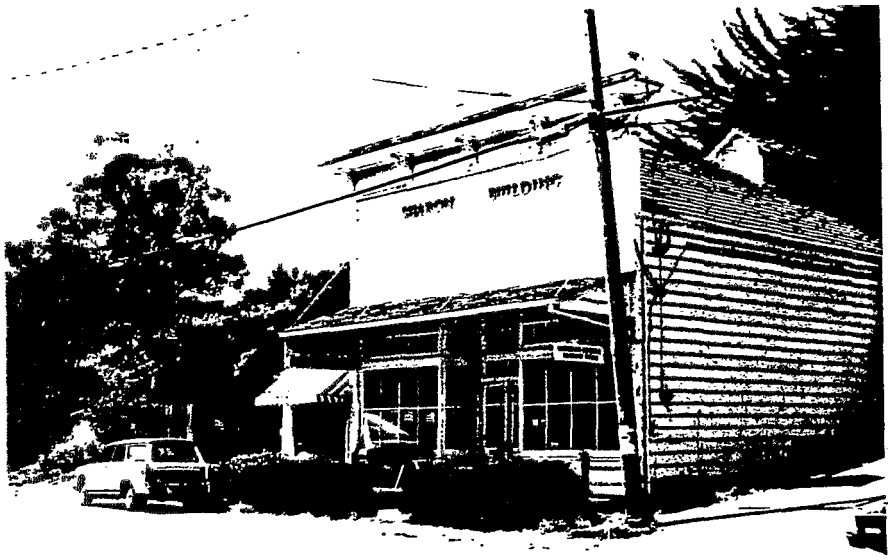
This school, on the Olema-Bolinas Road, was built in 1907. The school is identical to the original school built in 1867 which was located on the same site.

2. Calvary Presbyterian Church

This Bolinas church was built in 1878, and moved to its present site on Brighton Avenue in 1898.

3. Waterhouse Subdivision

The first major subdivision in Bolinas occurred in 1832. Mr. & Mrs. Frank Waterhouse divided 6k lots along Brighton, Park and Spring Avenues. Summer homes, such as the one shown above, were constructed beginning in the 1880's.



4. Sharon Building

The Sharon Building was constructed in 1878 and used originally as a Methodist Church. The building was moved in 1909 from its original site on the Bolinas-Olema Road to its present site on Wharf Road.

5. Smiley's Bar

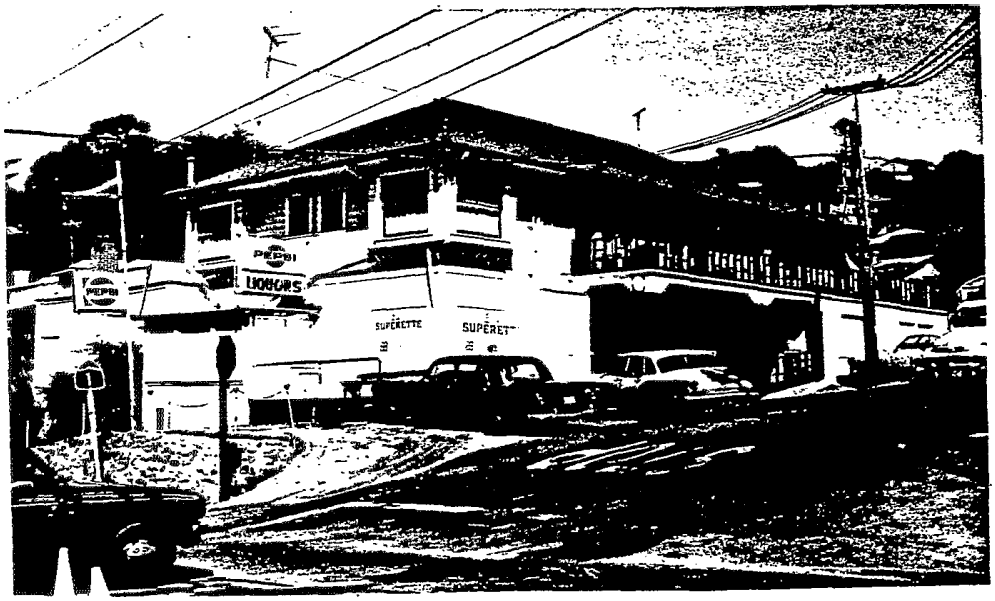
Smiley's Bar on Main Street was formerly the Schooner Saloon. The original part of the building dates from 1852.

6. College of Marin Marine Station

The Marine Station on Wharf Road was constructed originally as a U.S. Coast Guard Station (1917-1946).

7. Captain Easkoot's House

This house on Highway I in Stinson Beach was built in 1875 by Captain Alfred D. Easkoot, first County surveyor and an eccentric recluse. The beach was originally known as Easkoot's.



8. Airey's

Airey's, now the Superette, was the first grocery store in Stinson Beach.

Archaeological Resources

Section 30244 of the Coastal Act provides that where development would adversely affect archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required. The Unit I LCP does include explicit policies on the protection of Archaeological resources to ensure that the intent of the above Coastal Policy is incorporated into the LCP. The proposed LCP policy is needed to clarify the protection of archaeological resources in the area by requiring professional field survey work in the areas of known or probable archaeological significance prior to development in such areas and by requiring the implementation of reasonable mitigation measures consistent with Section 30244 of the Coastal Act and previous actions of the Commission.

Visual Resources

Coastal Act policies on visual quality, found in Section 30251, require the protection of scenic and visual resources of coastal areas. Visual resources, including beaches, wetlands, and other natural as well as manmade features, are vulnerable to degradation through improper location of development, blockage of coastal views, alteration of natural land forms by poor cutting, grading, and filling practices, and by poor design or placement of roadside signs and utility lines. The primary concern• of the Coastal Act is to protect views to scenic resources from public roads, beaches, trails, and vista points.

Housing

The Coastal Act requires that "housing opportunities for persons of low and moderate income shall be protected, encouraged, and where feasible, provided ... New housing in the coastal zone shall be developed in conformity with the standards, policies, and goals of local housing elements ..." (Section 30213),

The moderate-income housing question is not limited to coastal Marin, however. It is a countywide and regional issue. The coastal zone in Marin is physically removed from the rest of the County and region by a limited road network. This network limits the coast both as an employment center and as a residential area to commuters. Because of this, residents of the coastal zone live there as a conscious lifestyle decision, not because of the inequities of the regional housing market.

The Marin Countywide Plan recognizes housing cost and availability as one of the three major problems to be solved in the County. The Plan's policy is to encourage moderate income housing in the eastern, city-centered corridor where employment, transportation and public services are most available. The Plan does not view coastal Marin as a feasible location for additional moderate income housing. The Plan recommends that:

> ... higher density housing be located where adequate services and transportation are available, within ... areas specified in the plan where there are opportunities for achieving housing goals ... high-density housing supports public transit efficiently, provides a market for nearby shopping areas, and offers an accessible labor supply for local employers ... higher densities can reduce costs to the developer and thus make low and moderate income housing more feasible. (Pages 3-4 and 3-5).

For the rural villages, the Plan states the development policy:

> LARGE DEVELOPMENT THAT WOULD RAPIDLY OR DRASTICALLY CHANGE THE CHARACTER OF THE VILLAGE SHOULD BE DISCOURAGED, BUT SOCIAL AND ECONOMIC DIVERSITY SHOULD BE ENCOURAGED.
>
> Large scale development occurring over a short period of time that would drastically change the appearance of a village, or would create a need for expensive new urban services should be avoided.
>
> Most low and moderate income housing stock will have to come from existing supply, and therefore methods to prevent units from rising in price should be employed. (Pages 3-22)

Given the constraints on development in the Unit I area, including a limited water supply, dependence on septic systems, and the limited capacity of Highway 1, the LCP policies restrict community residential development to single-family homes and duplexes. As such, provisions of low and moderate income housing opportunities by density bonuses and other mechanisms is severely restricted.

Additionally, the desirability of the provision of such units in this area is reduced because of their remoteness from employment centers and the lack of available public transportation and other necessary support services. Therefore, consistent with previous permit decisions, the Coastal Commission has found that construction of low and moderate income housing is not feasible in connection with the construction of single-family and small multi-unit developments, except as otherwise provided for in State Coastal commission policy on the demolition of existing low and moderate income housing units.

Housing Supply. The 1970 census was the last comprehensive survey of income and housing costs in the coastal zone. These data are no longer a valid measure of the extent of the housing problem, because of recent shifts in the housing market and mortgage lending patterns.

To determine the extent and location of existing moderate income housing, County Planning staff inventoried single-family dwelling values in 1977 against the estimated income of permanent coastal zone residents. The methodology of this study and a description of its limitations is contained in Appendix C. The results of the study are shown graphically

in Figure 3 and in Table 1. The raw number of moderate income units as defined by HUD for Section 8 programs estimated by the study should not be considered accurate. However, the concentrations shown on Figure 3 and the proportions shown in Table 1 are close approximations of the current situation.

TABLE 1:
LOCATIONS OF MODERATE-COST UNITS IN COASTAL ZONE

	Percent of Total Single-Family Units	Number of Moderate-Cost Units
Dillon Beach	62%	126
Tomales	91	52
Non-Village, east of Tomales Bay	52	47
Inverness Ridge Communities	32	206
Point Reyes Station	52	73
Olema	25	10
Bolinas	55	301
Stinson Beach	23	95
Muir Beach	10	12
Total:	41%	922

Source: Marin County Planning Department

The most recent survey of housing conditions was conducted by the County Planning Department in 1971. A total of 14,035 parcels countywide were surveyed in areas selected by City and County officials as those likely to contain substantial proportions of deficient housing. Most units in the coastal villages were inspected during the survey. Table 2 shows the results of the survey.

TABLE 2:
COASTAL HOUSING CONDITIONS

			Condition, % of Total Surveyed		
Village	Total Housing Units, 1970	% Covered by Survey	Sound	Deteriorating	Dilapidated
Dillon Beach	153	97%	87%	10%	0%
Tomales	66	88	72	26	2
Marshall	49	94	80	20	0
Inverness	56	88	85	15	0
Inverness Park	70	100	85	15	0
Point Reyes Station	113	83	7.7	23	0
Bolinas	632	80	89	11	0
Stinson Beach	380	57	88	12	0
Muir Beach	65	100	97	3	0
Total:	1584	79	87	13	2

Source: Marin County Housing Conditions Survey, 1971.
Marin County Planning Department.

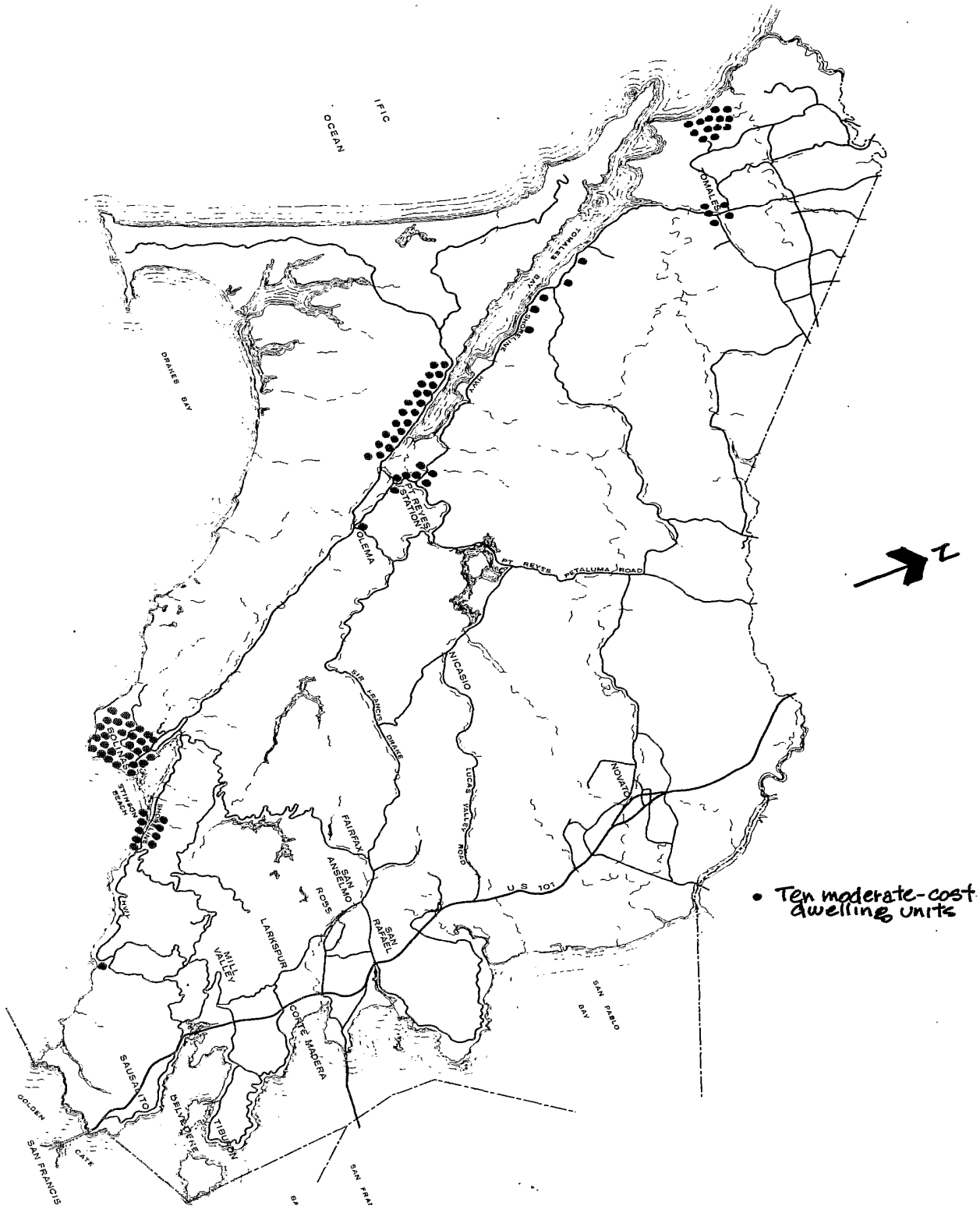


Figure 3: Concentrations of Low and Moderate Income Housing Units

It can be assumed that restoration of many of the deteriorating units has taken place as a result of the increased demand for housing in the coastal zone after this survey was completed. Nevertheless, Table 2 is probably a good indicator of relative concentrations of deteriorated housing in the coastal zone.

Future Demand. Future housing demand in the coastal zone generated by employment increases in the area will be minimal, if any. The only employment sectors which could grow in the next few years are the GGNRA, visitor-serving enterprises, and aquaculture.

The GGNRA planning staff has not estimated employment increases resulting from the General Management Plan. Few of the Plan's proposals would seem to require large numbers of employees. It is impossible to project what employment increases may occur from visitor-serving enterprises or aquaculture. However, any employment increases from these three sectors must be balanced against an overall loss in jobs forecasted by the Association of Bay Area Governments. ABAG's 1995 forecast for the coastal area is shown in Table 3.

TABLE 3
EMPLOYMENT, HOUSING, POPULATION FORECAST

	1975 BASE				1990 FORECAST			
Zone(1)	Basic Employment	Total Employment	DUs	Pop.	Basic Employment	Total Employment	DUs	Pop.
23	107	210	1075	3853	94	207	1075	3533
24	158	259	1813	4807	131	233	1813	4212
Total	265	469	2888	8660	225	440	2888	7745

(1) Zone 23 is Census Tract 1330, which includes both northwest Marin and Nicasio outside the coastal zone. Zone 24 is Tracts 1321 and 1322, which includes the Point Reyes Peninsula and Stinson Beach.

Source: ABAG Series III - Base Case 1 Forecasts, Revised March, 1978.

Marin County Planning staff does not believe housing demand from future employment increases will be great enough to justify altering the current County emphasis on preservation of the existing stock.

Local Programs. The County of Marin and the County Housing Authority currently operate four housing programs on a Countywide basis: Section 8 rental assistance, City-County rental assistance, Housing and Community Development Block Grants, and rehabilitation loans.

Under Section 8 of the 1974 Housing Act, the County Housing Authority provides rental subsidies to low and moderate income families. These families are responsible for finding their own dwellings, which must meet basic structural standards and rent levels established by HUD. As of September 15, 1978, there were eight units in the coastal zone in the Section 8 program.

The City-County Rental Assistance Program is an innovative attempt by the County's local governments to provide a solution to the moderate income housing problem. The program was begun in 1977, funded by the County and the Cities of Mill Valley, San Anselmo, Corte Madera and Larkspur. In 1978, only the County, Mill Valley and San Anselmo have contributed funds. The City-County program is structured similarly to the Section 8 program, except that structural standards and rent levels are more flexible. Currently, no units in the coastal zone are in this program. The City-County program could be of great value in the coastal zone because of its flexibility. Because of their age, condition, and utility status, many coastal dwellings cannot meet Section 8 standards, but could qualify for the City-County program.

The County of Marin administers a Countywide Housing and Community Development Block Grant program under the Housing Act of 1974. Under this program, 2.1 million dollars are allocated for housing and capital improvement projects throughout the County. One-half of the total budget is allocated Countywide for housing projects. The remaining one-half is split between the County's six planning areas for individual projects nominated by sponsor groups. To date, no projects for new moderate income housing have been proposed or funded in the coastal zone.

The Rehabilitation Loan program is administered by the County Housing Authority on a Countywide basis, and funded from the Countywide housing portion of the Block Grant program. Since the program began in 1976, four loans have been processed in coastal communities.

Farmer's Home Administration Programs. The Farmer's Home Administration is an agency of the U.S. Department of Agriculture. The Administration currently administers three housing programs of use in the coastal zone: Sections 502, 504 and 515 of the Housing and Community Development Act of 1974. In all of these programs, the applicant deals directly with a Farmer's Home Administration Field Office. For Marin's coast, the nearest field office is in Santa Rosa.

The Section 502 program provides direct loans to buy, build, repair, renovate, or relocate a home. Families with incomes up to $15,500 can qualify, and those with incomes under $11,200 may receive interest subsidies down to as low as 1 percent.

The Section 504 program provides loans up to $5,000 to very low income families. The loans are limited to health and safety corrections of owner-occupied homes.

Section 515 provides loans to public and private sponsors for the construction or rehabilitation of rental and cooperative housing for low and moderate income families and elderly people. Interest rates vary depending on the kind of sponsor and projected income of the tenants. Tenants in Section 515 projects may pay no more than 25 percent of adjusted income for rent and utilities.

None of these programs is currently being used in the coastal zone. All of them have their limitations, but all of them are potentially useful in the coastal zone. Section 502 is limited by its payment standards. An application must be able to meet monthly housing payments within 20 percent of household adjusted income. For example, an applicant with a $15,000 income and 2 children would be limited to a payment of $228 per month. However, the monthly payment necessary for an 8-1/2 percent, $33,000 loan is $250, which exceeds the payment limit. Since there are relatively few homes available in the coastal zone in that price range, Section 502 has limited application for ownership loans. For rehabilitation purposes, however, this program may be a good source of loans.

Section 504 is limited by its maximum loan amount ($5,000), and its availability to only very low income families for health and safety corrections. Given the few dilapidated units in the coastal zone (Table 2), there are few units which could qualify for. this program.

Section 515 is limited by the few parcels of land large enough and zoned for multiple-family units. Projects of 6 to 10 units have been found feasible elsewhere under this program, however,, and could be tried in Marin's Coastal Zone.

Demolitions. in order to preserve the existing stock of moderate cost housing units, it is important that older, deteriorated homes not be demolished merely to allow-construction of new, expensive homes.

Since January, 1973, six dwellings have been demolished in the coastal zone. A much larger number could occur in the future should the value of land continue to increase rapidly relative to the value of the structures sitting on it.

In the village areas contained in the Unit I., LCP, low and moderate income housing is now generally provided through rental of the existing housing stock which consists primarily of single-family, duplex, and several multiple-family structures in Stinson Beach (which were constructed before zoning of the area was reduced from R-3 to R-2). In accordance with Coastal Commission guidelines on demolition of existing structures that provide such opportunities for low and moderate income housing, the LCP requires that such opportunities be preserved and protected, when feasible.

Future Programs. It is the intent of Marin County to continue operating the four current local programs, described above, as long as funding continues. In addition, two new programs could address housing issues.

Mann County has recently adopted an Inclusionary Housing ordinance, requiring low or moderate income units in projects of 15 units or more. Because of this minimum size, it is unlikely that this program will have much application in the coastal zone.

A possible second program could consist of an ordinance permitting second units (or in-law units) in single-family zones. This could be an important program for maintaining the availability of moderate income, housing in the coastal zone.

Grading

Section 30253(2) of the Coastal Act requires that new development shall neither create nor contribute to erosion. Section 30231 further stipulates that the biological productivity of-coastal waters shall be maintained, in part, by controlling runoff, and Section 30240(b) states that development adjacent to environmentally sensitive habitat areas shall be sited and designed to prevent impacts which could significantly degrade such areas.

Development has three different but related effects which are of concern to the productivity of coastal waters. First, the development process increases the production of sediment from land, at least during the construction phase. Second, development increases the rate of runoff by increasing the amount of impermeable surfaces. (This increase in the mean runoff, in turn increases the rate of sediment deposition into the lagoon and creeks and decreases the purifying effects of overland flow.) The third major effect of development is an increase in the concentration of pollutants contained in runoff. The increased production of sediments and other, pollutants can clog the respiratory structures of many marine organisms, adversely affect egg development, deprive algae and eel grass of necessary sunlight and adversely affect other marine habitats.

In order to minimize the adverse impacts from development consistent with the Coastal Act, additional grading standards are proposed. Standards of the policy ensure runoff rates that will not increase, prompt revegetation of graded areas, and limitations on grading during the winter months by careful project design, special attention to drainage and erosion control measures.

LCP POLICIES ON NEW DEVELOPMENT AND LAND USE

Historical Resources

15. In order to protect the unique qualities and character of coastal communities in the Unit I coastal zone, historic structures shall be preserved and restored. The following means shall be used to protect and preserve historic structures:
    a. "Historic areas" shall be established in Stinson Beach and Bolinas. The boundaries of these areas are described and mapped in Appendix F of the Unit I LCP. Within these historic area boundaries, all new construction shall conform in scale, design, materials and texture with the surrounding community character.
    b. Alterations and Additions. Alterations or additions to any structure built prior to 1930 shall require a coastal project permit; except that, maintenance or repair to restore any pre-1930 structure to its original architectural character shall be exempt from the requirement of a coastal permit. Alterations or additions to any pre-1930 structure shall retain the scale and original architectural features of the structure, especially for the front facade.
    c. Demolitions. Demolition of any structure built prior to 1930 shall require a Coastal Project Permit; except that, demolition of any secondary or agricultural building built prior to 1930, may be exempted from the requirement for a coastal permit upon a finding by the Planning Director or appropriate hearing body that such structure is not a significant historic resource. Issuance of a Coastal Project Permit for the demolition of any pre-1930 structure may be delayed for a period not to exceed six months. During this period, the property owner or local historic group or society may attempt to find a purchaser or alternate location for the structure. This six month period may be waived by the Planning Director or appropriate hearing body upon a finding that the structure is not historically significant or cannot be rehabilitated.

[Amended pursuant to BOS Resolution No. 82-256 [6/22/82], approved as submitted by CCC 9/7/82]

16. All Coastal Project Permits for projects located within the boundaries of an historic area, and for projects involving pre-1930 buildings, shall be reviewed in accordance with:
    a. The "design Guidelines For Construction in Historic Areas and For Pre-1930 Structures" and,
    b. The "Historic Review Checklist," both located in Appendix F of the Unit I LCP.

[Amended pursuant to BOS Resolution No. 82-256 [6/22/82], approved as submitted by CCC 9/7/82]

17. All Coastal Project Permits for historic structures shall be revised by established local planning or design review groups, where these groups exist.

[Amended pursuant to BOS Resolution No. 82-256 [6/22/82], approved as submitted by CCC 9/7/82]

Archaeological Resources

18. The County shall maintain a file, including maps of currently known and probable archaeological sites within the coastal zone of Unit I, in cooperation with the State Office of Historic Preservation. Additional information regarding areas of archaeological significance that becomes available through the Environmental Impact Report process or by other means shall be added to the file. The file shall be kept confidential in order to prevent vandalism of any known or probable archaeological sites that have been recorded.

19. Prior to the approval of any proposed development within an area of known or probable archaeological significance, a limited field survey by a qualified professional at the applicant's expense shall be required to determine the extent of the archaeological resources on the site. Results of such field survey shall be transmitted to the State Historical Preservation Officer or his/her designee for comment.

20. Where development would adversely impact archaeological resources or paleontological resources which have been identified, reasonable mitigation measures shall be required as may be recommended by the field survey or by the State Historic Preservation officer his/her designee. Such mitigation measures shall include acquisition of unique sites for long-term preservation where feasible, or preservation of the sites by incorporating them into open space areas protected by easement, or a requirement that the site be opened to an approved qualified professional and educational groups for scientific exploration for a specified period of time before development begins. Where construction is permitted, special construction techniques shall be employed to protect the resources intact and reasonably accessible underground.

Visual Resources

21. Existing development standards and the design review ordinance (Chapter 22.52) shall continue to be enforced. The following explicit standards shall apply to selected areas and projects:

    - All new construction in Bolinas, Stinson Beach and Muir Beach shall be limited to a maximum height of twenty-five (25) feet; except that in the Highlands neighborhood of Stinson Beach, the maximum height shall be seventeen (17) feet, and in the Seadrift section of Stinson Beach, the maximum height shall not exceed fifteen (15) feet.

    - To the maximum extent feasible, new development shall not impair or obstruct an existing view of the ocean, Bolinas Lagoon, or the national or State parklands from Highway 1 or Panoramic Highway.

Housing

22. In order to protect housing opportunities for persons of low and moderate income (as defined by "HUD" Guidelines), as well as preserve the existing character of coastal villages, existing structures providing such housing opportunities shall be demolished only when:

- The structure poses an immediate and established health or safety hazard; or

- The Planning Commission finds, based upon established procedures, that the rehabilitation of the existing structure is not feasible. (Feasible is defined in Section 30108 of the Coastal Act.); and

- Such demolition coupled with subsequent reconstruction would provide replacement housing of comparable rental value either on site or within the immediate coastal zone area.

23. Housing assistance programs that provide moderate-cost housing opportunities in existing units shall continue to be administered in the coastal zone.

Grading

The following standards shall apply to projects involving 150 cubic yards or more of grading and excavation.

24. Development shall be designed to fit a site's topography and existing soil, geological, and hydrological conditions so that grading, cut and fill operations, and other site preparation are kept to an absolute minimum and natural landforms are preserved. Areas of a site which are not suited to development because of known soil, geologic, flood, erosion or other hazards that exist to a degree that no amount of corrective work consistent with these policies, including but not limited to the protection of natural landforms, can eliminate or substantially reduce the hazards to the property endangered thereby shall remain in open space.

25. For necessary grading operations, the smallest practicable area of land shall be exposed at any one time during development and the length of exposure shall be kept to the shortest practicable time. The clearing of land shall be discouraged during the winter rainy season and stabilizing slopes shall be in place before the beginning of the rainy season.

26. Development plans shall include sediment, erosion, runoff controls, and revegetation measures. The following measures shall be included in all cases; additional conditions as required pursuant to Section 23.08.090 of Marin County Code shall also be included where appropriate.

- Sediment basins (including debris basins, desilting basins, or silt traps), shall be installed at the beginning of grading operations and maintained throughout the development process to remove sediment from runoff waters. All sediment shall be retained on site.

- The extent of impervious surfaces shall be minimized to the greatest degree possible. Water runoff beyond natural levels shall be retained on-site whenever possible to facilitate maximum groundwater recharge. In order to prevent on-site gullying and downstream erosion of-existing stream channels, the velocity of runoff on and off the site shall be dissipated through the application of appropriate drainage controls so that the runoff rate does not exceed the storm water runoff from the area in its natural or undeveloped state for all intensities and durations of rainfall. Grassed waterways are preferred to concrete storm drains for runoff conveyance.

- Pollutants such as chemicals, fuels, and other harmful materials shall be collected and disposed of in an approved manner in accordance with the best engineering technology available.

- Temporary vegetation, seeding, mulching, or other suitable stabilization methods shall be used to protect soils which have been exposed during grading or development. Cut and fill slopes shall be permanently stabilized as soon as possible with native plants or other suitable landscaping techniques.

- Where topsoil is removed by grading operations, it shall be stockpiled for reuse and shall be protected from compaction and wind or erosion during stockpiling.

- All debris shall be removed from the site upon the completion of the project.

- Permit applications for grading which involve cut slopes in excess of 8 feet or fill in excess of 5 feet shall include a report from a registered soils or civil engineer.

LOCATION AND DENSITY OF NEW DEVELOPMENT

Priority Uses

Section 30254 of the Coastal Act states, in part:

> "Where existing or planned public works' facilities can accommodate only a limited amount of new development, services to coastal-dependent land use, essential public services and basic industries vital to the economic health of the region, state, or nation, public recreation, commercial recreation, and visitor serving land uses shall not be precluded by other development."

In analyzing this policy and how it applies to Unit I, two questions must be answered: first, whether water and sewer facilities can accommodate only a limited amount of new development; and second, which of the priority uses listed may occur in the Unit I coastal zone. A preceding section discussed public service constraints. The present status of the priority land uses listed in Section 30254 of the Coastal Act is as follows:

Coastal-dependent Land Use. No such uses exist in Unit I. The bulk of the coastline is made up of sharp bluffs which preclude such development, and the remainder is environmentally sensitive, making it unlikely that such uses will ever be located in the coastal zone.

Essential Public Services. The only public service which requires significant water or sewer services is fire protection. All three villages have adequate water storage and transmission facilities for fire protection. Some improvement in these facilities will occur as the systems are improved in the future.

Basic industries vital to the economic health of the region, state, or nation. No such industries exist in Unit I and it is unlikely any will ever develop because of the constraints noted above for coastal-dependent land use. (The Region is identified as the nine County area included within the Association of Bay Area Governments (ABAG).)

Public Recreation. Existing federal, state, and local parkland and watershed areas provide a substantial amount of public parkland.

Commercial Recreation. No commercial recreation exists in Unit I, and no new commercial recreation facilities are anticipated due to the land constraints noted above.

Visitor-serving land uses. These uses are described above, under public recreation. The priority uses which must be provided for, then, are visitor-serving facilities and some increment of public recreation.

The extensive public lands surrounding the three villages of Unit I significantly diminish the issue of the location of new residential development. These parklands effectively establish community expansion areas for the Unit. However, the proposed density of residential development, particularly in Stinson Beach, does require modification to meet Coastal Act objectives.

Muir Beach

The proposed Muir Beach Land Use Plan follows the adopted Community Plan. The single-family residential area recognizes the existing residential community; the open areas recognize recreation and habitat area which are, or will be, a part of the GGNRA. The agriculture areas recognize lands in that use. According to the Community Plan, 44 single-family building sites remain in the residential area.

Stinson Beach

Stinson Beach, particularly those areas west of Highway 1, was historically subdivided into small lots. The community relies on on-site sewage disposal systems for waste disposal. For a variety of reasons, including age, density and lack of proper maintenance, Stinson Beach has

experienced acute problems with septic systems. A program for correcting existing septic problems and avoiding additional problems is underway, and initial indicators demonstrate the program will be helpful in correcting many of the historic problems. However, land use policies that reflect the historic problems and the reality of present on-site sewage disposal technology can also contribute to a successful water quality program. The present multi-family zoning of selected areas in Stinson Beach does not adequately reflect the limitations of on-site waste disposal systems, and the potential impact of such intense development on coastal waters.

The proposed Stinson Beach Land Use Plan, with the exceptions noted below, follows the adopted Community Plan. Single-family residential areas, multi-family residential areas, and commercial areas are based on existing development patterns. With the exception of Seadrift, these areas have little room for additional development: the estimated 540 dwellings at the time of Community Plan adoption would be increased to a maximum of 900 dwellings.

Table 4 summarizes the potential buildout that would be allowed under this LCP.

TABLE 4
BUILDOUT POTENTIAL IN STINSON BEACH

Sub Area	Use	Additional Dwellings Possible
Seadrift	Single-family residential	243
Highlands	Single-family residential	24
Patios	Single-family residential	39
Calles	Multiple-family residential	30
Panoramic	Single-family residential	28
Total		364

The R-3 zoning, which permits densities of 10 to 30 units per acre, and the R-2 zoning, which permits duplex development on 4,000 square foot lots, have no realistic relationship to Stinson Beach's capability of supporting development given the above identified constraints. Changes in present land-use policies, therefore, are necessary to conform to Coastal Act requirements that new development be adequately supported by public services.

Chapter II, Natural Resource Protection, discusses the need to rezone properties along Calle del Arroyo that front on Bolinas Lagoon from R-1 to a Resource Management Area. Such rezonings are necessary to reflect the Coastal Act's specific requirements for protection of wetlands. This rezoning would reduce, by approximately 10 dwellings, the build-out
potential of Stinson Beach.

In addition, there is a need to rezone the ocean front lots of Mira Vista. A rezoning to 15,000 square foot parcel size of the lots immediately adjacent to either side of this paper street would effectively combine those parcels under common ownership so as to preclude new development seaward of the existing line of development. While those lots seaward of Mira Vista do not now have much development potential, this rezoning clarifies and establishes by ordinance the development potential of this area.

The one remaining area of change in existing County zoning for Stinson Beach is at the Seadrift Subdivision. Extensive modification of existing development potential were found necessary to bring this subdivision into conformance with Coastal Act objectives. The following Subsection addresses Seadrift.[1]

Seadrift

Existing Pattern of Ownership and Development at Seadrift.[2]
Development of homes at the Seadrift Subdivision proceeded in the early 1950's and continued at a rather slow rate through the early 1970's. During this period, home construction was concentrated on the larger ocean and Bolinas Lagoon fronting lots with much slower development of the smaller Seadrift Lagoon lots. In 1973, the San Francisco Bay Regional Water Quality Control Board (RWQCB) placed a septic system moratorium at Stinson Beach. That restriction was lifted in January, 1978. Since January, development of selected Seadrift lots has proceeded under policies and regulations of Marin County, the Stinson Beach Water District, the San Francisco Bay RWQCB and the Coastal Commission.

There are 346 subdivided lots at Seadrift. These lots fall into two general size categories: the lots adjoining the ocean or the Bolinas Lagoon are between 15,000 and 20,000 square feet in area, whereas those surrounding the interior Seadrift Lagoon contain 7,500 square feet. All lots are zoned R-l, which carries a 7,500 square-foot minimum size requirement.

Of the 346 lots, 164 are either developed with homes or have permits authorizing such development. (There is also one additional home which is located on an unsubdivided parcel of land directly adjacent to the Bolinas Lagoon.) The 182 vacant lots at Seadrift are scattered along the ocean, the Bolinas Lagoon and the two sides of the Seadrift Lagoon.

Ownership of the 182 vacant lots is divided among a number of individuals,
(who own from one to six lots each) and two major owners. These two are Mr. Steve Wisenbaker, who owns 61 lots on the northern and eastern sides of the Seadrift Lagoon, and the William Kent Estate Company which

[1] The State Coastal Commission, in conditionally certifying the LCP Land Use Plan, made extensive findings on the Seadrift subdivision. These findings are contained in Appendix D.

[2] The statistics on ownership and build-out are current as of June 10, 1979.

owns 22 subdivided lots as well as both roads inside the Seadrift entrance gate and two large unsubdivided parcels adjoining the Bolinas Lagoon. One of these two parcels is a strip of land stretching along the margin of the lagoon (an existing home is located on this parcel) and the other is a triangular piece which lies adjacent to the entrance gate.

Development Issues under the Coastal Act. The California Coastal Act of 1976 establishes policies under which the LCP planning and regulations must be based. Several of these policy standards apply at the Seadrift Subdivision. These general coastal issues include:

- Protection and enhancement of the wildlife resources and habitats of the Bolinas Lagoon;
- The reduction of geologic hazards associated with new development;
- The protection of water quality necessary for biological productivity;
- The maintenance of public views to and along the coast; and
- The provision of adequate public access to beach and tideland areas, including recognition of the doctrine of "public trust".

Extensive testimony and background support material has been developed on most of these issues. The substance of this information and its relationship to development at Seadrift is summarized below.

Wildlife Resources of Bolinas Lagoon: Bolinas Lagoon is a shallow estuary of approximately 1400 acres of sheltered water, mudflats, marshes and sandbars. The relatively abundant fauna of benthic invertebrates and fish supports a great diversity and abundance of wintering and migratory shorebirds, waterfowl, gulls and other water-associated birds. Extensive scientific research has been conducted on the resources of the Lagoon, including the California Department of Fish and Game's report on the natural resources of Bolinas Lagoon (Giguere, 1970).

The composition of the bottom of the lagoon varies considerably from one place to another. This composition is influenced by proximity to creek mouths, which contribute organic material and sediment, and to the inlet connecting the lagoon to the ocean, which contributes coarse sand particles.

A census conducted over a number of years has shown that the tidal flat extending along portions of the Seadrift Spit supports both more birds and a greater variety of species of shorebirds than the other areas of the lagoon. At the east end of Seadrift, near the old causeway leading to Highway 1, is a salt marsh which is used by some species of shorebirds. When high water forces the birds from the tidal flats, some of them retreat to this and other marshy areas in the lagoon to feed or roost. Although not the area most preferred for feeding or roosting, this marsh is nevertheless used by many shorebirds.

Bolinas Lagoon is also important to types of wildlife other than birds, and development on the margin of the lagoon could have adverse impacts on these species as well. For instance, the lagoon is home to a variety of types of invertebrates that are food for the shorebirds discussed above. These invertebrates could be adversely affected by runoff of pesticides and other chemicals which might accompany urbanization of the Seadrift spit. Furthermore, Kent Island, within the lagoon, is a haulout and pupping site for harbor seals. Harbor seals are very sensitive to humans or dogs, and they require a fairly isolated resting place. Kent Island provides such a site because it remains separated from the mainland even at low tide. However, the channel separating the island from the mainland (the Bolinas side) is a narrow one and can be easily crossed by those determined to reach the island.

To most observers, the significant coastal issue at Seadrift is the potential impact of development on the wildlife resources of the area. Residential development at Seadrift introduces increased human and pet population which can be disturbing to wildlife, particularly the shorebirds which feed in the Lagoon. Studies and testimony have identified those areas of wildlife habitat that are concentrated along most parts of the Seadrift Spit, with special areas located along the northerly portions of the Spit's Lagoon shore. New development along all portions of the shoreline threatens to introduce new levels of human activity and increase urban storm run-offs. These potentials for human and animal access to the lagoon are especially acute along those portions of Lagoon shoreline that are characterized by a sloping, sandy beach. This area, (the northerly area) of the spit also provides the more significant tidal flat habitat for wildlife.

In summary, the Bolinas Lagoon is a unique and important coastal wetland with well documented wildlife habitat value. Urban-scale development on or near the Lagoon's shores presents the likelihood of increased intrusions into these habitat areas, especially those areas easily accessible to human and domestic pets. For the most part, the potential of such impacts is only indirectly related to the specific location of new development at Seadrift. However, the location and density of future development can do much to either intensify or mitigate such impacts. This is particularly so in decisions involving development adjacent to the Lagoon's more significant habitat areas.

Geologic Hazards. Publications of the U.S. Geological Survey, U.S. Army Corps of Engineers and California Division of Mines and Geology substantiate a variety of geologic hazards on the Seadrift Spit. The San Andreas fault and its mapped cone include portions of the Seadrift Subdivision. Coupled with the future probability of earth shaking is the generally poor foundation base afforded by the sandy material of the Seadrift Spit. The sandy soils of the natural spit as well as the Lagoon muds comprising area of artificial fill are both foundation materials which are highly intolerant to earthquake intensities. Additionally, sandy soil materials in combination with high groundwater in the areas are subject to the geologic phenomenon of liquefaction during earthquake shaking. This phenomenon can be extremely hazardous to buildings so situated.

The Seadrift Subdivision is at a relatively low elevation with a gently sloping beach profile. These characteristics subject the Seadrift Spit to the dangers of seismic seawaves, particularly waves generated from a southerly direction. Wave run-up estimates are such that total overtopping of the Spit may be possible during such seismic wave occurrences. A less drastic geologic occurrence, wind and wave erosion of the Spit, is a continuing process. Along the Bolinas Lagoon side of the spit, for example, gross estimates of shore erosion range from 3 to 10 inches a year.

Wave erosion hazard along the ocean front is even more pronounced and, as recently demonstrated, can, with sudden efficiency, extensively erode the protective sand dunes fronting the Seadrift houses. The result of this phenomenon is twofold: the physical endangerment to the structures and the pressure to develop shoreline protective works that often distract from the public's visual and physical use and enjoyment of the coast.

In summary, the range of possible physical hazards at Seadrift is extensive. The predictability of experiencing some or all of these hazards is relatively high. Build-out of the Subdivision's existing residential lots will expose a significant number of houses and people to these geologic hazards.

Water Quality. Development within the Seadrift Subdivision is dependent upon septic systems for sewage disposal. The use of septic disposal systems can provide an effective means of waste disposal when placed, constructed and operated properly. However, the use of such systems is not generally regarded as an appropriate method of serving urban, dense, residential developments. (There is little doubt that, by present-day standards, residential developments of the size, density and location characterized by Seadrift would require alternate, more extensive waste disposal technology.)

The San Francisco Bay Regional Water Quality Control Board and the Stinson Beach County Water District have performed testing and monitoring programs to determine the range of water quality problems resulting from the existing level of development at the Seadrift Subdivision. These studies show no evidence of adverse water quality problems either in surface or ground waters. The fact remains, however, that the Seadrift Subdivision is made up of relatively small lots located on a peninsula almost entirely surrounded by coastal waters. The sandy material of the spit allows very rapid percolation of wastewater. Furthermore, many of the homes at Seadrift had originally been built for vacation use. As occupancy of more and more existing homes becomes full time, consistent with the trend observed in other beach communities, and as more homes are built, the potential for adverse impacts on water quality due to use of septic tanks will increase.

Another less obvious concern is the impact of urban run-off on the water quality of Bolinas Lagoon. High levels of ground coverage (buildings, driveways, decks, etc.) can significantly increase peak storm water flows and velocities. This increased storm run-off over

suburban density developments adds increased levels of heavy metals, hydrocarbons and nitrates into the Lagoon.

In summary, the full development of the Seadrift Subdivision would double the number of septic system discharges on the spit, increasing the potential of both individual and cumulative adverse impacts on coastal waters. Additionally, development at present lot densities will significantly reduce the physical area available for repair and replacement of septic systems. Finally, these higher densities will increase the probability of storm water run-off contributing urban contaminates to the Lagoon. While certain areas of Seadrift, along both the Bolinas and Seadrift Lagoons, share a more direct responsibility for potential water quality impacts, the issue is not specifically locational and should be recognized as subdivision-wide.

Coastal Views. The issue of adverse impacts of continued Seadrift development on public views is more subjective than the issues previously discussed. There is little disagreement that the natural features of the area add significantly to the travelers' and residents' enjoyment. To travelers on the highway bordering the Bolinas Lagoon, the outstanding visual elements are the mountains rising on one side and the expanse of the lagoon itself on the other. The Seadrift spit is indeed visible here, but it is a low-lying peninsula which is not the most commanding visual feature of the area. The development of the heretofore vacant lots along Dipsea Road will modify the present views from the Highway. These changes, however, should not significantly distract from the principal visual features of the area. Limitations on height (now at 1-story) and reduction of density along Dipsea Road, would, however, reduce the travelers' potential perception of a "wall" of houses backdropping the Lagoon.

Views from the Bolinas Ridge can offer a spectacular panorama of the sea, the Seadrift Spit, the Bolinas Lagoon, and the communities of Stinson Beach and Bolinas. However, since the Seadrift Sandspit is located between these two developed villages, the appearance of houses on the Spit is neither overly distracting or incongruous to the casual observer of this scene.

In conclusion, the likelihood of significant visual impacts from continued development at Seadrift is not high. Existing development along the Sandspit has diminished its "natural" appearance. Continued development will not significantly change this perception. To the extent visual impact supports-reduction of development, density, it does so along the Dipsea Road, particularly that section nearest Highway 1.

Coastal Access and Public Trust. The Coastal Act provides that the LCP's "maximize" public access to the coast where appropriate. At the Seadrift Subdivision, the issue of public access is presented in three distinct areas: 1) Public pedestrian access and use of extensive ocean beaches fronting the Seadrift Subdivision; 2) Public pedestrian access to the Bolinas Lagoon's shoreline (along the spit); and 3) Automobile access to the Seadrift Spit's coastal beaches.

To provide for firm, legally enforceable access to and along the ocean beach, a negotiated access easement will be pursued with the owners of individually developed properties fronting the ocean. The agreement would identify the area and types of use available to the public. This agreement is in lieu of court actions to establish historic prescriptive rights across the beach.

Access along the Bolinas Lagoon shore would reflect the sensitive nature of the Lagoon's shore by restricting use to selected scientific, educational and native study uses. This access easement would be acquired as part of development proposals of those unsubdivided parcels.

Finally, the only vehicle access to the Seadrift Subdivision is by way of Calle del Arroyo, a county road leading from State Highway 1. Calle del Arroyo also serves the neighborhoods located on the Calles and Patios. Although most of these short streets are marked as private, they do provide pedestrian access to the beach. A so-called paper street, Walla Vista, which is adjacent to the entrance to Seadrift, is also a public accessway to the beach. (The Seadrift developers donated a right-of-way at the end of Walla Vista.)

Limited parking is now available along sections of the public road right-of-way. Increased traffic from Seadrift conflicts with the provision of such roadside parking, thereby limiting beach access and use. The LCP provides the option to reconstruct the "causeway" from Highway 1 to Seadrift, thereby providing alternative vehicle access.

The doctrine of public trust is indirectly related to public access and use of coastal areas. In an overly simplistic definition, public trust lands are those lands which are now or have been historically below the mean high tide line. Such lands are assumed to have an easement which forbids undue restrictions to certain public use. These public uses include access for navigation, fisheries and related uses. Portions of the Seadrift development, particularly along the easterly area on Dipsea Road are reportedly subject to the public trust, while the contention that portions of the Seadrift Subdivision are subject to the public trust is disputed. The doctrine of Public Trust should be considered at Seadrift. The location, density and type of development should be compatible with the public uses established under the trust easement.

Conclusion. Based upon the above findings, significant reductions in development density are necessary to assure adequate protection of coastal resources and conformity with the intent of Coastal Act policies. The LCP policies are adapted to govern the density and location of future development at Seadrift in response to the relative impact on coastal resources. These policies represent a balanced consideration of the technical and legal methods available for lot reduction, the benefits of the regulatory program, and the needs and desires of local government and citizens.

The Marin County Board of Supervisors has determined that lot consolidation is consistent with its requirements to develop LCP policies which successfully implement Coastal Act policies. Such consolidation should provide for maximum consolidation in Area 4, the area representing the largest potential for development in close proximity to Bolinas Lagoon. Contiguously owned lots in other areas of the Seadrift Subdivision should also be consolidated. Such consolidation should be based on the requirements of the Coastal Act, the appropriate techniques available for such density reduction and the need to provide for an equitable development opportunity for property owners. Based upon the November 27, 1979 Board of Supervisors' letter to the Regional Coastal Commission, it is the Board of Supervisors' understanding and intent that the Coastal Commission has full latitude and discretion with respect to the issue of lot consolidation in Areas 1 through 3.

At its December 13, 1979 meeting, the North Central Coast Regional Commission, responding to the -County's request for Commission assistance in development of Seadrift lot consolidation policies, concluded that increasing minimum lot sizes in Areas 1 through 3 was necessary to implement the intent of the Coastal Act. Such rezoning would require contiguously owned lots be consolidated in attempts to meet the new zoning classifications. These lot consolidations would occur where lots were located side-by-side; lots located across Seadrift Road from others of same ownership would not be subject to such consolidation technique. These policies for Areas 1 through 3 of Seadrift are based upon the Regional Commission's extensive hearings and review of the Seadrift issue and reflect the background facts in this LCP. The Commission considered the County of Marin's preliminary determinations as well as received extensive public testimony prior to development of policies for Areas 1 through 3. These policies incorporated much of the work and requirements developed in the County's deliberations on the question of lot reduction.

The Regional Commission explicitly reviewed the concept of "across-the-road" consolidation and extensively examined its legal and technical basis as a density reduction technique. The Commission determined that this technique presented technical problems of implementation and created substantial concerns of equity in the application of lot consolidation policies at Seadrift. These concerns, weighted against the marginal benefits attributed to the decreased number and location of lots otherwise achieved through this consolidation approach, did not warrant such a policy for Seadrift. The Commission found coastal resources were adequately protected without across-the-road consolidation.

Bolinas

The Bolinas gridded Mesa was subdivided in 1927 into more than 5,400 twenty thousand square foot lots, which were sold for $69.50 each to persons who subscribed to the San Francisco Bulletin. Since the original subdivision, some parcels have been consolidated into larger lots, while many remain their original size. Some 384 dwellings have been built on parcels of varying size. In 1976, the Mesa was rezoned to R-A:B-2 (10,000 square foot minimum lot size) to conform with the policies of the Community Plan. However, all parcels are considered to have development potential due to the fact that they have been subdivided since 1927 and are considered exceptions to Title 22 of the Marin County Code. In 1984, the Bolinas Gridded Mesa Plan was adopted by the County as an amendment to the Bolinas Community Plan. This Plan identified a residential development potential of approximately 75 units. The Gridded Mesa Plan includes three zoning designations; C-R-A-B2, C-R-A-B3 and C-R-A-B4. The three zones require minimum parcel sizes of 10,000 square feet, 20,000 square feet and 40,000 square feet respectively.

The Mesa is provided water service by the Bolinas Community Public Utility District. That District has had a moratorium on new water meter connections since 1971; since then a few homes have been built with wells. Waste disposal on the Mesa is by septic system. Existing older systems on lots of less than 6,000 square feet (larger in certain geologic and topographic circumstances) do not meet current County requirements for septic systems and may, therefore, be a hazard to the Mesa's ground water. The street network on the Mesa (the "grid") is unpaved, except for Elm Avenue Overlook and parts of Ocean Parkway, and suffers from poor drainage.

The problems of the Mesa are hidden by the limited development resulting from the water moratorium. Many existing vacant lots of less than 10,000 square feet may be effectively unbuildable because they cannot meet County septic tank requirements. Still other lots may be too lose to the bluffs which are experiencing erosion at a fairly rapid rate or are in or adjacent to the major drainage ways. The problems of bluff erosion are described in Chapter II. The conditions of the existing good network makes access to most of the undeveloped parcels difficult. The 1984 Gridded Mesa Plan includes a program to prepare a circulation plan for the Mesa which will address the problems caused by limited access.

The current County zoning of the Gridded Mesa was determined during preparation of the Bolinas Gridded Mesa Plan and is based on the 1983 report “Bolinas Mesa On-site wastewater Disposal Investigation” prepared by Questa Engineering Corporation. Buildout under this zoning does not seem to threaten the ability of Mesa Road to serve the Palomarin Trailhead. Table 5 summarizes potential buildout that would be allowed under this LCP.

Zoning is not a total answer to the problems of the Gridded Mesa, which includes lots lying within the bluff erosion area; potentially inadequate septic systems on legal, substandard lots; and the inadequate street system. It may also prove to be inadequate to deal with future cumulative septic tank impacts on small lots and the relation of the Mesa to the new park lands. For these reasons, the County identifies the Gridded Mesa as an area requiring public action to resolve existing development problems. This identification is necessary to make the Mesa eligible for restoration funding by the State Coastal Conservancy (Section 31201 of the Public Resources Code), or a similar public or private body. Any restoration proposal for the Mesa should include the study of bluff erosion, the cumulative impacts of septic systems on the Mesa, the possibility of including low income housing, coastal access, and the ability of public facilities to support the new development.

TABLE 5 BUILDOUT POTENTIAL IN BOLINAS					
Use	Sub Area	Acres	Existing Dwellings July 1974	Additional Dwellings Possible	Total Dwellings Possible
Agriculture and Open Space	Rural Area	2,675	17	64	81
	Dogtown	69	7	11	18
	Horseshoe Flat	280	9	29	58
	Gospel Flat	168	9	15	24
Single-family Residential and Commercial	Downtown: Wharf & Brighton Roads	30	68	15	83
	Terrace Ave	54	53	33	86
	Little Mesa	32	35	48	83
	Gridded Mesa	326	384	75*	459
TOTAL:		3,634	602	290	892

* Estimate based on remaining undeveloped lot pattern, 10,000 - 40,000 square feet minimum site size, legal non-conforming lots, remaining and probable effects of slope, cliff erosion, drainage pattern and other environmental policies - without redevelopment.

[The "Bolinas" section above was amended pursuant to BOS Resolution No. 84-564 [11/27/84], approved as submitted by CCC 3/27/85]

Non-Community Plan Areas

Lands outside the three villages are all in public ownership, with the exception of Audubon Canyon Ranch. All of these lands, including the Ranch, are designated Open Area for LCP land use purposes.

LCP POLICIES ON LOCATION AND DENSITY OF NEW DEVELOPMENT

This Section contains the land use/zoning proposals for Unit I and represents the basic element of the LCP. These proposals are based upon the County-wide Plan (1973), as supplemented by the three Community Plans adopted since 1975. Many of the LCP policies have been referenced to the appropriate sections of the Countywide and Community Plans to provide policy background material. The proposals contained herein use, for the most part, the land use policies of these Community Plans; therefore, the Community Plans are used as descriptive base references in describing the LCP policies. It should be clear, however, that based upon Coastal Act requirements, selected modifications to the land use policies and designations in the Community Plans are being proposed by the LCP. Where plans and policies of the local coastal program conflict with policies of local plans, the policies of the LCP shall govern. Maps showing the LCP land use designations are on file with the Marin County Planning Department.

Muir Beach

The Muir Beach LCP land use designations shall follow the Community Plan land use designations with the following modifications:

27. Redesignate residential lot size of parcels along Redwood Creek from 10,000 square feet to 1 acre minimum lot size. (See also Policy 11-8).

28. Make no LCP recommendation for agricultural lands of over 60 acres. (See also Policy II - 29).

Stinson Beach (excluding Seadrift)

The Stinson Beach LCP land use designations are those identified in the adopted Community Plan except as modified below:

29. The existing R-2 zoning designation in Stinson Beach shall be retained in order to protect and maintain the existing character of the community, provided, however, that no development other than single-family residences shall be permitted on any parcel of less than 7,500 square feet in area in order to minimize septic tank problems and the cumulative impacts of such development on public access along Calle del Arroyo. All development within these zones shall conform with LCP policies on septic systems and housing. Repair or replacement of existing duplex residential use on a parcel of less than 7,500 square feet damaged or destroyed by natural disaster shall be permitted.

30. The properties presently Zoned R-3 along Shoreline Highway shall be rezoned to R-2 in order to minimize flood hazards and the adverse impacts on Easkoot Creek which would result from such development (Easkoot Creek runs across the subject properties). Redesignation of the R-3 properties to R-2 will also assure development consistent

with the existing character of the community. Development shall not be permitted within the 100-year floodplain of Easkoot Creek and shall otherwise conform with LCP Policies on septic systems and stream protection.

31. The properties presently zoned R-1 on 'the east side of Calle del Arroyo should be redesignated to a "Resource Management Area" in order to assure protection of the adjacent marsh areas of Bolinas Lagoon. (See also Chapter II.)

32. The properties presently zoned R-1 on the seaward side of the paper street Mira Vista should be redesignated to RSP-2.0 in order to assure preservation of the natural sand dunes and sandy beach areas located seaward of Mira Vista.

Seadrift

The coastal issues presented by future development at the Seadrift Subdivision have been extensively reviewed to determine the appropriate LCP policies to apply to this geographical area. The most significant LCP policies address the location and density of development. However, other policies relating to access, visual compatibility and water quality at Seadrift are also included in this section for clarity of presentation. Policy IV-36 establishes the major requirements for density and location of future development.

33. Access Program. The access program for the land and water surrounding the Seadrift subdivision consists of two separate sub-elements.

Ocean Beach Access. The LCP establishes continued moderate access and use of selected areas of the Seadrift Beach. Guaranteed public use of this beach and ocean area would be accomplished in one of three ways: (1) an easement agreement with the property owners, 2) public purchase or (3) litigation to establish the public's prescriptive rights gained via historic use. Option #1 presents the preferred approach for achieving this access element.

Lagoon Access. The LCP identifies this section of shoreline as an important wildlife habitat area requiring controlled public access to protect that resource. Therefore, only limited public access across those unsubdivided Seadrift subdivision lands fronting Bolinas Lagoon is proposed. Such access easement(2) shall be required as a condition of development of lands owned by the William Kent Estate Co.

As a condition of future development approval, an open space and limited pedestrian access easement over the strip of Lagoon-front land (20 acres) shall be offered to the County of Marin or other approved agency/organization. This easement shall provide educational and scientific access and use of these lands as subsequently approved by the County of Marin or its designee.

The developer shall deed to the County of Marin a recorded irrevocable offer of a roadway dedication over the general area of the old causeway. Said roadway offer shall have a common boundary with a public street. The developer shall also agree to financially participate in subsequent construction of the causeway, should it be built. Costs of any causeway reconstruction shall be primarily borne by new development in the area.

To provide emergency pedestrian egress from the beach and the Seadrift subdivisions, landowners possessing an interest in the roads, including the right to preclude the public from using the roads, in Seadrift shall record an agreement allowing the public emergency egress during periods of highwater or high tides when the beach is impassable. The County shall cause signing of such emergency access opportunity along the Seadrift Spit. Sign should be placed near the public use area along the Seadrift Spit. Signs should be placed near the public use area at Walla Vista adjacent to Seadrift beach and the northwest end of the Seadrift Spit. The County shall request input from the Seadrift Property Owners Association and the Village Association regarding the exact wording of the signs. The County will through applications for new development ensure emergency vertical egress form the beach to Seadrift Road at the northwest end of the beach and other locations found appropriate.
[Amended pursuant to BOS Resolution No. 84-005 [1/3/84], approved conditionally with added amendment by CCC 3/14/84, 2nd BOS Resolution No. 84-146 [3/26/84], CCC ED checkoff 4/26/84]

34. Water Quality. The LCP policies encourage continued Seadrift Lagoon water monitoring via adoption of the following policy:
The existing water quality monitoring agreement between the North Central Coast Regional Commission, the Stinson Beach County Water District, and the Regional Water Quality Control Board, and conducted by the Water District, shall be continued. Should such water quality monitoring data warrant, the County would support a moratorium on additional development pending satisfactory improvement in water quality. New septic systems at Seadrift shall be designed in accordance with Marin County Code, Section 18.06, and waivers to that Section shall comply with the technical report accepted by the Regional Water Quality Control Board, adopted January 2, 1979.

35. Visual Resources. Height of new construction at Seadrift shall be restricted to one story. (See Also Policy IV-21.)

36. Density and Location of Seadrift Development. For purposes of this policy, the Subdivision is divided into sub-areas as follows: (Refer to Figure 4.)
Area 1: Those lots fronting on the Pacific Ocean and generally south of Seadrift Road (total lots: 123);
Area 2: Those lots generally between Seadrift Lagoon and Seadrift Road (total lots: 94, Separation of Areas 2 and 4 occurs at lot lines between AP #195-320-19 and 195-320-57 and AP #195-051-24 and 195-051-23).
Area 3: Those lots fronting on Bolinas Lagoon and generally west of Dipsea Road (total lots: 19);
Area 4: Those lots fronting on Dipsea Road (total lots: 109). Area 4 is further divided into Areas 4A and 4B with the division occurring between parcels AP #195-070-07 and 195-070-08.
Area 5: That unsubdivided land consisting of 26 acres adjacent to the Bolinas Lagoon and the entrance gate of Seadrift.
Based upon the present available information and after extensive public hearings and investigation, the following program policies for density reduction and/or location of development at Seadrift are enacted.

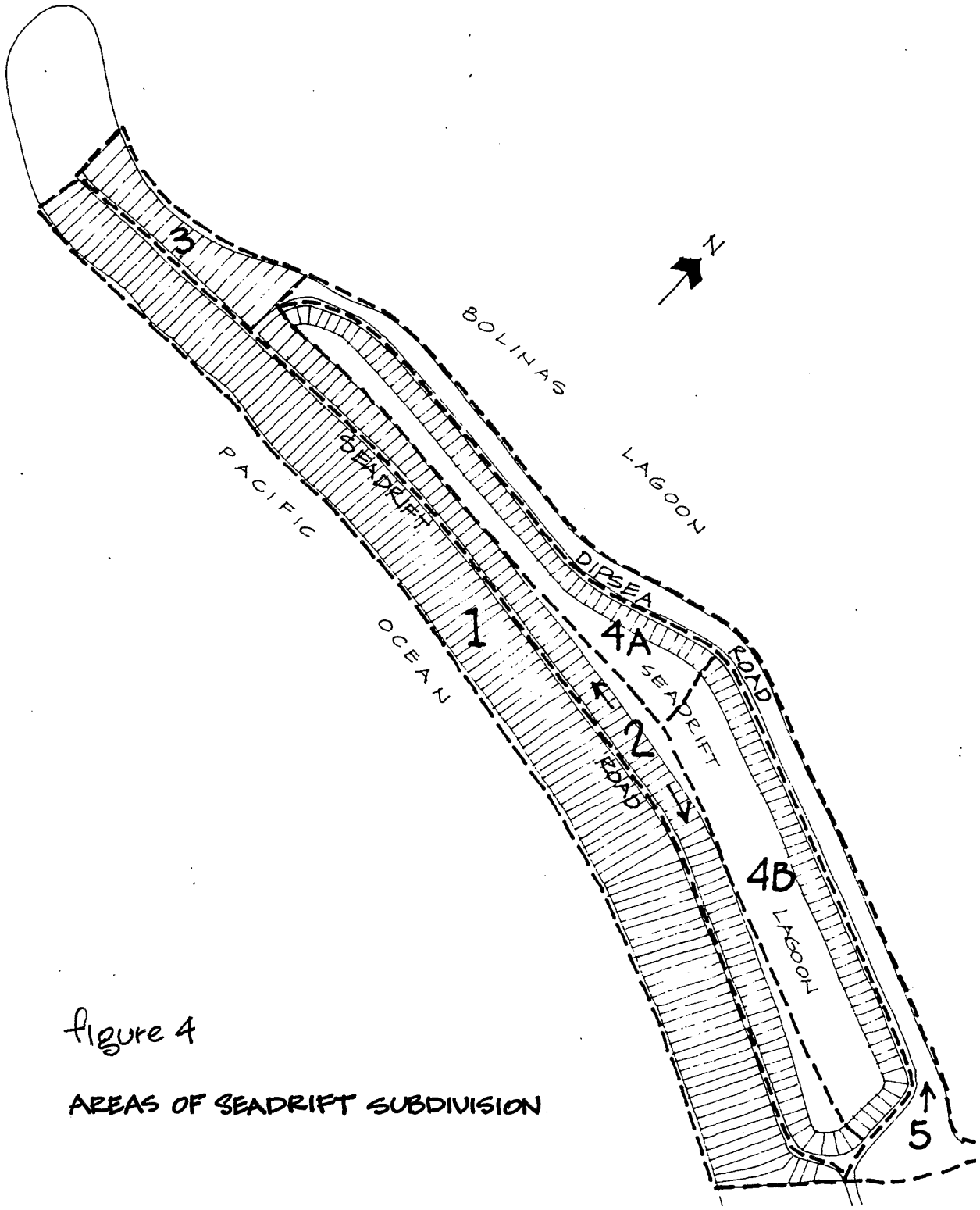


Figure 4: Areas of the Seadrift Subdivision

a. Area 1. Those properties in Area 1 present the least potential for adverse impacts by new development activities because of their size, their location relative to lagoon waters, and their build-out potential. Development on existing lots in Area 1 may proceed (consistent with other LCP policies) based upon a new zoning classification of 15,000 square foot minimum lot size. Lot consolidation (of adjacent lots under like ownership) shall occur only by side-by-side lot consolidation, if necessary to achieve the minimum lot size.

b. Area 2. Those properties in Area 2 are smaller lots with a large amount of build-out potential adjacent to the interior Seadrift Lagoon. Lots in Area 2 shall be rezoned to a 30,000 square foot minimum parcel size. Contiguous (side-by-side) lots under like ownership shall be consolidated to achieve the minimum parcel size requirement.

c. Area 3. These properties of varying size are located immediately adjacent to Bolinas Lagoon. Development in Area 3 may proceed (consistent with other LCP policies) based upon a new zoning classification establishing 30,000 square foot minimum lot size. Contiguous (side-by-side) lots under like ownership shall be consolidated to achieve minimum building site size established by the rezoning.

d. Area 4. Except as noted herein, properties in Area 4 shall be rezoned from the existing 75,000 square foot minimum parcel size to a 112,500 square foot (2.5 acre) minimum parcel size. Contiguous properties under the same ownership shall be merged to create building sites totaling up to this lot size, where possible. This Policy shall be implemented by means of a master plan zoning district.
Based upon a Memorandum of Understanding for the settlement of litigation between the County and, Steven Wisenbaker and the William Kent Estate Company, dated July 12, 1983, the portions of area four (4) listed below shall be subject to the following policies:

1. All of the lots listed herein shall be subject to master plan approval pursuant to Chapter 22.45. Any master plan approval shall include all of the lots listed herein and, be subject to all of the policies contained herein;
2. Lot 201 of Seadrift Lagoon Subdivision No. 2 shall be designated as a non-building site in the master plan. This lot may be combined with an adjacent developed lot or developable lot; however, the resultant combined lot shall be used as a single lot. A lot line adjustment application pursuant to Title 20 of Marin Count Code shall be required to accomplish the combining of a non-buildable lot with a developable lot.
3. Lots 167 through 175 of Seadrift Lagoon Subdivision No. 2 shall be consolidated into seven (7) building sites in the master plan. These lots shall be rezoned to C-RSPS-4.5;
4. Lots 95 through 97 of Seadrift Lagoon Subdivision No. 1 and lots 98 through 102 of Seadrift Lagoon No. 2 shall be consolidated into a maximum of five (5) lots in the master plan. These lots shall be rezoned to C-RSPS-3.5;
5. Lots 104 through 145 of Seadrift Lagoon Subdivision No. 2 shall be consolidated into 32 building sites in the master plan. These lots shall be rezoned to C-RSPS-4.39;
6. Lots 186 and 187 shall be consolidated into one (1) building site in the master plan;
7. The consolidation of all lots shall be accomplished via a tentative and final subdivision map pursuant to Title 20 of Marin County Code;
8. The master plan and tentative map approvals shall provide for a mechanism whereby all of the lots included in the master plan shall be assessed an appropriate share of the cost of developing the proposed access over the old causeway. The appropriate share shall be based upon a consideration of all of the lots that will benefit from the proposed access;

9. The master plan and tentative map approvals shall provide that the front property line for lots abutting Dipsea Road shall not be considered property lines for the purposes of establishing setbacks for leach field areas, so that the private road right-of-way or portions thereof may be used for leach field areas for lots abutting that private roadway. Additionally, the owners of such lots shall retain the right to cross the private right-of-way to the unsubdivided parcel for the installation of leach field areas. This may only be done in a manner consistent with Marin County Code 18.06 and "Septic Tank and Leach Field Waivers" dated November 27, 1978, Marin County Department of Public Works. The use of the private road right-of-way and/or the unsubdivided parcel for the installation of leach fields shall only occur if: a) each lot or user has a discrete sewage disposal system; b) each lot or user has a recorded easement over the necessary portion of the unsubdivided parcel; c) no leach fields are located within 100 feet of the mean high tide line of the Bolinas Lagoon; and d) after an opportunity for review and comment has been provided to the Stinson Beach County Water Board.

e. Area 5. This area includes approximately 26 acres consisting of 2 parcels of approximately 6 and 20 acres respectively. This land is unsubdivided; however, portions of the property are improved with underground utility services. Although Area 5 is not an explicit part of the Seadrift Subdivision, it is included in this policy because of the physical relationship and ownership of the land.

Because of its location and general configuration, development of Area 5 presents potentially significant conflicts with several findings and policy objectives identified in this Seadrift Section. Therefore, proposals for development of Area 5 shall be controlled by a Master Plan development providing the following development standards:

1. Additional development in Area 5 shall be limited to no more than 7 additional single-family, detached dwellings and shall be limited to the 6 acre parcel of Area 5;
2. All improvements shall be located a minimum of 100 feet from the waters of Bolinas Lagoon;
3. Development shall be limited to one-story in height, not to exceed 18 feet from average finished grade;
4. Development shall be designed to provide future vehicle and pedestrian access over the site as follows:
   (a) Roadway dedications to provide possible future connections of the causeway;
   (b) Pedestrian easements to provide limited public access to and along the Bolinas Lagoon edge.

[Amended pursuant to BOS Resolution No. 84-005 [1/3/84], approved conditionally with added amendment by CCC 3/14/84, 2nd BOS Resolution No. 84-146 [3/26/84], CCC ED checkoff 4/26/84]

37. Public Acquisition of Seadrift Subdivision Lands. The Seadrift Subdivision is an existing, subdivided development with approximately one-third of the lots presently developed with single-family houses. Coastal policy issues connected with continued development of this subdivision center upon minimizing of geologic hazards, reducing the possible adverse impacts on water quality, public access to beach and tideland areas, protection of wildlife and habitat resources and maintenance of views along the coast.

In review of the Seadrift Subdivision, the County examined these issues and has proposed a regulatory program which successfully acknowledges and addresses the significant aspects of these issues. The County recognizes that public purchase of the lands at the Seadrift Subdivision presents a definitive vehicle for

public management of the resource. However, in light of other methods available, the cost of such acquisition would be extremely high in relationship to the needs, principles and goals that have been identified at Seadrift. The proposed program for lot reduction at Seadrift successfully mitigates the coastal issues identified. Only if portions of the program cannot be achieved as envisioned, should public acquisition be considered a program option.

38. Public Trust. Portions of the Seadrift Subdivision may be subject to the doctrine of public trust, whereby easements benefiting selected public uses run with the property. The LCP adequately identifies and provides a balanced level of public use on and adjacent to the land of Seadrift. However, to assure thorough consideration of the public trust issues, the following policy is proposed:

    The County of Marin will notify the State Lands Commission when an application for a coastal development permit is filed with the County on property identified as potentially subject to the public trust. Such notification shall be on lands shown on maps, supplied by the State Lands Commission, as being potentially subject to the trust easement. The State Lands Commission shall be requested to make a statement as to whether the lands are subject to the public trust, and whether a permit or lease will be required for such proposed development, prior to the issuance of the coastal permit by the County.

Bolinas

The LCP land use designations for Bolinas shall be as established by the Community Plan densities except as modified below:

39. Those lands designated A-5 and A-10 within the Bolinas Planning Area shall be redesignated to an ARP-5 and ARP-10 zone classification to encourage flexible lot patterns. (See Policy 11-30.)

40. Redevelopment/rehabilitation of existing structures and new construction on the Bolinas Gridded Mesa shall be permitted in accordance with the adopted policies of the Bolinas Gridded Mesa Plan (adopted by the Board of Supervisors on November 27, 1984).

[Amended pursuant to BOS Resolution No. 84-564 [11/27/84], approved as submitted by CCC 3/27/85]

APPENDICES

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APPENDIX A: INVENTORY OF RECREATION AND VISITOR SERVING FACILITIES

Subarea	Existing Recreation Facilities					Existing Visitor Services								
	Trail heads	Stables	Beaches	Picnic Areas	Notes	Restau-rants/ Food Svc	Liquor (On/ Off Site	Gro-cery	Gas	Auto Repair	Hotel Motel	Camp Sites	Other Retail Services	Notes
Marin Headlands Area														
G.G.N.R.A.	30.6 miles hiking 16.8 miles equestrian				Historic Military Forts Barry & Cronkhite									
-Kirby Cove			X									X[1]		[1]Group campsites
-Rodeo Lagoon			X		w/public swimming, fishing.									
-Rodeo Beach			X	X										
-Old military stables		X												
-Tennessee Valley stables		X												
Sausalito Area *						X	X	X	X	X	X			Variety in all categorie
Tam Junction Area *						X	X	X	X	X	X[1]			Variety in all categorie [1]includes 100-room Howard Johnson motel
Mt. Tamalpais Area														
Mt. Tamalpais State Park *	37.5 M Hikings, 17.5 M Equest.				Mountain Theater									
-Boot Jack				X		X[1]								[1]Food sales
-East Peak	X			X	Scenic overlook									
-Pan Toll	X					X[1]						18sites 40group		
-Alice Eastwood														
-West Point Inn						X[2]					X[2]			[2]semi-private
-Mountain Home Inn						X								
GGNRA Area														
-Franks Valley Stables*		X												
-Muir Woods*	6 M. hiking					X							X	Snack bar & gift shop

* These facilities and services are not located within the coastal zone, but are directly related to the coastal experience and are used by significant numbers of coast visitors.

Subarea	Existing Recreation Facilities					Existing Visitor Services								
	Trail heads	Stables	Beaches	Picnic Areas	Notes	Restaurants/ Food Svc	Liquor (On/ Off Site	Grocery	Gas	Auto Repair	Hotel Motel	Camp Sites	Other Retail Services	Notes
Muir Beach Area														
-Muir Beach Park			X	X	w/public swimming	X								Weekend snack bar
-Muir Beach overlook				X										
-Pelican Inn						X	X				5 rooms			Open spring 1979
-Zen Center						X					X			Institutional
Stinson Beach Area														
-Stinson Beach Park	X		X	X	w/public swimming	X								Snack Bar, Restaurant
-Parkside						X								
-Natural Food store								X						
-Sea Witch Deli						X	X	X						
-Post office													X	
-Sandpiper Motel											10 units			
-Fern Court											14 units			
-Standard Station									X	X				
-Bungalow						X		X	X					
-Stinson Beach Books													X	
-A gallary													X	
-Peach Bottom flats													X	
-Ed's Superette								X						
-Shore store													X	
-Al's Alleged Antiques													X	
-Sand Dollar						X								
-The Barn													X	
-Stinson Beach Motel											4 units			
-Willow Camp Antiques													X	
-Quilts, Etc.													X	
-Surf Shop													X	
-Pacific Midway Rest. & WWII bar						X	X							Opening winter 1979
-Audubon Canyon Ranch	X				Observation-bird sanctuary									
Elwoods														
Seakeeper Motel											X			
Priscilla's Antiques													X	
Oceanic Realty														Weekend, Vacation
Seadrift Realty														Rentals

Subarea	Existing Recreation Facilities					Existing Visitor Services								
	Trail heads	Stables	Beaches	Picnic Areas	Notes	Restau-rants/ Food Svc	Liquor (On/ Off Site	Gro-cery	Gas	Auto Repair	Hotel Motel	Camp Sites	Other Retail Services	Notes
Bolinas Area														
-Blue Lagoon						X	X							
-Bolinas Bay Bakery						X								
-Smiley's Saloon							X				6 units			
-Pizzaria Fetto de Casa						X								
-Bolinas Garage										X	X			
-Gibson House Rest. and Saloon						X	X							
-Book'N'Things													X	
-Bolinas Store						X	X	X						
-The Shop						X	X							
-Scowley's						X	X							
-Post Office													X	
-Bolinas Marine Service													X	Boat repair, bait and tackle
-Bed and Breakfast											8 rooms			Dispersed private dwelling

ALQUIST-PRIOLO SPECIAL STUDIES ZONES ACT

Excerpts from California Public Resources Code
(Signed into law December, 1972, amended September 26, 1974,
May 4, 1975 and September 28, 1975)

DIVISION 1. ADMINISTRATION
CHAPTER 2. DEPARTMENT OF CONSERVATION
Article 3. State Mining and Geology Board
and the Division of Mines and Geology

660. There is in the department a State Mining and Geology Board consisting of nine members appointed by the Governor.

673. The board shall also serve as a policy and appeals board for the purposes of Chapter 7.5 (commencing with Section 2621) of Division 2.

DIVISION 2. GEOLOGY, MINES AND MINING
CHAPTER 7.5. SPECIAL STUDIES ZONES

2621. This chapter shall be known and may be cited as the Alquist-Priolo Special Studies Zones Act.

2621.5. It is the purpose of this chapter to provide for the adoption and administration of zoning laws, ordinances, rules, and regulations by cities and counties in implementation of the general plan that is in effect in any city or county. The Legislature declares that the provisions of this chapter are intended to provide policies and criteria to assist cities, counties, and state agencies in the exercise of their responsibility to provide for the public safety in hazardous fault zones.

This chapter is applicable to any project, as defined in Section 2621.6, upon issuance of the official special studies zones maps to affected local jurisdictions, but does not apply to any development or structure in existence prior to the effective date of the amendment of this section at the 1975-76 Regular Session of the Legislature.

2621.6. (a) As used in this chapter, "project" means

(1) Any new real estate development which contemplates the eventual construction of structures for human occupancy, subject to the Subdivision Map Act (commencing with Section 66410 of the Government Code).

(2) Any new real estate development for which a tentative tract map has not yet been approved.

(3) Any structure for human occupancy, other than a single-family wood frame dwelling not exceeding two stories.

(4) Any single-family wood frame dwelling which is built or located as part of a development of four or more such dwellings constructed by a single person, individual, partnership, corporation, or other organization. No geologic report shall be required with respect to such single-family wood frame dwelling if the dwelling is located within a new real estate development, as described in paragraph (1) or (2) of this subdivision, for which development a geologic report has been either approved or waived pursuant to Section 2623.

(b) For the purposes of this chapter, a mobile home whose body width exceeds eight feet shall be considered to be a single-family wood frame dwelling not exceeding two stories.

2621.7. This chapter, except Section 2621.9, shall not apply to the conversion of an existing apartment complex into a condominium. This chapter shall apply to projects which are located within a delineated special studies zone.

2621.8. This chapter shall not apply to alterations or additions to any structure within a special studies zone the value of which does not exceed 50 percent of the value of the structure.

2621.9. A person who is acting as an agent for a seller of real property which is located within a delineated special studies zone, or the seller if he is acting without an agent, shall disclose to any prospective purchaser the fact that the property is located within a delineated special studies zone.

2622. In order to assist cities and counties in their planning, zoning, and building-regulation functions, the State Geologist shall delineate, by December 31, 1973, appropriately wide special studies zones to encompass all potentially and recently active traces of the San Andreas, Calaveras, Hayward, and San Jacinto Faults, and such other faults, or segments thereof, as he deems sufficiently active and well-defined as to constitute a potential hazard to structures from surface faulting or fault creep. Such special studies zones shall ordinarily be one-quarter mile or less in width, except in circumstances which may require the State Geologist to designate a wider zone.

Pursuant to this section, the State Geologist shall compile maps delineating the special studies zones and shall submit such maps to all affected cities, counties, and state agencies, not later than December 31, 1973, for review and comment. Concerned jurisdictions and agencies shall submit all such comments to the State Mining and Geology Board for review and consideration within 90 days. Within 90 days of such review, the State Geologist shall provide copies of the official maps to concerned state agencies and to each city or county having jurisdiction over lands lying within any such zone.

The State Geologist shall continually review new geologic and seismic data and shall revise the special studies zones or delineate additional special studies zones when warranted by new information. The State Geologist shall submit all revised maps and additional maps to all affected cities, counties, and state agencies for their review and comment. Concerned jurisdictions and agencies shall submit all such comments to the State Mining and Geology Board for review and consideration within 90 days. Within 90 days of such review, the State Geologist shall provide copies of the revised and additional official maps to concerned state agencies and to each city or county having jurisdiction over lands lying within any such zone.

2623. The approval of a project by a city or county shall be in accordance with policies and criteria established by the State Mining and Geology Board and the findings of the State Geologist. In the development of such policies and criteria, the State Mining and Geology Board shall seek the comment and advice of affected cities, counties, and state agencies. Cities and counties shall require, prior to the approval of a project, a geologic report defining and delineating any hazard of surface fault rupture. If the city or county finds that no undue hazard of this kind exists, the geologic report on such hazard may be waived, with approval of the State Geologist.

After a report has been approved or a waiver granted, subsequent geologic reports shall not be required, provided that new geologic data warranting further investigations is not recorded.

2624. Nothing in this chapter is intended to prevent cities and counties from establishing policies and criteria which are stricter than those established by this chapter or by the State Mining and Geology Board, nor from imposing and collecting fees in addition to those required under this chapter.

2625. (a) Each applicant for approval of a project may be charged a reasonable fee by the city or county having jurisdiction over the project.

(b) Such fees shall be set in an amount sufficient to meet, but not to exceed, the costs to the city or county of administering and complying with the provisions of this chapter.

(c) The geologic report required by Section 2623 shall be in sufficient detail to meet the criteria and policies established by the State Mining and Geology Board for individual parcels of land.

2630. In carrying out the provisions of this chapter, the State Geologist and the board shall be advised by the Geologic Hazards Technical Advisory Committee consisting of nine members nominated by the State Geologist and appointed by the board. Members of the committee shall be selected and appointed on the basis of their professional qualifications and training in seismology, structural geology, engineering geology, or related disciplines in science and engineering, and shall possess general knowledge of the problems relating to geologic seismic hazards and building safety. The members of the committee shall receive no compensation for their services, but shall be entitled to their actual and necessary expenses incurred in the performance of their duties.

BOARD OF SUPERVISORS OF THE COUNTY OF MARIN

RESOLUTION NO. 74-426

A RESOLUTION AUTHORIZING IMPLEMENTATION
OF THE ALQUIST-PRIOLO GEOLOGIC HAZARD ZONES ACT

WHEREAS, the Alquist-Priolo Geologic Hazard Zones Act (Ch. 1354, Stats. 1972) directs the State Mining and Geology Board to establish certain seismic safety policies and criteria for proposed new real estate developments or structures for human habitation near earthquake faults, the State Geologist to prepare maps delineating earthquake faults and their associated fracture belts, and mandates cities and counties to require proposed new real estate developments or structures for human habitation near faults and within delineated special studies zones to submit geologic reports and observe the State-adopted criteria; and

WHEREAS, the State Mining and Geology Board has adopted Policies and Criteria (copies of which are available for inspection at the County Planning Department) for the administration of the Alquist-Priolo Geologic Hazard Zones Act Thai are applicable to Marin County and provide for geologic studies, their possible waiver by the County with concurrence of the State Geologist, and establish required setbacks from identified active and potentially active faults; and

WHEREAS, pursuant to the State Mining and Geology Board's adopted Policies and Criteria, the State Geologist has prepared preliminary special studies zones maps for Marin County which have been published and posted as a public notice and within which all known property owners of record have received notice of their property's inclusion; and

WHEREAS, the State Geologist has issued final versions of the special studies zones maps, incorporating minor changes, for local administrative use, and these final versions have been received by the County; and

WHEREAS, to defray the State and local costs of administering the program, the Alquist-Priolo Geologic Hazard Zones Act provides for fees to be collected by the County; and

WHEREAS, a method of appeal by applicants is desirable and equitable;

NOW, THEREFORE, BE IT RESOLVED:

1. That all County agencies and departments are to observe and carry out the requirements of the Act and adopted Policies and Criteria.

2. The Planning Department is to review all applications for new real estate developments, including subdivisions, land divisions, master plans, development plans, and design reviews, and building permits for structures for human habitation to determine if such projects are located within the special studies zones. The Planning Department shall notify such applicant and the Department of Public Works if the project is located within the special studies zones and also notify the applicant that a geologic report is required unless waived by the Department of Public Works and the State Geologist. I Public Works if the project is located within the special studies zones and also notify the applicant that a geologic report is required unless waived by the Department of Public Works and the State Geologist.

3. The Department of Public Works is to review all applications for new real estate developments and structures for human habitation within the special studies zones for compliance with the Act and develop procedures for its implementation.

4. The applicant shall reimburse the County for actual costs incurred in reviewing the geologic report and also pay an additional building inspection fee in the amount of one-tenth of one percent of the total valuation of the proposed building construction to cover administrative costs, as provided in the Act (Pub. Res. C § 2624 and 2625).

5. Provisions to implement this Act are to be included in a comprehensive seismic safety and geologic hazards protective ordinance to be developed by the County Planning Department with the cooperation of the County Counsel and the Department of Public Works for consideration by this Board at a later date.

6. Any time limits specified within Titles 19, 21 and 22 are hereby waived until any required geologic report has been approved or the need for a report waived by the Department of Public Works and the State Geologist.

7. The Marin County Board of Supervisors shall hear any appeals arising from implementation of this Act in order to determine whether an undue hazard exists with respect to the application. The appeals shall be submitted in writing to the Clerk of the Board of Supervisors. All decisions and findings shall be given in writing to the appellant.

PASSED AND ADOPTED at a regular meeting of the Board of Supervisors held on the 23rd day of December , 1974, by the following vote:

AYES:	SUPERVISORS	Peter R. Arrigoni, Gary Giacomini, Thomas S. Price, Arnold M. Baptiste, Bob Roumiguiere
WOES:	SUPERVISORS	-
ABSENT:	SUPERVISORS	-

Bob Roumiguiere

Chairman of the Board of Supervisors

ATTEST:

Clerk

POLICIES AND CRITERIA FOP IMPLEMENTATION
OF THE ALQUIST-PRIOLO GEOLOGIC HAZARD ZONES ACT

PURSUANT TO MARIN COUNTY BOARD
OF SUPERVISORS RESOLUTION NO. 74-42b

1. Applicants for new real estate developments, including subdivisions, land divisions, master plans, development plans, and design reviews, and building permits for structures for human habitation in the studies areas shall have a geologic report prepared by a geologist registered in the State of California unless waived pursuant to Section 2623 of the Act (Pub. Res. C. 2623). The contents of the geologic report shall generally comply with the "Desired Content of Geological Reports Submitted to the Department of Public Works, County of Marin," as applicable to the Act.

2. Three (3) copies of the geologic report shall be submitted to the Department of Public Works, along with a one hundred fifty dollar deposit to cover the cost to the County of having the report reviewed by a geologist registered in the Sate of California. Prior to approval of the report by the Department of Public Works, any additional costs in excess of the one hundred fifty dollar deposit shall be paid by the applicant. If the cost to the County is less than one hundred fifty dollars, the excess will be returned to the applicant.

3. In addition, prior to issuance of a building permit for a structure for human habitation, a fee in the amount of one-tenth of one percent of the total valuation of the proposed building construction shall be paid when a geologic report has been required for this property.

4. Upon submission of the geologic report to the Department of Public Works, the Department of Public Works will transmit one copy to a geologist registered in the State of California, hired by the Department of Public Works to review such

reports. The second copy will be transmitted to the State Geologist, when approved, and the third copy filed with the Department of Public Works.

5. Where the application is for a building permit, reference to the Department of Public Works shall mean the Building Inspection Division of the Department of Public Works, and for other applications, shall mean the Land Development Section of the Department of Public Works.

6. If a geologic report is required, no permit will be granted or application approved until the geologic report has been approved and any recommendations or conditions implemented or made conditions of such permit or approval.

7. If an applicant is dissatisfied with the decision of the Department of Public Works or its consultant, he may appeal to the Marin County Geologic Hazard Advisory and Appeals Board within five working days of the date-of formal action by the Department of Public Works. Any such appeal shall be submitted to the Director of Public Works.

APPENDIX C: HOUSING STUDY METHODOLOGY

To estimate 1977 income, the ratio of median family coastal income to SMSA income from the 1970 census was applied to the median family SMSA income for 1977 as estimated by the U.S. Department of Housing and Urban Development:

	1970 Coastal Median Income	($8,474)
	1970 SMSA Median Income	($10,038)
X	1977 SMSA Median Income	($19,200)
	1977 Coastal Median Income	($16,208)

HUD uses a cut-off of 80 percent of median income to define moderate income households. This cut-off was used to define the upper limit of 1977 coastal zone family income as $13,000.

Under current mortgage lending practices, dwelling costs generally cannot exceed three times income. The cost limit for moderate price units was therefore set at $39,000. The 1977 Assessor's rolls for the coastal zone were examined to find single-family units on single-family parcels (not including farms) with values less than $39,000.

LIMITATIONS OF THE STUDY

Four limitations of this study must be fully understood to avoid reading too much into it.

(1) The study is based on single-family assessed valuation, not on rents. In the coastal zone, this is not a serious limitation since less than 10 percent of coastal dwellings are multiple-family. Moderate-cost rent or ownership in the coastal zone is a direct function of single-family housing prices.

(2) Housing value is based on assessed value; however, the assessed value of older houses frequently lags behind actual market value. This is a serious limitation, the magnitude of which can only be guessed at. There does not appear to be any strong relationship between the assessed value of units and their last date of sale, which suggests that any understatement in values may not be great.

(3) Related to this second point is the age of the Assessor's printout. The printout gives values as of April 1, 1977. Rapidly increasing real estate values since then have probably decreased the number of moderate-cost units available. To the extent that housing values are understated, the number of moderate-cost units is overstated. Any resulting overstatement of moderate-cost units may be compensated for 1y the exclusion of multiple family and hidden mother-in-law units from the study. Many of these units are of moderate cost.

(4) The study is based on a derived estimate of coastal zone income, and not on a direct statistical sample of coastal zone residents. By its nature, however, personal income is difficult to accurately estimate. This is not a major limitation in relation to the others noted above.

Because of the limitations of the study, staff does not believe that the number of moderate-cost units estimated in Table 1 should be considered accurate. The study does acceptably portray the concentrations and proportions of moderate-cost units shown on Figure 3 and in Table 1.

APPENDIX D. STATE COASTAL COMMISSION FINDINGS ON SEADRIFT

This appendix consists of the findings of the Seadrift Subdivision that were adopted by the State Coastal Commission when they conditionally certified Unit I of Marin County's Local Coastal Program.

FINDINGS AND DECLARATIONS

The Commission finds and declares as follows:

1. History

The Seadrift area is made up of five separate subdivisions plus certain unsubdivided lands known as Sub-area 5 and so identified on the maps accompanying the LCP as forwarded to the Commission. Seadrift Subdivision Number One was recorded in 1949; Seadrift Subdivision Number Two in 1956; Seadrift Subdivision Number Three in 1964; Seadrift Lagoon Subdivision Number One in 1961; and Seadrift Lagoon Subdivision Number Two in 1963.

Under Proposition 20, the predecessor Regional Commission held public hearings on the subdivisions and identified overall conditions for the review and approval of development at Seadrift. These were adopted as a formal policy statement on March 21, 1974, and amended on April 25, 1974. They covered public access, septic tanks, open space, and hazard liability. Access provisions on the seaward edge of the spit called for removal of a fence, dedication for public use of a lot at the southwesterly end of Walla Vista Avenue, just south of the Seadrift area, removal of the iron rail "fence" across the beach, placement of signs identifying private property and a pathway to the public beach, and specific instructions to the Seadrift security guard that he is "to continue to permit any normal, non-nuisance public use of such portion of the beach area as is public land or is sand wetted by recent tides adjacent to the water's edge." On the lagoon edge, the conditions provided for a pedestrian easement as far as the location of the former causeway, (near the southern boundary of the area, and linking it with Highway One) with further access procedures or easements to be evaluated as part of preparation of the Coastal Plan.

The conditions specified that permits would not be granted for septic tank permits issued by the County after October 31, 1973, based upon an action of the San Francisco Bay Regional Water Quality Control Board after public hearings on the high probability of septic tank pollution. The overall conditions further identify two areas (unsubdivided lots northerly of Dipsea Road from the Seadrift entrance gate to the boathouse and lots 103-149 along Dipsea Road) where the Commission could not make the findings necessary to issue coastal permits, based upon visual proximity to Highway 1, location

adjacent to the most narrow section of the Bolinas Lagoon wildlife habitat, the undeveloped nature of these areas, and their location in an area to be considered for limited public access in the coastal plan. The hazard provisions included assumption of full liability for damage due to natural geologic and hydrologic hazards to be assumed by those who built and a requirement that the developer provide notice to all current and future owners of property at Seadrift of the relatively high degree of hazard from earthquake and tsunami. Regional staff reports indicate that by 1973, approximately 20 single-family houses had been developed, the majority along the ocean front lots. (A large exhibit to be available at the meeting will indicate the time of development of each of the parcels where development or active permits exist up to the present.)

Several of the overall conditions were met during the period from mid-1973 to mid-1974 while the Region was reviewing development permits. Several items, the most significant of which was the easement dedication for public access along the lagoon edge of the spit, were not completed at that time, however.

The entire Stinson Beach area was placed under a building ban by the SFBRWQCB, and further construction at Seadrift was not considered again by the Regional Commission until early 1978. In the interim, a proposed sewage treatment plant was turned down by area voters, and new state legislation authorizing septic system maintenance districts was utilized to set up a program by which the Stinson Beach Water District could exercise the authority to monitor and where necessary, to remedy, problems caused by failing septic systems. Their program was formally reviewed by the SFBRWQCB, and the prohibition of individual systems was modified by Resolution 78-1 on January 17, 1978, to allow the consideration of homes with such systems.

After the passage of the Coastal Act of 1976, the Regional Commission began re-examination of its policies in regard to all possible development, including the Seadrift area. In anticipation of renewed development requests at Seadrift, the Regional Commission adopted an Interpretative Guideline in October, 1977 that focused upon the contiguously owned lots. This guideline provided as follows:

> "Development on the existing contiguous subdivided lots adjacent to the interior Bolinas Lagoon (Seadrift Lagoon) at Seadrift raises a number of planning issues involving density, siting, sewage disposal and lagoon protection. Pending Commission approval of an overall development plan which offers resolution of these planning issues, further development will not be permitted."

Regional Commission staff reports of January 18, 1978, April 17, 1978, and May 16, 1978, set forth additional information and analysis on a number of coastal issues, including wildlife resources, water supply conditions. After public hearings, the Regional Commission adopted an interim policy on July 20, 1978 (this was amended September 28, 1978 and October 19, 1978). One section of this overall policy stated

that "... no development of any contiguous lots under common ownership shall take place until the Commission has approved a plan for the consolidation of some of those lots." Attention since that time has focused upon the specific provisions of such a consolidation program, with a number of different proposals being suggested in a series of regional staff reports and public hearings. The Regional Commission held additional hearings in late 1978 and early 1979, and adopted a revised policy May 10, 1979.

Related Planning Efforts

While the Seadrift question was being considered by the North Central Regional Commission, several related planning projects in the area were being carried out. A harbor district that had planned substantial alteration of Bolinas Lagoon for harbor and marina construction was abolished by legislation in 1969, and custody of the tidelands was transferred to Marin County, with a requirement that a plan for the Lagoon be prepared. The County arranged for substantial background work to be done by the Conservation and Resources Development Planning" in February 1971; and based the 1972 Bolinas Lagoon Plan largely upon that work and upon a study by the Department of Fish and Game published in December, 1970, "The Natural Resources of Bolinas Lagoon, their Status and Future."

The resulting Bolinas Lagoon Plan was approved in 1972 and submitted to the State Lands Commission in fulfillment of one of the conditions of the tidelands grant. It provided for ecological reserve status for all tidal areas, called for bicycle and pedestrian paths and observation points (to include small viewing decks, interpretive exhibits and minimum parking and sanitary facilities), and set forth locations for active and passive recreational uses. In a modified form, these policies were incorporated by reference as the LCP policies governing uses and development in and around the Lagoon. The modifications provided that the construction of physical improvements would not be considered an allowable use under the diking, filling and dredging policies, limited dredging to maintenance of existing channels pending completion of current studies by the Corps of Engineers, prohibited the commercial extraction of marine species pending completion of base studies for the development of a comprehensive management program, limited the discharge of toxic substances, and called for continuation of the existing monitoring of the lagoon.

The Corps of Engineers' study is a five-year review of flow hydrodynamics, sedimentology, water quality, and marine and wildlife resources. It is to produce a model which incorporates these physical processes, and by varying those conditions which affect the Lagoon, to predict the consequences of proposed actions. The study is anticipated to be completed in 1983, subject to continued availability of funding. Another planning project completed during this time was the Stinson Beach Community Plan, adopted by the Board of Supervisors in 1975 after extensive public hearings. It redesignated from commercial to residential uses a portion of the undivided

Seadrift area now called sub-area 5, but made no proposals for change in the area that had been subdivided at the time of the plan's adoption. Those portions of this plan not superseded by specific LCP policies have also been incorporated into the Local Coastal Program.

Marin LCP Program. The work program for the Marin LCP was approved on April 5, 1978, and the land use plan was submitted for Unit z, the southern portion of the County, on September 20, 1979. Five drafts of the LCP were reviewed by the Planning Commission and the public in a series of public hearings and workshops. Substantial changes were made in the Seadrift policies by the Board of Supervisors, leading to extensive discussion and reexamination of these provisions. The Planning Commission proposals would have allowed a higher level of buildout than the Board action, but would have placed most future structures away from Sub-area 4A, (which the Planning Commission considered as being of special value to shorebirds) by means of a voluntary transfer program by which major lot owners could obtain bonus units by shifting the location of development. Policies adopted by the Board of Supervisors would have eliminated this bonus provision and would have resulted in the distribution of allowable development throughout Sub-areas 4A and 4B,** although at a lesser overall density.

State Commission Planning and Permit Activity. The Coastal Commission and the predecessor Commission have considered 19 appeals from the Seadrift area, eight of which are now pending. Under Proposition 20, development on five lots in Sub-area 4B was denied, with findings that indicated that public acquisition should be seriously considered as to whether it might be the most appropriate means to protect the habitat value of the Lagoon.

The Coastal Plan of 1975 urged the acquisition of land for construction of small-scale parking and visitor facilities near the Seadrift gate, while the Commissions' 1976 acquisition recommendations to the Governor and the Legislature recommended acquisition of 57.4 acres for beach recreation and day use activities as a II-A priority (and noted that negotiations on dedication of the beach were underway). No action has been taken on this recommendation.

Subsequent to the adoption of the 1976 Coastal Act, the State Commission reviewed a number of the issues presented in the Seadrift segment of the Marin County LCP during its consideration of appeals from permit decisions regarding development within Seadrift. In Appeal No. 395-78 (Terplan), the Commission granted a permit for construction of a single family residence on an oceanfront parcel in

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** The Sub-areas are shown on Figure 4 They are not coterminous with the boundaries of original subdivisions. Several early Regional staff reports refer to slightly different Sub-areas, so care should be taken to ensure that confusion is avoided.

Sub-area 1 subject to conditions of requiring dedication of public access for passive recreation use, finding that, as conditioned, the project was consistent with the public access policies of the Coastal Act. The terms of the conditions of the permit are substantially the same as those set forth in the plan as the proposed settlement agreement (Page 14). In Appeal No. 175-79 (Alstrom), the Commission granted a permit for construction of a single family residence on a parcel in Sub-area 4A, finding that since the applicant owned no contiguous parcels, planning options then being considered by the County and the Regional Commission to mitigate impacts of development on the adjacent lagoons (i.e., lot consolidation) would not be applicable. The Commission concluded, therefore, that approval of the project was consistent with the Coastal Act and would not prejudice the LCP planning process. In appeals of permit discussions dealing with similar development proposals, ("isolated" parcels) the commission found no substantial issue had been raised (Appeal Nos. 364-79 (Safrit - Sub-area 3) and 363-79 (yolk-Sub-area 4A).) The Commission has recently found a substantial issue raised in Appeal Nos. 311-79, and 312-79 (Wisenbaker). Action on such appeals which deal with single family residential developments where the applicant owns contiguous parcels has been postponed pending final action by the Commission on Unit I of the Marin County LCP. Based upon the above information and upon the recommended findings of the Regional Commission, the Commission finds that substantial consideration has been given to the coastal issues and resources in the Seadrift area and that the Local Coastal Program provisions have been developed in conformity with these previous decisions and with the policies of Chapter 3 of the Coastal Act.

2. Habitat Values of Bolinas Lagoon.

Testimony before the Regional and State Commissions has dwelled at length upon the habitat values of the Lagoon and on the presumed effect of further buildout upon these values. The available scientific studies were cited in the background section of the LCP as revised by the Regional Commission. Relevant pages 57-61 are attached as Exhibit 3. The studies include shorebird studies carried out under the auspices of the Point Reyes Bird Observatory as well as more general investigations in the ecology of the Lagoon.

The Bolinas Lagoon Technical Advisory Committee, a group appointed by the County to oversee the Bolinas Lagoon Plan, considered the lot consolidation proposals as they were being reviewed by the County in light of the scientific investigations available to the Committee. Their resulting action, as documented in the minutes of their March 14, 1979 meeting, called for no buildout in the unsubdivided portion of Seadrift (Sub-area 5), minimum buildout within Sub-area 4A (at that time called 3A) and (as a second priority), within 4B (then called 3B). The committee also encouraged measures that would prevent free access to the Lagoon by dogs and urged that solutions for the tidal flow problems in the southern end of the Lagoon be explored by the Army Corps of Engineers before the nine-acre entrance parcel and adjacent lands (Sub-area 5) were committed to development.

Since that time, there has been substantial discussion as to whether there really is a difference in value to wildlife between Sub-areas 4A and 4B. An associated question is whether the bonus units included in several lot consolidation schemes, including the one presently recommended by the Regional Commission, are appropriate as an inducement to encourage transfers of development from 4A to 4B. This has been described to the staff as a difference between those concerned primarily with shorebirds and those whose chief concern is with the entire ecological system of the Lagoon. The Regional Commission discussed on several occasions whether the bonuses were an appropriate technique, and at least once whether the transfer should be made mandatory rather than voluntary, but concluded that the added protection within Sub-area 4A outweighed the increase in overall density that would result from the transfer program.

Another point of controversy has been whether Seadrift residents and visitors should be considered a chief source of possible interference with the Lagoon's wildlife, especially the population of harbor seals, or whether harassment from other sources, such as visitors along the inland margin of the Lagoon or people and dogs from Bolinas may be a part, or an important part of this problem. The Regional Commission investigation focused primarily on the presumed effects associated with development rather than investigating behavioral questions.

Based upon the above information and upon the recommended findings of the Regional Commission, the Commission finds that the Local Coastal Program provisions are consistent with Sections 30231 and 30240 of the Coastal Act dealing with protection of valuable habitat areas.

3. Water Quality and Watershed Management

The history of water quality problems within Bolinas Lagoon is summarized in Finding 1 as it relates to the town of Stinson Beach. Two other sources of pollution within the Lagoon, untreated sewage from the town of Bolinas and pollution from livestock and other sources within the watershed, have largely been abated through the installation of a sewage treatment system under the management of the Bolinas Public Utility District and the placing of more of the watershed within public ownership. Facilities in the park area are currently very limited and consequent use is not anticipated to add substantially to current levels of pollution. Comprehensive management plans for both Mt. Tamalpais State Park and the Golden Gate National Recreation Area have been completed and adopted. They have also focused upon minimizing or eliminating adverse impacts, and have provided for only low intensity recreational uses for the areas.

The LCP, after investigation, recommended that the 1970 quarantine on shellfish remain in effect, and the background portion of the LCP notes that "lifting of the existing quarantine would likely be followed by a new quarantine in the southeast corner of the Lagoon

where sampling has consistently recorded high pollutant levels." The LCP calls for renewed attempts to deal with the remaining sources of pollution, and tighter development standards to be provided.

Proponents of further building at Seadrift have emphasized that testing of all the septic systems in the area during implementation of the Water District's monitoring program revealed only two systems with problems, both attributed at the time to faulty installation, and that the current monitoring program carried out by the Stinson Beach Water District and subject to SFBRWQCB review has shown no indication of a present problem. Opponents have countered that the Seadrift area is inherently unsuitable for continued reliance upon this method of waste disposal, especially at the density envisaged for ultimate buildout, and that current investigations do not reflect the magnitude of the potential problems because a large number of the present structures are occupied only part of the time.

There is no conclusive evidence upon which to base projections of ultimate occupancy other than the number of homes that would be allowed under the policy provisions, and the rate at which full time occupancy of existing structures might occur. Testimony before the Regional and State Commissions has indicated that a number of lot owners are contemplating eventual retirement, but no comprehensive survey has been done. Stinson Beach is within an easy drive of San Francisco, and has been a traditional destination of both weekend and day users of the beach, which is often sunny when San Francisco is experiencing summer fog. Other subdivisions in Sonoma and Marin which appear to be largely or substantially second homes are not as accessible, and even if good data were available as to the rate at which second home areas have become more oriented toward primary residences, it would not furnish a useful indication of the probability of such changes in the Seadrift area in the short term. The present monitoring program is designed to take the factor of part-time occupancy into account, and Policy IV 7b does provide that if the monitoring indicates a problem is occurring, development can be halted at that time.

The Regional Commission concluded that the danger of further pollution of Bolinas Lagoon is a substantial one, and this concern constituted one of the bases of their imposition of a lot consolidation program on an interim basis and their recommendation of such a program within the Local Coastal Program. The Commission finds, on the basis of the information above and the recommended findings of the Regional Commission, that this concern is a valid one and that the lot consolidation program based upon existing information as considered by the Regional Commission is a valid approach and consistent with the Coastal Act.

4. Review of Access Provisions

The LCP access component separates the access policies dealing with the Seadrift Subdivision into two portions - access to and use of the Seadrift Beach and access to that edge of the Bolinas Lagoon along the Seadrift sandspit. The recommended LCP access provisions for the ocean area focus on assuring 'a right for the public to use the sandy beach area adjacent to the Seadrift subdivision. Although the LCP identifies public purchase and litigation of prescriptive rights as alternatives available for the establishment of continual public access at the Seadrift Beach, the recommended priority approach is to obtain an agreement between the County, the Coastal Commission and the Oceanfront landowners for the dedication of easements along the beach for low intensity recreational use. Such an agreement, proposed as a settlement to any prescriptive rights litigation now or in the future, would provide for public use over the beach area between the ocean and a line 25 feet seaward of the toe of the dunes (but not closer than 100 feet to the rear building setback line). In addition to these overall solutions for obtaining access along the beach, the LCP, as conditioned, requires that dedications similar to those proposed in the settlement agreement be obtained from oceanfront property owners through the coastal permit process. The LCP does not provide for requirements of vertical access through the Seadrift subdivision. The access easement would, therefore, be reached by walking from presently available access and parking areas lying down coast.

On the lagoon side of the sandspit, recommended policies call for offer of an easement for limited scientific and educational access in conjunction with any development requests in Sub-area 5. This limitation of access is consistent with the type of monitored and supervised use available at the Audubon Canyon Ranch on the inland side of the Lagoon, and the Regional Commission findings were emphatic that similar limitations were appropriate given the sensitive nature of the resources.

The issue of public access within the Seadrift subdivision, particularly to the Seadrift Beach, has been the subject of numerous discussions before the predecessor and current North Central Coast Regional Commissions and the State Commission. In 1978, the Regional Commission formed a special subcommittee to draft an access agreement as an alternative to pursuing a prescriptive rights lawsuit against the individual oceanfront property owners. Enactment of such an agreement would effectively settle any prescriptive rights litigation by the state concerning the oceanfront parcels at Seadrift whose owners are party to the agreement. Although numerous hearings have been held, the Regional Commission has not formally adopted an agreement package. Questions of the area of public use and the types of uses to be allowed were among the major issues considered by the Regional Commission.

The Property Owners Association, SPOA, has strongly opposed any general public access, or any attempt to make the road system available to the public citing such factors as the need to maintain security for many vacant vacation homes, the absence of parking or restrooms for visitors, and an alleged increased chance of habitat damage. Representatives of SPOA informed the Regional Commission that their continuing participation in attempting to work out the voluntary agreement for ocean front access if dependent upon no requirements of access within the other portions of the subdivision (and upon no imposition of across-the-road consolidation). The Regional Commission concluded that it was most appropriate to seek the voluntary agreement as a first priority approach since a large number of the oceanfront lots were already developed, and since the alternatives of pursuing litigation on prescriptive rights or seeking acquisition would involve substantial public expenditures. The LCP policies recommend this approach and set minimum standards for the provisions of an agreement which would meet the Coastal Act policies. These provisions are similar to the terms of public access conditions which the Commission has required in granting permits for development on oceanfront parcels. The LCP policies, as conditioned, would also provide that similar public access conditions would be imposed in new development projects on oceanfront parcels.

Concern has been expressed over the availability of adequate support facilities for public use of Seadrift Beach. A parcel located just outside of the subdivision boundaries has been deeded to the County by the original owner and developer of Seadrift, the William Kent Estate Company. It may be possible that, after the opening of Seadrift Beach to the public, use may justify siting facilities such as public restrooms and trash collectors on that parcel.

Another question remaining regarding access to and use of the Seadrift Beaches is whether vertical access through the subdivision to the lagoon and to the beaches is necessary to meet the mandates of Section 30212 of the Coastal Act. Opponents of the plan as submitted argue that the public should be allowed to use the private roads to reach the lagoon and the beaches within the Seadrift area. To establish such access, offers of dedication of easements over private roads could be required in connection with any request for a development permit from the original development company, which still holds fee title to the roads as well as certain other facilities and a number of lots. Access along such easements could be restricted to pedestrian, bicycle, and similar non-motorized access, or could be expanded to include automobile access and parking, and perhaps facilities such as chemical toilets. Representatives of SPOA have strongly opposed any suggestions of allowing access through the subdivision itself.

The protection of the resource values of the lagoons within and adjacent to the Seadrift subdivision has been of major concern during the planning process. The submitted LCP includes a lot consolidation program to lessen the impacts development at Seadrift could have on the lagoon resources. By allowing unlimited public

use of the roads to the lagoon, human interference with existing resources could significantly increase; this would be inconsistent with the protection of fragile coastal resources. Since the plan does provide for obtaining access for scientific purposes through the permitting process for development within Sub-area 5, the Commission finds that the plan does provide for adequate access to the lagoon consistent with the protection of the resources.

The Commission, in granting permits for development on oceanfront parcels, has found that vertical access through the subdivision was not necessary to find development on such parcels consistent with the Coastal Act. In making this determination, the Commission noted that access to the entire area of shoreline is available by walking upcoast from existing accessways to the southerly part of the subdivision. Because the walk from these accessways along the 2-1/2 miles of Seadrift ocean shoreline is virtually unobstructed except at the most extreme high tides and storm conditions, the public would have full access to the oceanfront Seadrift Beach.

The question of the appropriateness of vertical access through the subdivision to the oceanfront was also considered by the County and the Regional Commission during the hearings on the Marin LCP. Again, it was concluded that adequate vertical access will be available nearby, and vertical access was not required in this situation. The Commission finds, based on the Regional Commission public hearings, consideration and findings, that the proposed easement area will be accessible from existing and permitted accessways adjacent to and southerly of the Seadrift subdivision and that the LCP policies therefore, represent a valid approach to obtaining public access.

The Commission has considered whether the Seadrift area would be an appropriate location in which to utilize an additional tool provided in the 1979 amendments to the Coastal Act to achieve access through subdivided areas not otherwise accessible to the public. Section 30610.3 of the Public Resources Code now provides as follows:

SEC. 30610.3

(a) Whenever the commission determines (1) that public access opportunities through an existing subdivided area, which has less than 75-percent -of the subdivided lots built upon, or an area proposed to be subdivided are not adequate to meet the public access requirements of this division and (2) that individual owners of vacant lots in such an area do not have the legal authority to comply with such public access requirements as a condition of securing a coastal development permit for the reason that some other person or persons has such legal authority, the commission shall implement such public access requirements as provided in this section.

After reviewing this potential approach, the Commission has concluded that it would not be appropriate for use within the Seadrift area. The second condition of this subsection is met because individual owners of vacant oceanfront parcels do not have the legal authority to allow access through the locked gate or along the subdivision roads. The gate is controlled by the Seadrift Property Owners Association, membership in which is voluntary on the part of home and lot owners. (Membership in a second association, the Seadrift Lagoon Property Owners Association, is mandatory, but only for lot owners within the subdivisions fronting upon the interior Seadrift Lagoon, and this association does not control the access roads.) Fee title to the roads is retained by the William Kent Estate Company, which holds a number of vacant parcels in Seadrift and certain recreational facilities. However, the first prerequisite of Section 30610.3 (a) is not met because more than 75 percent of the oceanfront lots in Seadrift Subdivision No. One were built upon as of the effective date of Commission consideration of the Local Coastal Program (and of the adoption of these amendments to the California Coastal Act of 1976). Accordingly, this program would not be applicable within the Seadrift area.

Owners of existing vacant parcels can provide lateral access along the oceanfront of their parcels, and will be required to do so by Policy 1-13 of the LCP. As noted elsewhere in these findings, the Commission has concluded that (1) unlimited use of the private roads could have detrimental effects upon Bolinas Lagoon resource values; (2) adequate access to the oceanfront easement area can be obtained by walking along the beach from existing and permitted accessways; and (3) that this approach represents a valid approach to obtaining public access. Thus in any event, Public Resources Code Section 30610.3 (a), which depends upon a Commission finding that "public access opportunities through an existing subdivided area ... are not adequate to meet the public access requirements of this division" would not be applicable to the Seadrift oceanfront area.

Based on the above findings and the recommended findings of the Regional Commission, the commission finds that the recommended LCP access provisions are consistent with the provisions of Chapter 3 of the Coastal Act.

5. Possibility of Public Action or Acquisition

LCP Policy IV 7-F acknowledges that public purchase of the lands at Seadrift presents a definitive vehicle for public management of the resource. It concludes that in light of other methods available the cost would be extremely high, and that the proposed program for lot reduction successfully mitigates the coastal issues involved, and states that "only if portions of the program cannot be achieved as envisioned, shall public acquisition be considered a program option".

Recent Federal purchases within the Marin coastal areas have focused upon the watershed of Tomales Bay, to the north, as a means of protecting that valuable area. Very recently, additional authorizations have included a number of tidelands parcels, at least one of which (Kunst, 21-80) has a pending appeal from a Regional Commission denial of a request to place additional fill (pilings) in the Bay to allow construction of a garage. Investigation during LCP preparation indicated that no Federal purchases are planned within the Bolinas Lagoon area or elsewhere within Unit I, and this still appears to be the case.

A number of potential Conservancy projects within Marin County have been discussed informally with Conservancy staff and board members, but it does not appear that there is substantial interest in the Seadrift area at this time. Conservancy restoration projects to date have focused upon areas where a majority of the parcels are vacant, so that opportunities for redesign or shifting the location of development are less limited. A facilitating role within a larger approach may be a more appropriate role for the Conservancy than a major project.

There has been no interest on the part of the State Department of Parks and Recreation on purchasing any land in the Seadrift area, either in their original review of the Commissions' 1976 acquisition recommendations or subsequent to that time. The Department has recently turned its holdings at Stinson Beach State Park over to the Federal Government, and that popular area is now being administered as part of the Golden Gate National Recreation Area. Commission staff has recently reviewed a number of projects on the Commissions' 1976 list for which acquisition has not been authorized or completed, and recommended to the Commission that the Parks and Recreation Commission be urged to include a number of those projects in funding from the June, 1980 bond act, if it should pass. However, most of the projects so recommended were on the highest priority list, Group I, and the Seadrift area was not included. While it is an important resource area, given the extreme limitations on funding from State sources, use of the regulatory authority appears to be a more appropriate approach. The Commission finds that based upon the information above and upon the findings of the Regional Commission, that this approach has been sufficiently considered and that it does not appear to be the most appropriate approach at this time.

6. <u>Review of Development Alternatives</u>

Alternative approaches to further development at Seadrift can be considered as four basic alternatives, as follows:

A. No further development

B. Moderate consolidation utilizing existing land use designations and lot patterns

C. Consolidation with redesignation of allowable land uses

D. Redesignation of allowable land uses, elimination of existing parcel patterns, and redesign and resiting of any allowable structures.

Discussions by the Regional Commission and Marin County have focused primarily upon variations of Alternative B during the preparation and review of the Local Coastal Program, although the other alternatives were reviewed to some extent. Commission comments during the public hearing indicated their desire to examine further the benefits and disadvantages of other approaches, however.

6A. No further development. Based upon an evaluation of the potential coastal resource problems discussed above, and upon such additional factors as the hazards presented by the site, it has been advocated by some that no further development. should be allowed at Seadrift. The Regional Commission's 2-7-79 staff report noted this as an alternative but concluded that it would be too expensive. The Regional Commission discussed this approach, but did not select it for further investigation, concluding that it was not justified by Coastal Act requirements. A policy of potential acquisition was considered by the Board of Supervisors but was rejected in favor of a regulatory program approach.

The Commission considered the hazard aspect during its July, 1979 discussion of the Alstrom appeal, and found that Section 30253 of the Coastal Act, requiring development to be located to "minimize risks to life and property in areas of high geologic, flood, and fire hazard" could be dealt with through conditions requiring individual applicants to waive any claim to liability or public disaster insurance. Although concern has periodically been expressed about this approach, particularly since emergency permits have been requested for riprap or other barriers to protect existing homes from wave action during periods of storm and high tide, the Regional Commission has noted that the oceanfront lots are essentially built out, and that there may be no significant alternative to protective works for the protection of existing structures.

On the basis of the information discussed in this report and in the Regional Commission findings on the anticipated effect of additional development upon coastal resources, the Commission finds that the Regional Commission conclusion that halting all further development at Seadrift was not required in terms of the Coastal Act was an appropriate one.

6B. Moderate Consolidation Utilizing Existing Land Use Designations and Lot Patterns. Very considerable attention has been given to this alternative, and a number of variations in regard to appropriate minimum lot sizes, appropriate provisions for lot combination, (and particularly whether across-the-road consolidation should be required) and whether attempts should be made to shift a portion of the allowable development out of Sub-area 4A have been considered by the County and by the Regional Commission. In almost all of the discussions, however, owners holding only one lot have been proposed to be allowed to develop that parcel, thus leading to a certain level of development

throughout the Seadrift area. The Commission acquiesced in this approach in July, 1979, noting that the Alstrom application was one of ten individually owned lots that would be allowed in Sub-area 4A, and approving it at that time.

6C. Consolidation, Redesignation, and Elimination of Some Existing Parcels. More substantial reduction of the eventual density could be obtained by considering development proposals that do not treat existing parcel patterns as an absolute constraint. This could be accomplished by redesignating and rezoning Sub-areas 3, 4A, 4B and a portion of 5 to the Resources Management Area designation that was developed for marsh areas in Stinson Beach proper. Development credits based upon an approach such as a .25 credit for each parcel without an outstanding permit could be assigned in each of these areas, with a base density of one credit per owner of record as of the effective date of the Regional Commission consolidation policy adoption. This base density would provide a minimal level of participation for each owner who held a single parcel anywhere within Seadrift. By assigning a somewhat larger credit, perhaps .5 per parcel, to vacant parcels in Area 1 and Area 2, more remote from Bolinas Lagoon, and forming a more concentrated development again with a base density of one per single owner, densities in these areas could also be reduced, thus allowing, in effect, an on-site receiver area for the potential development transferred out of Subarea 3, 4A, 4B, and 5. Existing structures in those Sub-areas could be made non-conforming but with the right to rebuild in place, similar to the RMA provision recommended by the North Central Regional Commission in the implementation provisions for the Marin County LCP, but no new single-family homes would be allowed under the provisions of the RMA designation.

This alternative would result in additional buildout of approximately 97 homes. Non-conforming structures within the RMA designated portions of the spit would total 38 homes. Because of the possibility of fractional development credits or difficulty in arranging private transfers of the development credits, a restoration project, carried out either by the County or by the Coastal Conservancy, would be helpful in implementing this alternative.

Under such an alternative, owners who had applied to the Regional Commission for a development permit prior to a given date could be included in the non-conforming use category if the Commission determined that this was an appropriate approach_ Alternatively, such owners could be assigned a second full development credit but would have to obtain a site within the designated receiver area upon which to exercise that right. Such an approach was discussed briefly by the County during preparation of the LCP. The Regional Commission noted the extreme difficulty of implementing such an approach, especially as weighed against the resulting benefits in terms of Coastal Act policies. The Commission finds that although this alternative would be consistent with the remainder of the LCP in redesignating the margin of Bolinas Lagoon to a Resource Management Area, it would be more difficult to implement than

Alternative B and might require participation by the Coastal Conservancy or other entity to facilitate the ready transfer of development credits, and that on the basis of the information above and findings of the Regional Commission, that the alternative as recommended is consistent with Chapter 3 of the Coastal Act.

6D. Redesignation of Allowable Land Uses, Elimination of Existing Parcel Patterns, and Redesignation and Resiting of Any Allowable Structures. The Commission also inquired about the possibility of revising the type of development to be allowed at the remainder of the Seadrift area, perhaps allowing only vacation oriented condominiums of a modest size and clustering them in locations as far as possible from the wildlife resources of the Lagoon. Such a program could be carried out by redesignating Sub-areas 4A, 4B, 3 and 5 to a Resource Management Area, as in Alternative C, and redesignating the balance of the spit to allow attached residential structures. Existing structures could be made non-conforming and development credits assigned much as in Alternative C, and appropriate provisions made to restrict the size of units and allow common areas to be used as wildlife refuge areas. Leach lines for the attached structures might also be placed within the commonly held areas, as is now done in certain portions of the Sea Ranch.

As a variant of this approach, it might be provided that the condominium structures would be managed on a time-sharing basis, with a requirement that each unit be made available for public rental during a given portion of the year. This would be similar to conditions placed on permits at Pajaro Dunes and in the Playa del Rey area where the predecessor Commission found that such a specialized management program would increase public access to a limited beach resource. The present Commission has also utilized a variation of this approach in commercial development at Marina del Rey to increase the range of persons to whom the facilities would be available at least on a part-time basis, in accordance with Public Resources Code Section 30213, which calls for encouragement of recreational facilities for persons of low and moderate income. Although the price of homes at Seadrift is well out of the reach of such persons, a rental of limited length might well be manageable by a number of families. Available information indicates that a substantial number of homes are presently participating in voluntary rental arrangements. A guaranteed continuation of such a use could supplement seasonal rentals now available at the Sea Ranch, Irish Beaches, Pajaro Dunes, and a number of other locations. Because Seadrift is within easy reach of the entire Bay Area, present uncertainties over transportation costs and availabilities might make this alternative particularly attractive, especially since Stinson Beach is presently served by public transit from San Francisco and eastern Marin County.

The Regional Commission discussed the subject of condominium development while they were reviewing the question of possible clustered development. Final Regional commission consideration focused more upon questions of overall density, however, rather than

locational aspects. The Regional Commission also noted that there might be adverse visual impacts upon the character of the Stinson Beach community. The Commission finds, therefore, that this alternative would be consistent with the Coastal Act, but that it would also be more complicated to implement than the recommended approach of the Regional Commission, and that on the basis of the information above and the findings of the Regional Commission, the decision not to adopt this alternative is consistent with Chapter 3 of the Coastal Act.

APPENDIX E: REFERENCES

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L.C.P. Unit I Amendments: approved by B.O.S. Resolution #82-256 (6-22-82)

*[*Note: all adopted changes reflected in this document]*

Page 51: Amend the first three paragraphs to read as follows:

Historic Resources

Section 30253 of the California Coastal Act of 1976 mandates the protection of communities and neighborhoods "which, because of their unique characteristics', are popular visitor destination points for recreational uses." The intent of this policy is to protect the. unique character of existing coastal communities.

The Unit I coastal communities are historically important and aesthetically unique. The LCP proposed that structures in the coastal zone built prior to 1930 should be. reviewed through the coastal permit procedure before being altered or demolished. Additionally the LCP designates specific areas with the Unit I coastal zone as "historic areas". New construction and additions to or demolition of existing structures will require a Coastal Permit.

Boundaries for historic areas were selected to include groups of unique and architecturally significant' structures that are visually accessible to both local residents and visitors. Community input and additional historic surveys are encouraged as part of the Coastal Plan. After survey, historic area boundaries could be revised through the public review process.

All pre-1930's structures in the coastal zone are eligible for utilization of the State Historic Building Code, an alternative to the Uniform Building Code. This alternative code can aid property owners in the retention of historic character of buildings that undergo restoration and rehabilitation, and can result in cost savings.

This section illustrates some of the other historic structures in Unit I. These are by no means all of the historic structures in Unit I. The descriptions that follow are based on Discovering Marin (1974).

Page 64: Amend policies 15, 16, and 17 to read as follows:

Historical Resources

15. In order to protect the unique qualities and character of coastal communities in the Unit I coastal zone, historic structures shall be preserved and restored. The following means shall be used to protect and preserve historic structures:

a. "Historic areas" shall be established in Stinson Beach and Bolinas. The boundaries of these areas are described and mapped in Appendix F of the Unit I LCP. Within these historic area boundaries, all new construction shall conform in scale, design, materials and texture with the surrounding community character.

b. Alterations and Additions. Alterations or additions to any structure vu lt prior to 1930 shall require a coastal project permit; except that, maintenance or repair to restore any pre-1930's structure to its original architectural character shall be exempt from the requirement of a coastal permit. Alterations or additions to any pre-1930 structure shall retain the scale and original architectural features of the structure, especially for the front facade.

c. Demolitions. Demolition of any structure built prior to 1930 shall require a Coastal Project Permit; except that, demolition of any secondary or agricultural building built prior to 1930, may be exempted from the requirement for a coastal permit upon a finding by the Planning Director or appropriate hearing body that such structure is not a significant historic resource. Issuance of a Coastal Project Permit for the demolition of any pre-1930 structure may be delayed for a period, not to exceed six months. During this period, the property owner or local historic group or society may attempt to find a purchaser or alternate location for the structure. This six month period may be waived by the Planning Director or appropriate hearing body upon a finding that the structure is not historically significant or cannot be rehabilitated.

16. All Coastal Project Permits for projects located within the boundaries of an historic area, and for projects involving pre-1930 buildings, shall be reviewed in accordance with:

    a. The "Design Guidelines For Construction in Historic Areas and For Pre-1930 Structures" and,

    b. The "Historic Review Checklist", both located in Appendix F of the Unit I LCP.

17. All Coastal Project Permits for historic structures shall be reviewed by established local planning or design review groups, where these groups exist.

APPENDIX F - HISTORIC PRESERVATION

RECOMMENDED HISTORIC AREA BOUNDARIES

Historic area boundaries were selected for groups of historic structures in areas within coastal communities. Criteria used in defining historic areas were visual access and' coherent grouping as well as architectural and historic composition. Groups of non-conforming structures that disrupt the historic quality of an area were excluded... Area boundaries are described in this section, followed by maps of the recommended boundaries.

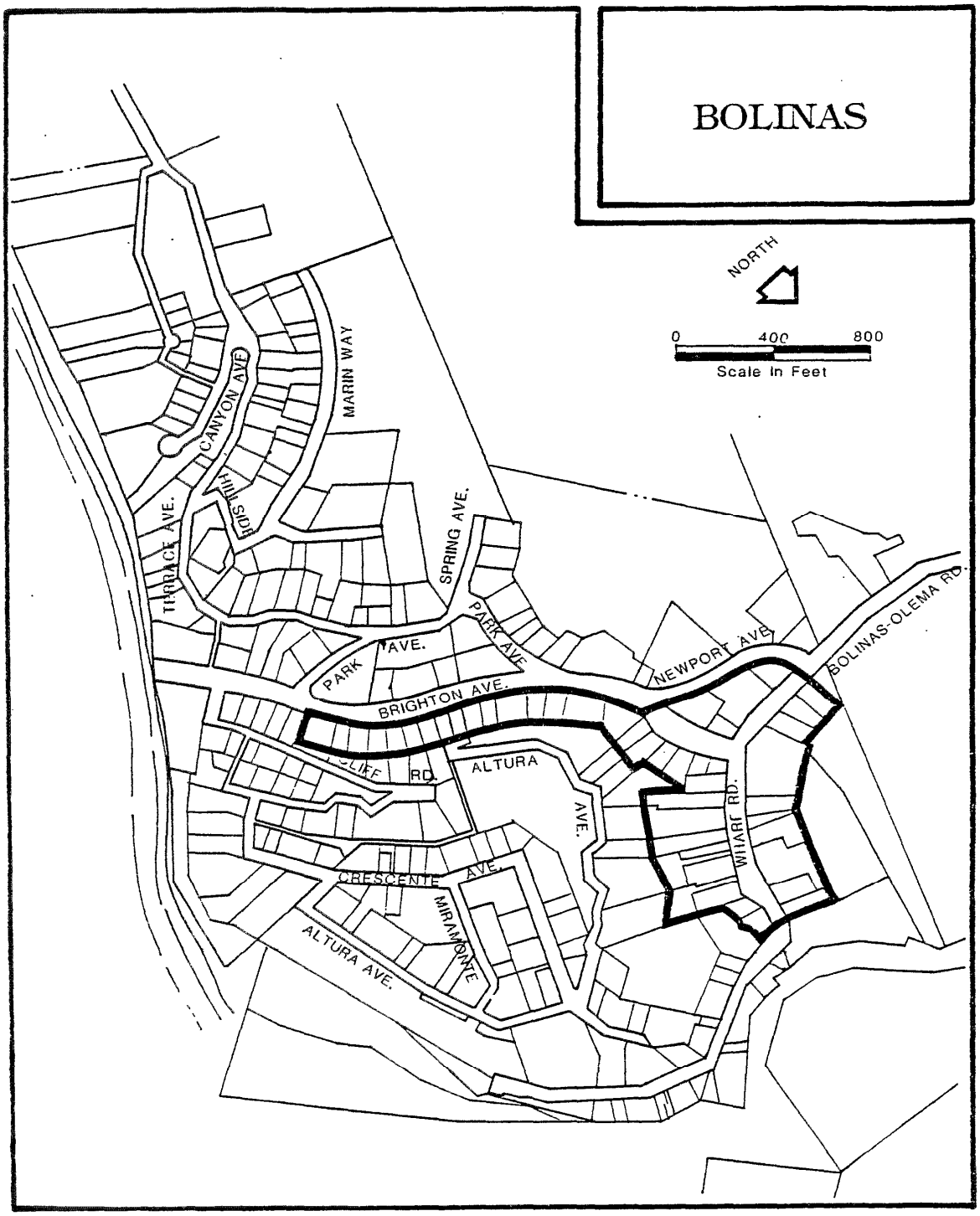
Bolinas

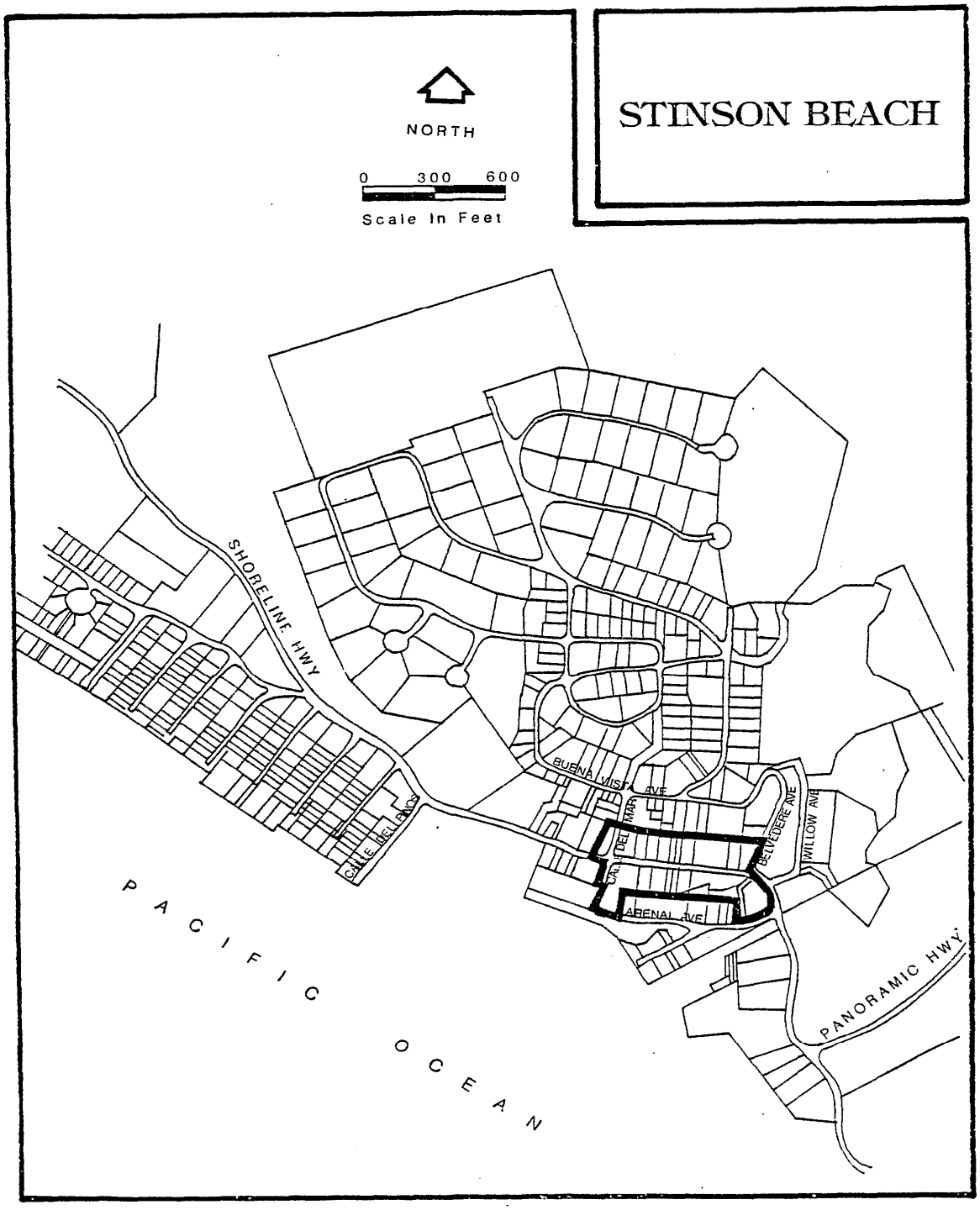
The historic area in Bolinas includes parcels bordering Wharf Road in downtown Bolinas and some parcels on Brighton Avenue in the 1882 Waterhouse subdivision from Smiley's Bar at, (AP 1193 061-04), 41 Wharf Road, and three parcels to the west on the Olema to Bolinas Road. Parcels south of Wharf Road from 48 Wharf Road (AP 4193-081-09) to Brighton Avenue and parcels up to 11 Olema to Bolinas Road are included. The area also encompasses parcels bordering Brighton Avenue on the east from 1 Brighton Road (AP 193-075-13) to 87 Brighton Avenue (AP 193-102-14).

Stinson Beach

The Stinson Beach historic area encompasses parcels bordering both sides of State Route 1 between Belvedere Avenue and Calle del Mar. Two parcels adjacent to and north of Calle del Mar bordering State Route 1 (AP 's 195-191-16 and 195-192-05), which includes Airey's, now called the Superette, are also within the historic area.

[Appendix F added as shown (pp. F-1 through F-16), pursuant to BOS Resolution No. 82-256 [6/22/82], approved as submitted by CCC 9/7/82]


BOLINAS
NORTH
0
400
800
Scale In Feet
MARIN WAY
CANYON AVE
HILLSIDE
TERRACE AVE.
SPRING AVE.
PARK AVE.
PARK AVE.
NEWPORT AVE.
BOLINAS-OLEMA RD.
BRIGHTON AVE.
CLIFF RD.
ALTURA AVE.
WHARF RD.
CRESCENTE AVE.
MIRAMONTE
ALTURA AVE.

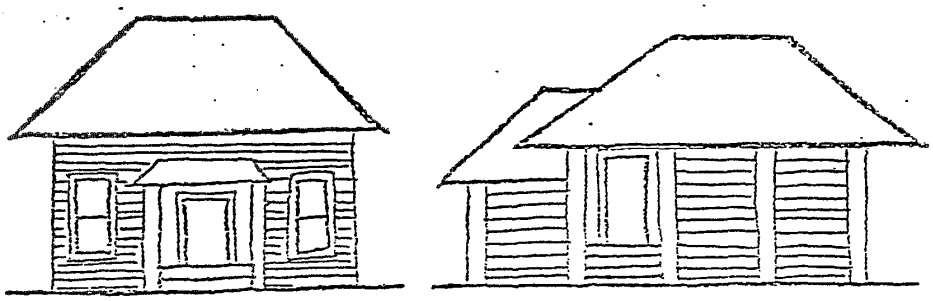

STINSON BEACH
NORTH
0 300 600
Scale In Feet
SHORELINE HWY
CALLE DEL MAR
BUENA VISTA AVE
CALLE DEL MAR
BELVEDERE AVE
WILLOW AVE
ARENAL AVE
PANORAMIC HWY
PACIFIC OCEAN

DESIGN GUIDELINES FOR CONSTRUCTION IN HISTORIC AREAS AND FOR PRE-1930'S STRUCTURES

Technology has quickened the pace of change and introduced a great variety of building materials and construction methods_ Since personal tastes and social attitudes often govern today's choice of materials and methods, design review has been introduced to guarantee carefully executed design solutions.

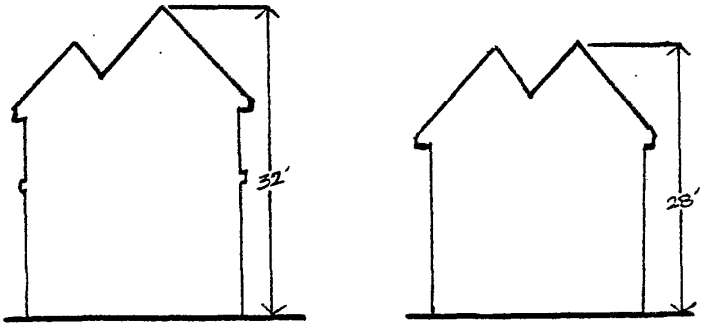
The landscape and buildings of a healthy community exhibit continuity of a community's past and present. In recognition of this concept, a properly instituted design review program aims to insure guided freedom for future growth in historic areas. Design review will vary according to conditions in particular communities, but should insure that new buildings conform in scale, proportions and texture to existing community form.

The design principles and standards below are intended to insure maximum compatibility of remodeling and new construction with older buildings in historic districts.



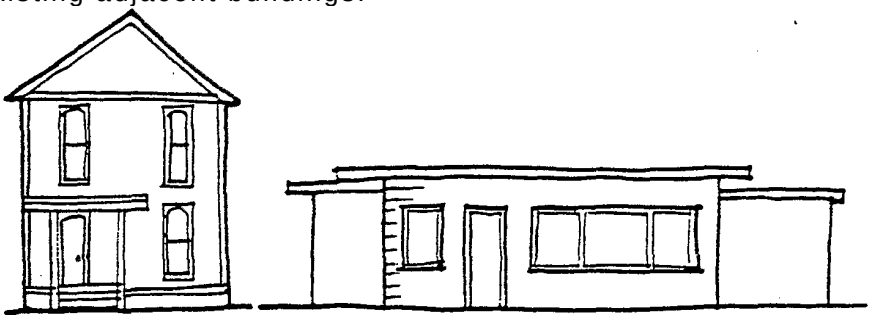
REPETITION OF ROOF SHAPE

Similarity of roof shapes is of ten the most important Means for achieving continuity in design between new and old buildings in historic areas. Roofs are a71 important factor in the overall design of a building to help relate items such as height and scale to those adjacent structures.



CONSISTENT BUILDING HEIGHT

New buildings should be constructed to a height within a reasonable average height of existing adjacent buildings.



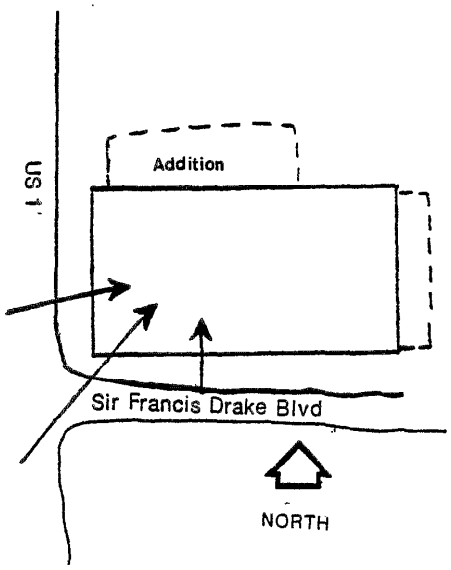
DIRECTIONAL EXPRESSION OF FRONT ELEVATIONS

Structural shape, placement of openings, and architectural details may give a predominantly vertical, horizontal, or a non-directional character to a building's facade. If buildings in a historic district are predominantly vertical expressions, then new buildings should be vertical expressions also.

19th century buildings tend to be vertical while 20th century buildings often have a horizontal emphasis.

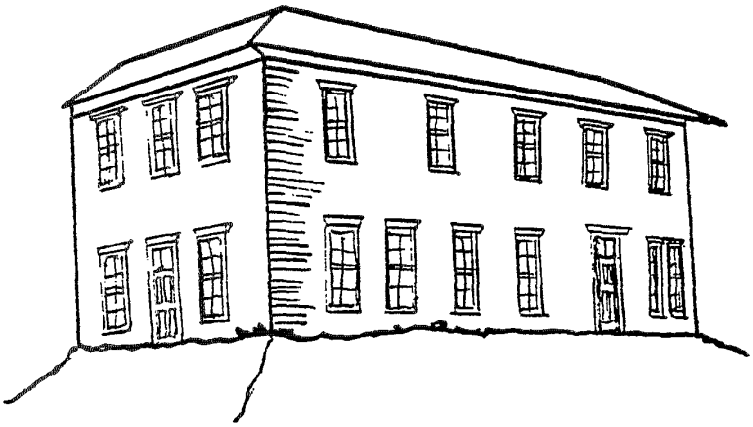
PLACEMENT OF NEW ADDITIONS TO HISTORIC BUILDINGS

The most important facade of any building is generally the frontal facade; this is particularly true when viewing a streetscape. The front elevation, and side elevation on a corner building, should not have additions added that destroy a building's historic character.



GOOD EXAMPLE

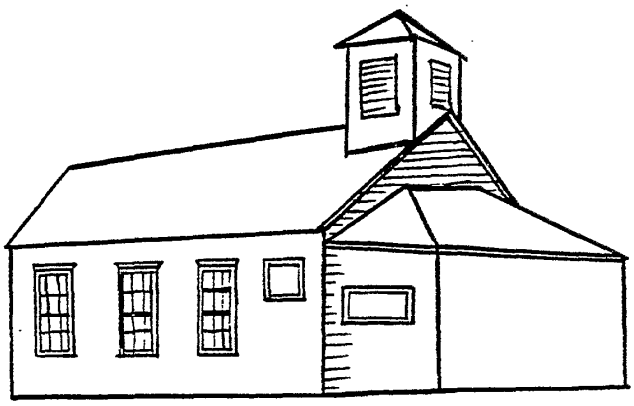
Focal Points of Olema Inn.



Additions were made to the Olema Inn, but these additions left the focal point facades intact.

BAD EXAMPLE

Greek Revival school house with addition on front facade, destroys the focal point view.



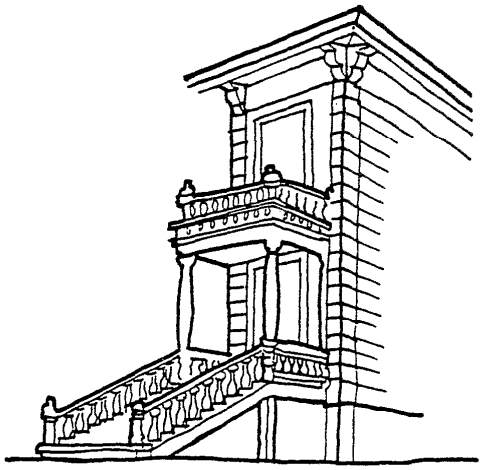
BAD EXAMPLE

Italianate commercial structure with front facade addition.

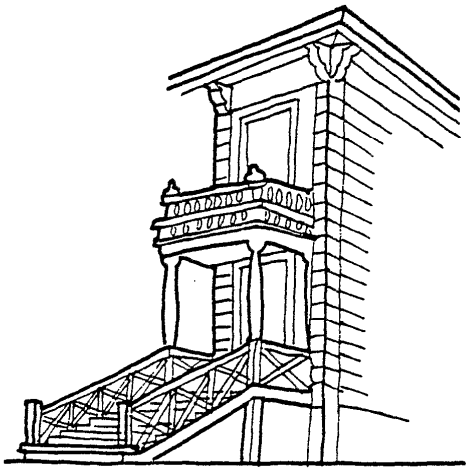
BUILDING SETBACK

Setback is an important consideration in harmonizing new with old in rural historic areas.

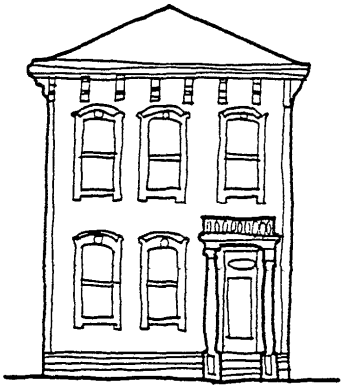
PRESERVE OR REPLICATE HISTORIC DETAILS



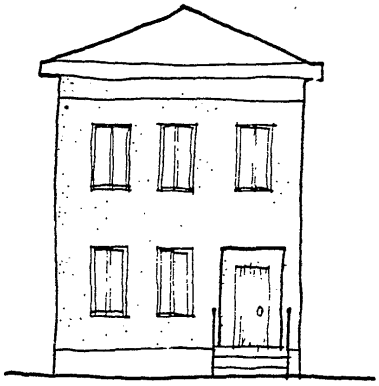
Original: Sympathetic treatment of stairway railing.



Remodeled: Unsympathetic treatment of stairway railing.



Original: Precise wooden details around windows, doors, cornice line, at building edges, horizontal lap siding.



Remodeled: Stucco facade destroys integrity of historic structure.

The front facade of the Greek Revival commercial building (in foreground to left) has been "modernized"[1] with the addition of wood shingles and brick. These exterior coverings are not appropriate for Greek Revival. Its next-door neighbor (smaller building to left) retains the Greek Revival feeling.

RELATIONSHIP OF TEXTURES

The texture of a building is an important factor in the overall appearance of a neighborhood. The predominant texture may be smooth (stucco), or rough (brick with tooled joints), or horizontal wood siding, or other textures. Whatever texture is used, its appearance must be considered in relation to. the neighborhood to insure a compatible blending with other styles.

The front facade on the Greek Revival commercial building (in foreground to left) has been "marinated" with the addition of wood shingles and brick. These exterior coverings are not appropriate for Greek Revival. Its next-door neighbor (smaller building to right) retains the Greek Revival feeling, with the original horizontal siding.

REPETITION OF DETAILS

Repetition of details, such as choice of exterior building materials, proportions of windows and doors, gingerbread porch posts and trim, window and door moldings, cornices, lintels, and arches, is extremely important in insuring compatible appearance in new construction in historic areas.

There has been a general misunderstanding about 19th century styles because of the weather-beaten appearance of many vintage buildings. Greek Revival, Queen Anne, Italianate, and Stick architectural styles are precise in their detailing and consistency of proportions. There is a great difference between these precise, albeit weathered, architectural statements, and contemporary efforts to create vintage-style buildings by constructing badly proportioned, indistinctive, rough-shod buildings of rough-sawn plywood or board and batten.

---

[1] "Marinated" - the fad in Marin County currently is to add wood shingles whether appropriate or not.

RELATIONSHIP OF COLORS

The proper application of a color scheme to a building or a series of buildings can highlight important features and increase their overall appearance. Accent or blending colors on building details is also desirable in creating compatibility of neighboring structures.

Use of exterior color is of particular importance in the case of a wood frame house where the combination of wall and trim colors usually decides its basic character.

A good color scheme should be neighborly as well as effective in itself, so that both the house and the environment benefit.

RELATIONSHIP OF LANDSCAPING AND PHYSICAL FEATURES

Landscaping should be placed to emphasize design and should enhance a structure rather than detracting from it or obscuring it. Physical features such as picket fences, building facades, beaches, lamp posts, and signs or combinations of these features provide continuity and cohesiveness to a neighborhood.

Efforts to achieve continuity should not be so restrictive that they force mere imitation. However, the design of new buildings in and adjacent to historic areas, and new additions to old buildings must be carefully executed to achieve harmony between old and new. The challenge, particularly in special design districts, is to create contemporary buildings whose flavor and scale compliments, rather than imitates, the predetermined images of the historic setting.

SIGNS AND STREET FURNITURE

Commercial signs are an effective tool for enhancing the historic quality and can be designed to harmonize with the structure. All too often, oversized or modernistic signs are used and detract from the overall charm. For this reason, strict design review for signs is recommended.

Similarly, street furniture (benches, light fixtures and litter containers) should be designed to embellish the historic grace and conform to existing architectural styles. Ingenuity may be required, but these details can provide cohesion and grace.

HISTORIC REVIEW CHECKLIST

The attached Historic Review Checklist has been established to provide an initial determination of compatibility of new construction, alterations and additions in historic areas or for individual pre-1930 structures outside the boundaries of historic districts. Additional background information is available in the Historic Study and in Planning Department files.

This checklist should apply to all types of structures, including outbuildings. Signs and street furniture should be compatible with the historic character of the community.

HISTORIC REVIEW CHECKLIST

Please check the appropriate box in applicable categories.

YES	NO	
		A. NEW CONSTRUCTION, ALTERATIONS AND ADDITIONS
		Does the Project:
___	___	1. Preserve distinguishing original qualities or character of the structure or site and its environment?
___	___	2. Retain or preserve any previous modifications that evidence the history and development of the structure or site?
___	___	3. Retain or preserve distinctive stylistic features or examples of skilled craftsmanship which characterize the building's structure or site?
___	___	4. Has every reasonable effort been made to provide a compatible use for the property in this community?
___	___	5. Give consideration to harmonizing street furniture and signs?
		B. NEW CONSTRUCTION
___	___	1. Is the roof shape similar to adjacent structures?
___	___	2. Is the building height consistent with surrounding structures?
___	___	3. Do the front facades give similar directional expressions (vertical or horizontal)?
___	___	4. Are building setbacks similar to adjacent structures?
___	___	5. Will new landscape features (including parks, gardens, fencing, benches, walkways and signs), be compatible with the character of the neighborhood?
___	___	6. Is the design compatible in scale, design, materials and texture with surrounding structures?

YES	NO	
___	___	7. Will a contemporary design that is compatible with the mood and character of the surrounding neighborhood be used?
___	___	8. Will mechanical equipment such as air conditioners and television antennae be placed in inconspicuous locations?

C. ALTERATIONS, RESTORATION

___	___	1. Has the applicant applied for designation of a historic structure?
___	___	2. Does the State Historic Building Code apply?

Will the proposed project:

___	___	3. Retain the front of the building to preserve the architectural and historic character of the building?
___	___	4. Retain distinctive features such as the size, scale, mass and building materials, including roofs, porches and stairways that give the community its character?
___	___	5. Retain landscape features (including parks, gardens, fencing, benches, signs, walkways), that reflect the structure's development and history?
___	___	6. Place new additions without destroying focal point views?
___	___	7. Preserve or duplicate original details (such as cornices, brackets, windows, doors, shutters, siding, railing) of architectural significance?
___	___	8. Repair or stabilize weakened structural members and systems?
___	___	9. Retain original materials where possible?
___	___	10. Preserve the original roof shape and material?

YES	NO	
___	___	11. Retain or replace, where necessary, architectural features in the roof such as dormer windows, chimneys, cornices and brackets?
___	___	12. Improve the thermal performance of the building through weather-stripping without damaging window and door frames?
___	___	13. Improve or repair drainage to prevent damage to the structure or foundation where necessary?
___	___	14. Retain any previous modifications that evidence the history and development of the structure?
___	___	15. Make alterations and new additions in such a manner that they can be removed in the future without impairing the essential form and integrity of the structure?

D. RESTORATION

___	___	1. Are any deteriorated architectural features being repaired rather than replaced, where possible?
___	___	2. Where replacement of deteriorated architectural features is necessary, do new materials match the material being replaced in color, texture, composition and design?
___	___	3. Will cleaning methods undertaken damage the historic building materials?

E. DEMOLITION

___	___	1. Is the building or structure of such architectural or historic interest that its removal would be to the detriment of public interests?
___	___	2. Is the building or structure of such interest or significance that it could be designated as a National, State or local historic landmark?

YES	NO	
___	___	3. Is the building of such old and unusual or uncommon design, texture and/or material that it could not be reproduced or be reproduced only with great difficulty and/or expense?
___	___	4. Would retention of the building or structure help preserve and protect an historic place or area of historic interest in the County?
___	___	5. Would retention of the building or structure promote the general welfare of the community by encouraging study of local history, architecture and design or by developing an understanding of the importance and value of the local culture and heritage?
___	___	6. Can the structure be converted to another use?
___	___	7. Is the structure in a state of major disrepair?
___	___	8. Has the local historical group or society been contacted?
___	___	9. Has the State Historic Preservation Office been contacted?
___	___	10. Has an attempt been made to locate a purchaser for the property?
___	___	11. Has an alternative site for the structure been researched?

MARIN COUNTY
LOCAL COASTAL PROGRAM
UNIT 2 - *Amended*

MARIN COUNTY COMMUNITY DEVELOPMENT AGENCY
3501 Civic Center Drive, Room 308
San Rafael, California 94903

M A R I N C O U N T Y

L O C A L C O A S T A L P R O G R A M

U N I T II

Amended

ADOPTED BY MARIN COUNTY BOARD OF SUPERVISORS

December 9, 1980

CERTIFIED BY STATE COASTAL COMMISSION

April 1, 1981

The following document is the current amended version of the 1981 Marin County LCP Unit II, which reflects all policy text amendments approved by the California Coastal Commission from 1982 to 2004. Following each amended policy is a note that provides the details of the Resolution(s)/Ordinance(s) passed by the Marin County Board of Supervisors that proposed and adopted each text amendment, as well as the corresponding action(s) of the California Coastal Commission. All information contained herein is current as of April 16, 2010, and is the most accurate portrayal of the amended LCP Policies to the best knowledge of the Marin County Community Development Agency at this time.

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INTRODUCTION

This document is the Local Coastal Program (LCP) for Unit II of Marin County's coastal zone, the coastal area from Olema north to the Sonoma Marin County border. (See Fig. 1) The LCP is a land use plan for Marin's coast to guide its future development and to assure that coastal resources are properly utilized and protected. Preparation of the LCP was mandated by the California Coastal Act of 1976 which established a statewide coastal management program under one state and six regional commissions. The Coastal Act made permanent the coastal protection program originally created by Proposition 20, the coastal initiative passed by voters in 1972.

COASTAL ACT GOALS, POLICIES, AND PRIORITIES

In adopting the Coastal Act, the Legislature declared five basic goals for the State's coastal zone, as follows:

- Protect, maintain, and where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and manmade resources.
- Assure orderly, balanced utilization and conservation of coastal zone resources taking into account the social and economic needs of the people of the state.
- Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of private property owners.
- Assure priority for coastal-dependent and coastal-related development over other development on the coast.
- Encourage state and local initiatives and cooperation in preparing procedures to implement coordinated planning and development for mutually beneficial uses, including educational uses, in the coastal zone.

The heart of-the Coastal Act is found in chapter 3 which contains the Coastal Planning and Management Policies, covering six topics: public access, recreation, the marine environment, land resources, development, and industrial development (See Appendix A). These policies constitute the standards that local plans must meet in order to be certified by the State, as well as the Coastal Commission's yardsticks for evaluating proposed developments in the coastal zone. The Act also establishes priorities for different uses in the zone, with highest priority given to the preservation and protection of natural resources, including environmentally sensitive habitats and prime agricultural lands. On other lands, coastal dependent uses (those which require a site on the water to function), have highest priority, followed by public recreational uses, visitor-serving facilities, and finally, other private development.

IMPLEMENTATION

Under the Coastal Act, each of the 68 local governments along the California coast must prepare a coastal plan (LCP) to bring its local plans into conformance with the policies of the Act. The coastal plan supersedes local plans and takes precedence over all local policies and zoning. After the coastal plan and its implementing ordinances are adopted by a local government, they must be certified by both Regional and State Coastal Commissions that is, determined to be consistent with the policies of the Coastal Act. Following certification, the authority for issuing coastal development permits will be returned to local governments from the State, where it currently rests, and the regional commissions will be phased out. Local governments will then evaluate coastal permits for their conformity with the LCP. Any amendments to a certified LCP must be approved by the State Coastal Commission. State law provides that, at a minimum, the LCP be reviewed and updated once every five years. Although the regional commission will be phased out after certification of LCP's, the State Commission will continue to exercise permit jurisdiction over certain kinds of development (e.g. development on public trust lands) and to hear permit appeals and review LCP amendments.

THE COASTAL ZONE IN UNIT II

Marin's Unit II coastal zone is approximately 70 miles in length and generally extends 1000 yards inland from the mean high tide line of the sea. In significant coastal resource areas, it extends inland to the first major ridgeline paralleling the sea or five miles inland from the mean high tide line, whichever is less.

The major natural feature in Unit II is Tomales Bay, a long narrow bay separating the Point Reyes peninsula from the coastal zone on the mainland. Two very distinct landscapes are found on either side of the Bay: the east side is characterized by open, rolling grasslands, while the west side consists of the densely wooded, steep terrain of the Inverness Ridge. The predominant land use in Unit II is agriculture, primarily grazing and dairying. Extensive areas are also owned and managed by the state and federal governments as public parkland, including Tomales Bay State Park, the Golden Gate National Recreation Area, and Point Reyes National Seashore. Urban development is generally confined to six small coastal village areas: Olema, Point Reyes Station, Inverness Ridge, Marshall and nearby shoreline hamlets, Tomales, and Dillon Beach.

THE UNIT II LCP

The Unit II LCP is divided into four main sections which address the policy areas of the Coastal Act and reflect the important issues in Marin's coastal zone: 1) public access and recreation, including sections on public access, recreation and visitor-serving facilities, and federal parklands; 2) resource protection, including natural resources and agriculture; 3) uses of Tomales Bay, including mariculture, commercial fishing, shoreline uses, and public trust lands; and 4) public services and new development.

The Unit II LCP introduces each topic with a discussion of relevant Coastal Act policies, presents background information and discusses the planning issues involved, and finally, establishes policies which represent the County's specific statements to guide future development and implement the policies of the Coastal Act,

In addition to the land use plan, land use maps will be prepared showing environmental, access, and land use information as follows:

MAP NUMBER	SUBJECT
#1	Natural Resources
#2	Hazards
#3	Public Access
#4	Mariculture
#5	Land Use
#6	Zoning

CITIZEN PARTICIPATION

The Unit II LCP is the product of a planning effort which has lasted over a year. The planning process has involved local citizens, interest groups, and other local, state, and federal agencies. Numerous workshops have been held in West Marin and with the County Planning Commission. The plan was adopted by the Planning Commission on November 17, 1980 and by the Board of Supervisors on December 9, 1980.

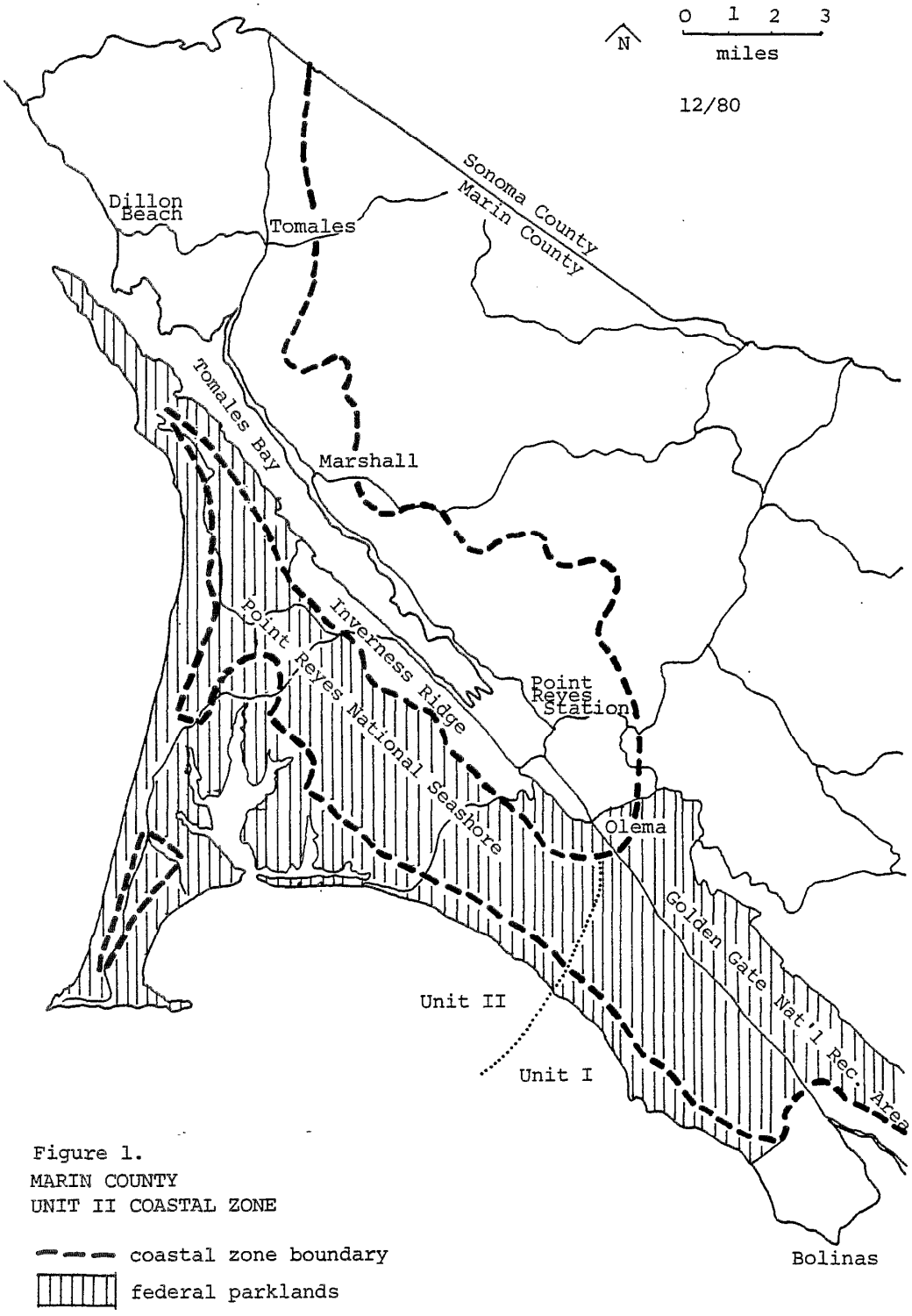


Figure 1: Unit II Coastal Zone

I. PUBLIC ACCESS AND RECREATION

- PUBLIC ACCESS
- RECREATION AND VISITOR-SERVING FACILITIES
- FEDERAL PARKLANDS

PUBLIC ACCESS

COASTAL ACT POLICIES/PURPOSE OF LCP PUBLIC ACCESS COMPONENT

Section 30001.5 of the Coastal Act declares that maximizing public access to and along the coast is a basic goal of the State. To implement this goal, the Act requires provisions for public access in all new development projects along the shoreline unless access would be inappropriate for public policy reasons, such as protection of public safety. The full text of access policies in the Act, contained in Sections 30210 through 30214, is given in Appendix A.

The purpose of this LCP Public Access Component is to set forth in detail the kinds and intensity of uses and specific geographic areas proposed for public access in the Unit II coastal zone. The LCP inventories existing public access areas, discusses criteria used to evaluate potential access areas, and recommends new access areas based on these criteria. The recommendations identify sites with the greatest access potential and require that a public access easement be offered for dedication when such sites are developed. In the future, public or private agencies will have the flexibility to choose among offered easements, those most appropriate for acceptance and development. These agencies will then have the responsibility for maintaining the easements they accept.

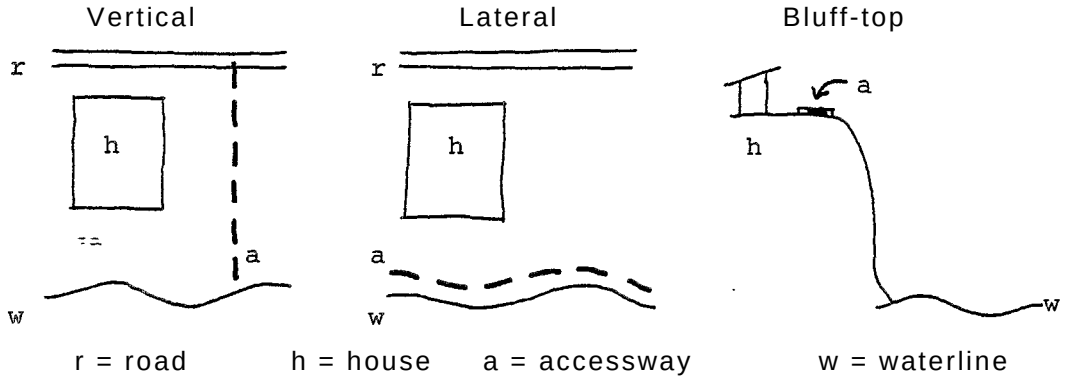
TYPES AND USES OF ACCESSWAYS

Vertical access. Vertical accessways provide access from the first public road to the shoreline. (See Fig. 2 below.) They are usually sited along the border of a parcel at a maximum distance from the proposed development so as to protect privacy unless the topography of the site or the design of the project warrant another location. Vertical accessways are usually a minimum of ten feet in width, and may be increased if necessary, (as is the case with all types of easements), to allow for the placement of stairs, parking or other improvements, or to protect public prescriptive (historic) rights.

Lateral access. Lateral access refers to access along the shoreline paralleling the water's edge. Because of the presence of public trust lands (tidelands and submerged lands), the public already has the right to use the shoreline up to the mean high tide line. A designated lateral accessway clarifies and may increase the area available for public use. Statewide, lateral accessways are usually a minimum of twenty-five feet in width, defined as extending 1) seaward to the mean high tide line from a fixed inland point, or 2) inland from the mean high tide line. In the Tomales Bay area, the minimum width for a lateral accessway should be reduced to ten feet due to the very narrow width of the shoreline.

Bluff top access. Where no beach area exists and a project is proposed along a shorefront bluff top lot, public access for viewing may be required. Bluff top accessways should run along the edge of the bluff and be of sufficient width to provide for safe public access, usually twenty-five feet inland from the current bluff edge. Because of the potential for erosion of the bluff edge, the easement should be adjusted inland if the edge recedes.

Figure 2: Types of Accessways



Privacy buffer. In determining the specific signing of an accessway, protection of the adjacent landowner's privacy should be considered. In general, a buffer of ten feet between the various types of accessways and a proposed or occupied residential structure will protect the resident's right to privacy. In determining the appropriate buffer width, the need for privacy should be considered in light of public needs and rights; the buffer area should not act to preclude the public's right of access to and use of public trust lands.

Types of uses of an accessway. Three types of uses have been described by the Coastal Commission for access areas.

PASS AND REPASS refers to pedestrian use of the accessway.

PASSIVE RECREATIONAL USES include activities normally associated with beach use such as walking, swimming, fishing, boat landing, etc., but not including organized sports activities, campfires, or vehicular access.

ACTIVE RECREATIONAL USES include the full range of beach oriented activities.

The use of a vertical or bluff top accessway is usually limited to pedestrian use for walking, running or viewing purposes. Lateral accessways may be used for more extensive activities, but on the shoreline of Tomales Bay, only passive recreational uses should be allowed due to the narrow width of the shoreline and its environmental sensitivity.

PROCEDURES FOR ACQUIRING NEW ACCESSWAYS

There are three methods by which public accessways can be acquired: purchase, establishment of prescriptive rights, or a dedication requirement as a permit condition.

Purchase. Public access can be acquired through purchase using federal, federal, state, and/or local funds. In the fall of 1979, Congress passed legislation authorizing purchase of most undeveloped lots on the shoreline of Tomales Bay. The specific areas included in the acquisition are described in the LCP section on Federal Parklands. If and-when-such purchase is completed, public access along the Bay would be assured. At the state level, the Department of Parks and Recreation and the Coastal Conservancy are involved in access purchases. The Conservancy has the authority to give grants to local governments to purchase and develop accessways and has been involved in a grants program since the middle of 1979. In awarding grants, the Conservancy gives priority to local public agencies which provide matching funds.

Prescriptive rights. Section 30211 of the Coastal Act requires that development shall not interfere with the public's right of access to the sea where acquired through historic use. Such a right is termed a "prescriptive right." The text and policies of this access component indicate where prescriptive rights may exist; however, a final determination can only be made by a court of law or through an agreement between a landowner and a public agency, such as the Attorney General's office. Where the issue of prescriptive rights has been raised for a site proposed for development, further research should be undertaken at the time a coastal permit is reviewed to ensure the protection of such rights.

Access provided directly as a condition of development. There are four methods by which public access can be provided as a condition of new development:

GRANT OF FEE INTEREST. When a grant of a parcel is made for public access and recreation, the private property owner retains no interest in the land. Fee grants are usually made when an entire parcel is important for access and when full public ownership and maintenance, not only the right of public use, is desirable.

DEED RESTRICTION. A deed restriction is a covenant giving the public rights to cross the owner's land for purposes of access. In the case of a deed restriction, the case of a deed restriction, the landowner retains all responsibilities for the accessway, including maintenance and liability. Because deed restrictions do not grant actual interest in the land, they may be subject to successful challenge by subsequent landowners and should therefore only be used in limited situations.

GRANT OF EASEMENT. The grant of an easement for public access is the most commonly used access condition. In this case, the property owner dedicates a portion of his property to an appropriate public or private agency which assumes responsibility for maintenance and liability. While the property remains in private ownership, Section 402.1 of the Tax Code provides for a reduction of assessed value commensurate with the value of the easement as determined by the Assessor.

Until an agency agrees to accept the offered easement, the accessway does not have to be open for public use. Because considerable time may be necessary to find an accepting agency, only an offer to dedicate rather than an actual dedication itself is generally

required in a coastal permit. Offers to dedicate are usually made irrevocable for 20 years. Through the offer mechanism, an applicant for a coastal permit is not delayed by an access condition.

IN-LIEU FEES. Where new development might adversely affect public access opportunities to the shoreline (e.g. by overcrowding access roads or facilities), but does not itself offer a suitable location for access, in-lieu fees may be required as mitigation. The fees could be used to purchase and develop coastal access areas or facilities in other locations to relieve the burden caused by the development.

PROCEDURES FOR OPENING NEW ACCESSWAYS

Along the shoreline of Unit II, it is anticipated that a Grant of Easement will be the method most commonly used to acquire new accessways. The actual implementation of such easements requires the following steps:

Agency acceptance. Before an access easement can be opened to the public, an agency or organization must be willing to accept responsibility for the development and operation of the easement. Such acceptance will depend on the agency's funding and staffing capabilities and the manner in which the accessway, if opened to the public, would contribute to the agency's public policy objectives.

Development. Facilities needed to service accessways, such as trails, restrooms, parking areas, trash receptacles, and signs, will depend on the expected type and level of use and existing facilities nearby. Along the shoreline of Tomales Bay, very little if any additional development of accessways should occur, even if they are opened to the public. The capacity of shoreline parcels to support public use is generally quite low due to the very narrow beach and parking area available and the environmental sensitivity of the shoreline. The informal dispersed use of the shoreline by the public which presently exists should not, in most places, be changed by increased development.

Maintenance and policing. Proper maintenance and policing by the responsible agency is needed to eliminate nuisances or hazards caused by litter, damaged stairways, or fencing. Facilities should be designed to encourage easy maintenance by users and maintenance staff, minimize conflicts between public and private uses, and avoid impacts on natural resources.

Liability. Liability is a major concern of both public agencies and private property owners. Under existing law, public agencies operating accessways or trails which they own or which they received through the grant of an easement are granted immunity from claims for injury caused by the condition of improved or unimproved trails and accessway, so long as warnings are reasonably provided for any hazards which may exist. The grantor of public easement to a public entity is also protected from liability (Government Code Section 831.4). Civil Lode Section 846 grants immunity to private landowners who allot people to use their property for recreational purposes. However, if a fee is collected, the private landowner loses this immunity.

Accessway opened. Only after all of the items in the four steps above have been addressed may an accessway be opened to the public.

EXISTING PUBLIC ACCESS IN UNIT II

Considerable opportunities exist for public access to the shoreline in the Unit II coastal zone. Approximately one-half of the 70 miles of shoreline in Unit II is publicly owned and lies within the Point Reyes National Seashore, state, or county parks. Outside of these parks, numerous privately owned recreational and visitor-serving facilities offer access opportunities to the public. A complete listing of public access areas in Unit II is given in Table 1. The following discussion explains the nature of access available in these different areas.

Public lands. Public lands with shoreline access include the federal Point Reyes National Seashore, Tomales Bay State Park and Tomales Bay Ecological Reserve, recent state acquisitions in the area of Tomasini Point, Millerton Point, and Cypress Grove, and county parks at Chicken Ranch Beach, Whitehouse Pool, and Miller Park. In addition to these formal public access areas, the public has access rights on public trust lands (tidelands and submerged lands).

The Point Reyes National Seashore, with over 30 miles of coastline, provides the majority of public access and recreational opportunities in Unit II. The 65,300-acre park includes ten beaches, 141 miles of trails, and over 40 campsites in four different locations, and offers a wide variety of recreational activities such as hiking, riding, camping, fishing, and clamming. Visitor use figures are indicative of the park's popularity: maximum daily visitation approaches 7,000; average annual overnight stays approximate 35,000; and the park receives over 1.5 million visitors annually. 80% of all visitors utilize the beaches and 20% utilize the trail system and hike-in camps. Parking to accommodate approximately 1600 cars is distributed in various locations around the park.

The major state park in Unit II is Tomales Bay State Park, located on the west side of Tomales Bay. The 1305-acre park has 3.5 miles of shoreline frontage and includes four beaches, picnic sites, and 2.5 miles of trails. The beaches are accessible by the park entrance road, an access road through Teacher's Beach subdivision to the south, and/or by hiking trail. Parking is available to accommodate 70 to 100 cars. Annual visitation to Tomales Bay State Park is approximately 60,000 people. The Inverness Ridge Project, a recent addition to Tomales Bay State Park, is located to the south near Inverness. The project, which will eventually encompass 1200 acres, has no shoreline frontage.

Other recent state acquisitions in the Tomales Bay area include the Tomasini/Millerton Points project and the Cypress Grove project on the east side of Tomales Bay. Parkland on Tomasini and Millerton Points covers 320 acres with 2.7 miles of shoreline frontage. When opened, the park will allow public access for clamming, boating, picnicking, fishing, and viewing. An oyster operation on the property will be incorporated into the interpretive facilities of the park. Another recent state acquisition, the Cypress Grove project, is a 22-acre area with approximately

Table 1. Inventory of Existing Public Access Areas		
PUBLIC	Acreage	Shoreline Frontage (miles or feet)
Federal		
Point Reyes National Seashore	65,300	30 mi.
State		
Tomales Bay State Park	1,305	3.5 mi.
Tomales Bay Ecological Reserve	500	1 mi.
Tomasini/Millerton Points	320	2.7 mi.
Cypress Grove Project	22	1200 ft.
County		
Chicken Ranch Beach	4	700 ft.
Whitehouse Pool	23.5	on Lagunitas Creek
Miller Park	5.7	730 ft.
PRIVATE	Acreage	Shoreline Frontage (miles or feet)
Tomales Bay, west shore		
Golden Hinde Boatel	3	500 ft.
Inverness Yacht Club	3.5	400 ft.
Children's Beach	6.3	920 ft.
Inverness Store, Garage & Library	8	600 ft.
William Page Shields Salt Marsh	3.5	350 ft.
Inverness Motel	1.9	200 ft.
Tomales Bay, east shore		
Nick's Cove	5.7	400 ft.
North Shore Boats	1	150 ft.
Marshall Store & Tavern	4	300 ft.
Marshall Boat Works	11	1100 ft.
Tony's Seafood	1.3	400 ft.
Marconi Cove Marina	5	1540 ft.
North of Walker Creek to County line		
Lawson's Landing	250	1 mi.
Dillon Beach	30	1 mi.
Other private		
ACR lands	no data	no data

660 feet of shoreline frontage. Low-intensity uses, such as picnicking and clamming, are anticipated for this site.

The only other state holding in the Tomales Bay area is the Tomales Bay Ecological Reserve, located south of Millerton Point at the end of Tomales Bay. The reserve, with roughly one mile of shoreline frontage, includes almost 500 acres of marsh used by migrating waterfowl and other wildlife. Public access to the reserve is possible at various points; however, it is not encouraged by the State due to the potential adverse impacts of such access on the wildlife and habitat resources of the reserve.

County parks in Unit II include Chicken Ranch Beach, Whitehouse Pool, and Miller Park. Chicken Ranch Beach, a small four-acre site on the west side of Tomales Bay, is a popular beach used by residents and visitors for walking, sunbathing, and swimming. The County-owned portion of the beach extends 700 feet; however, three adjoining privately owned parcels to the south have been commonly used by the public as an extension of the beach. The beach is not signed and has in the past been maintained by the local residents. Parking for approximately 10 cars is available on the shoulder of Sir Francis Drake Boulevard.

Whitehouse Pool, a second County park in the Tomales area, provides fishing access to Lagunitas Creek and viewing access to the Tomales Bay Ecological Reserve. This 23.5 acre-park has recently been developed by the County with trails, benches, and a 30-car parking lot.

The County's third park is Miller Park Boat Launch, a six-acre day use facility at Nick's Cove on the east side of Tomales Bay. The park has 730 feet of shoreline frontage and has been developed with a boat launch, pier, picnic tables, restroom facilities, and parking area. The park receives heavy use, often for overnight stays by recreational vehicle owners.

Private lands. In addition to access opportunities on public lands, recreational, visitor-serving, and marine-related facilities on private lands also offer formal access opportunities to the public. These private facilities are important because they are located in areas where the shoreline is largely in private ownership and because they offer services, such as overnight motel accommodations and restaurant dining, which are not available in the less developed public parks. In contrast to public parks, private facilities generally have small acreage and limited shoreline frontage and are used for a specific purpose, such as boat launching or dining. These private facilities can be grouped into three geographic areas: west shore of Tomales Bay, east shore of Tomales Bay, and north of Walker Creek.

On the west shore of Tomales Bay, privately owned areas providing public access, from north to south, include the Golden Hinde Boatel, Inverness Yacht Club, Children's Beach, Inverness Store and Library, William Page Shields Salt Marsh, and Inverness Motel. For the more developed of these areas, the Boatel, Yacht Club, and Motel, access is intended primarily for the users of the facility rather than for the public at large. The gates of the Yacht Club, for example, are locked when the Club is closed to prevent theft. Parking at these sites can

accommodate 10 to 30 cars. For the undeveloped areas, by contrast, such as the Shields Salt Marsh, access by the public is unrestricted although parking is more limited. Children's Beach, a small sandy beach owned by the Inverness Foundation, is also open to the public although the very limited parking space (2-5 cars), and the lack of signing limit the use primarily to local residents.

On the east side of Tomales Bay, private lands with public access, from north to south, include Nick's Cove, North Shore Boats, Marshall Store and Boat Works, Tony's Seafood, and Marconi Cove Marina. All of these except North Shore Boats are located on Tomales Bay and immediately adjacent to Highway 1 where they are fully visible to the public. Thus, they receive regular public use and visitation. North Shore Boats is separated by heavy vegetation from the road and set back from it. As such, it is less frequently visited by the public although it is signed. Parking for most of these facilities occurs on roadside shoulders and turnouts and, though limited, appears to adequately serve visitors. Nick's Cove, Marshall Tavern, and Tony's Seafood offer restaurant dining with views of Tomales Bay.

North of Walker Creek, public access opportunities are available at Lawson's Landing and Dillon Beach. Lawson's Landing is the largest and one of the older private resorts in the Tomales area, offering 46 campsites, 231 trailer sites, boat storage and launching, clamming, fishing, hiking, and picnicking. The resort is very popular, especially in the summer months when visitors from inland visit the coast to escape the summer heat. The resort is adjacent to Dillon Beach, a beautiful wide sandy beach just north of the mouth of Tomales Bay. Access to both Lawson's Landing and Dillon Beach is through the town of Dillon Beach and then by private road. A small day use and parking fee is charged for both facilities.

Limited or potential access. Limited or potential public access is. available on certain private lands around Tomales Bay. For example, Audubon Canyon Ranch allows public access by appointment only to its nature preserves at Walker Creek and Cypress Grove in order to protect the sensitive marsh habitats in these areas. (Most other Audubon lands, however, have unrestricted public use.) Potential access exists on private lands for which an offered public easement was required as a condition of development. Nine offers to date have been required as a condition of coastal permit approval by the Regional Coastal Commission, as shown in Table 2. None of these easements have yet been accepted by a public or private agency and thus are not open to the public.

In addition to the formal and potential access areas described for private lands, there are many undeveloped parcels on the shoreline of Tomales Bay which are regularly used by the public on an informal basis. Visitors park along the shoulder of the nearest road and cross undeveloped lots to reach the shoreline for clamming, birdwatching, sunbathing, and picnicking. Field surveys have shown that most undeveloped lots on both shores of the Bay *show* some evidence of historic public use or "prescriptive rights." The narrow character of the shoreline and the limited parking have acted to keep this informal use low-density and dispersed.

Table 2. Offers of Dedication of Public Access Easements					
Permittee (Coastal Commission Permit #1)	Location/ Vicinity	Assessor's Parcel Numbers	Type of Easements	Date of Offer or Permit	Term of Offer
Coles [1] (250-79)	Chicken Ranch Beach	112-042-03	on public trust lands	11/15/79	no terms set
Warburg (657)	Golden Hinde Boatel	112-101-16	vertical, lateral, roadside[2]	9/8/75	no terms set
Hansen (579)	Tomales Bay Ecological Preserve	114-062-11, 12	vertical	7/10/75	no terms set
Kagel[1] (210-79)	Tomales Bay Ecological Preserve	114-072-23	vertical, lateral	11/29/79	21 years
Cox (32-78)	Point Reyes Station	119-140-32	roadside	618/78	5 years
Evans[1] (73-79)	Marconi Cove Marina	106-210-41	vertical	8/23/79	25 years
Cypress Point Farm/ Audobon Canyon Ranch (462)	Cypress Grove	106-210-52, 59 106-210-58	vertical vertical	10/23/74 11/14/74	status unclear status unclear
Blake (904)	North Shore Boats	104-180-15, 16	lateral	11/18/76	no terms set
Spight (183-77)	Walker Creek	104-040-25	lateral	11/16/77	30 years

[1] Offer required as a condition of coastal permit approval but condition not yet fulfilled, i.e. offer not yet made.
[2] Offer of roadside easement required as a condition of design review approval by the County.

CRITERIA USED TO EVALUATE POTENTIAL NEW PUBLIC ACCESS AREAS

The following criteria, based an the policies of the Coastal Act, have been used to evaluate potential new public access areas in Unit II. These criteria have been balanced with one another and evaluated in light of the particular characteristics of the shoreline in Unit II.

Desirability of a site for public access. The desirability of a site for public access includes a consideration of its recreational opportunities, scenic quality, available space, uniqueness and variety, and the ability to walk from the site to adjacent shoreline points of interest. It should be noted that according to the Coastal Act and the state constitution, public access is desirable and necessary because it is established as a basic right.

Based on these factors, it seems clear that in much of Unit II, public access to the shoreline is very desirable. The shoreline is unspoiled, highly scenic, and suitable for a wide variety of low-intensity recreational uses such as picnicking, clamming, fishing, viewing, and walking. Although space is limited along Tomales Bay, the shoreline there is easily accessible from nearby public roads and regularly used by the public on an informal basis. North of Dillon Beach, the shoreline is less desirable for public use because it is exposed, difficult to reach, and does not offer the same recreational opportunities as exist along Tomales Bay.

Physical characteristics of a site. The physical characteristic of a site which influence its suitability for public access include its topographic and geologic characteristics, capacity to sustain use, safety hazards, and presence of fragile natural resources such as marshes. Clearly, where physical constraints, hazards, or resources would interfere with or be damaged by public access, such access should be limited or avoided. Section 30212 of the Coastal Act recognizes these limitations by providing that public access in new development projects need not be provided where it would be inconsistent with public safety or the protection of fragile coastal resources.

Along the shoreline of Tomales Bay, very few areas exhibit physical characteristics which would preclude public access. The shoreline is gently sloping in most places and safe for public use. The shoreline is environmentally sensitive in that it cannot sustain heavy use without soil erosion or damage to vegetation. However, because existing use is low-intensity and dispersed, these resources are not threatened. Limiting the development of accessways, i.e. with signs or additional parking, would be desirable in most cases to ensure that public use in any one area remains low-intensity. Only pedestrian use of accessways on Tomales Bay should be allowed. Where fragile areas might be damaged by access, controls on the timing of use or fencing may be needed.

North of Walker Creek, the shoreline is suitable only for lateral access. Highway 1 is several miles inland and separated from the coast by extensive agricultural lands, making vertical access difficult. North of Dillon Beach, high eroding bluffs front the shoreline and pose a safety hazard to users. In this area, bluff top access should be provided on existing roads and trails for hiking and viewing purposes.

Evidence of prescriptive rights. Section 302411 of the Coastal Act states that, "Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization...." Access rights acquired through use, or "prescriptive rights", must therefore be protected wherever they exist. This is one of the most important criteria used to designate new accessways in Unit II. Field surveys of the shoreline of Tomales Bay have shown that the majority of undeveloped parcels are informally used by the public for access to and along the water. The public has already "found" the most desirable access areas and has, over time, developed footpaths and roadside turnouts through regular use. The LCP policies on new accessways closely reflect existing informal public use areas and are intended to formalize these areas through public easements.

Availability of access nearby. Section 30212 of the Coastal Act provides that public access may not be required in new development projects if, among other reasons, "adequate access exists nearby." In other words, one of the factors to be considered in determining the appropriateness of access is the public's need for it. No formula for spacing accessways has been proposed in the LCP due to the arbitrary and inflexible nature of such a formula; rather, the question-of adequate access has been evaluated based on the demand for access as evidenced by historic use, the desirability of the shoreline for public access, and the relation of a particular site to nearby access and recreational areas. The question of adequacy has also been balanced with other access concerns, such as the goal of maximizing access and the need to protect residential privacy.

Adjacent land uses. The proximity of a possible accessway to other uses and the nature of those uses will affect the suitability of the accessway for public use. Protecting the privacy of adjacent property owners is a major concern as is the need to protect their safety and the aesthetic values of the area by providing for litter collection. On Tomales Bay, most existing development is residential. Many proposed accessways, including those historically used by the public, are close to existing structures. To protect residential privacy, minimum setbacks have been required wherever a public easement is proposed. Where conflicts between public use and adjacent land uses are anticipated, such conflicts may be minimized by a variety of mitigation measures, for example, limiting the number of users, fencing, not signing or providing additional parking, and utilizing setbacks.

Exceptions for existing structures. Certain types of development are not considered "new development" in the Coastal Act and are not, therefore, subject to the Act's access requirements. These types of development, as specified in Section 30212(b), include the replacement of structures destroyed by natural disaster, the demolition and reconstruction of a single-family residence provided that certain size limitations are met, improvements to existing structures within certain size limitations, and repair and maintenance activities. Thus, developed lots on Tomales Bay have not been designated for new accessways in most cases. In the few instances where developed lots are designated for public access, such access would most likely be obtained through purchase of easements. rather than as a permit condition.

Other factors. There are several other factors mentioned in the Coastal Act which must be considered in determining the need for public accessways. These include the effects of access on military security and agriculture. Agriculture could be adversely affected by public access in the Cypress Grove area north of Marshall and on the lands north of Walker Creek. In these areas, proposed access is limited to lateral access along the shoreline to allow public passage on public trust lands. No vertical access is proposed because of existing agricultural operations and the long distance between the Bay and Highway 1. On the County's northern border near the Esteros, also an agricultural area, bluff top and lateral access are proposed to permit public access along the shoreline and to the Esteros.

PUBLIC ACCESS

LCP POLICIES ON PUBLIC ACCESS:

1. General policy and elements of Public Access Component. The County of Marin supports and encourages the enhancement of public access opportunities to the coast, in conformance with Sections 30210 through 30214 of the Coastal Act. There are three methods by which the policies of these sections will be implemented in the County's Public Access Component:

   a. Existing accessways. The LCP recognizes existing public accessways in Unit II, both public and private, as an integral part of the County's overall access program. These accessways, identified in Table 1 on page 6, should be maintained open to the public.

   b. Offered easements. A total of nine offers of public access easements in Unit II have been required as a condition of past permit approvals by the County or the North Central Coast Regional Commission. The LCP recommends that certain of these easements, as specified in Policy #3 below, be accepted by the County or other agency and incorporated into the County's access program.

   c. New accessways. The County views public access easements, gained through offers of dedication as a condition of coastal permit approval, as the primary means available to increase public access opportunities in Unit II. Potential areas where such easements could be required have been evaluated based on their desirability and physical suitability, evidence of prescriptive rights, and proximity to other access points and existing uses. Based on these criteria, specific recommendations for new accessways have been developed (Policy #3). In addition to the easements recommended, the County may require additional access in the future as the need arises.

      If funds become available for acquisition of public accessways, they should be allocated according to the priority recommendations in Policy A.

2. General standards. The following general policies and procedures shall apply to all new accessways in Unit II, including those specifically recommended in the LCP at this time, those not currently recommended but considered in the future, and those which may be acquired by public purchase.

   a. Prescriptive Rights. Where evidence of prescriptive rights (historic public use) is found in reviewing a coastal permit application, equivalent access easements to protect the types, intensity, and areas subject to prescriptive rights shall be required as a condition of permit approval. Development may be sited in an area of historic public use only if equivalent type, intensity and area of replacement public access is provided on or reasonably adjacent to the project site (parcel).

      If requirement of access easements to protect areas of historic use would preclude all reasonable private use of the project site, the County, in consultation with the Coastal Commission and the California Attorney General's Office, shall review the existence of prescriptive rights. If the County concludes that convincing evidence of implied dedication or prescriptive rights in favor of the public exists, the County or the Coastal Commission and the Attorney General at

the request of the County shall, consistent with the availability of staff and funds, seek a court determination and confirmation of such public rights. If after 60 days the County concludes that such evidence is inconclusive, the County may approve development on such areas (except those used for lateral access), provided that all impacts on public access are mitigated in the same vicinity substantially in accordance with the Local Coastal Program's Access policies. Such mitigation may include securing an accessway on another property in the same vicinity, or providing an in-lieu fee to a public agency or private association approved by the County and Commission for acquisition, improvement, or maintenance of access in the same vicinity. Same vicinity is considered to be within 1,000 feet or less of the project site (parcel).

b. Types of access. The provision for coastal access through a coastal permit or by purchase may include one or more of the following easements:
Vertical - from the first public road to the sea. Vertical easements generally should be ten feet in width unless site conditions warrant otherwise. However, in no case should the easement be closer than ten feet to the proposed-structure.
Lateral - along the shoreline. Lateral easements shall be a minimum of ten feet in width or shall include all of a sandy beach to the first line of terrestrial vegetation, whichever is greater, and shall parallel the mean high tideline. At a minimum, the easement shall allow lateral access during high tide.
Bluff top - along bluffs for public viewing or hiking. Such easements should run along the edge of the bluff and be of sufficient width to provide safe access along the bluff edge, generally twenty-five feet inland from the current edge.

c. Acceptance of public access easements or dedications. The County will accept, and as resources permit, open access easements in the following situation:
(1) The offer to dedicate an easement is made pursuant to evidence of prescriptive rights, or
(2) The offered easement is in a developed area (density of one unit per acre or greater) and substantial use could be expected by local residents.

Whenever the County has agreed or agrees to accept an easement, it will be responsible for maintaining that easement and signing where necessary. Signs posted along the shoreline of Tomales Bay shall indicate that no fires or overnight camping is permitted, and that the privacy of homeowners shall be respected. Where appropriate and feasible, parking areas should be provided in conjunction with access easements. The need for parking shall be determined based on existing parking and public transit opportunities in the area. As transit service becomes available, parking capacities should be reduced or eliminated.

If the County does not accept an easement, it shall attempt to find appropriate public or private agencies to do so. If no such agency is immediately available, a twenty-year irrevocable offer to dedicate the required easement(s) shall be recorded by the applicant prior to the issuance of a final County permit to commence construction. The County shall immediately notify the California Coastal Conservancy of such offers to dedicate. The County may process the irrevocable offers according to the Commission's centralized coastal access program.

d. Access on developed lots. Public access easements need not be required in a coastal permit for the replacement of, demolition or reconstruction of, or improvements to certain existing structures, as specified in Section 30212(b) of the Coastal Act.

e. Proximity to mariculture operations. In siting access easements, the County shall consider the location of mariculture operations offshore and the potential impacts of public access on those operations in terms of vandalism and other disturbances.

3. Specific recommendations for new accessways in Unit II. The recommendations for new accessways have been divided into three geographic areas: west shore of Tomales Bay, east shore of Tomales Bay, and the area north of Walker Creek. If and when undeveloped parcels on the shoreline of Tomales Bay are purchased by the federal government, access easements by the County on those parcels will no longer be necessary.

a. West shore of Tomales Bay. Recommendations for the west shore are listed from north to south, in five segments.

(1) Location: Tomales Bay State Park to Chicken Ranch Beach.

Description: Most of the lots between these two public parks have been developed with single-family dwellings as part of the Teacher's Beach Subdivision. The terrain in this area is generally steep and heavily vegetated. Access is by a narrow winding side road off of Sir Francis Drake Boulevard, used by the public to reach the southern end of Tomales Bay State Park. There appears to be little if any public use of the shoreline in this area, except for Chicken Ranch Beach and the area adjacent to it. An offer of dedication of an easement was required as a condition of permit approval by the Regional Coastal Commission for AP #112-042-03, which abuts Chicken Ranch Beach.

LCP recommendations: Agricultural use of the public trust portion of AP# 112-042-03, included in the accepted easement, should be permitted to continue until such time as the public easement is opened for public use as determined by the County Director of Parks and Recreation.
[Amended pursuant to BOS Resolution No. 84-72 [2/14/84]]

(2) Location: Chicken Ranch Beach to the Inverness Yacht Club.

Description: Approximately 50% of the shoreline has been developed between these two points with single-family dwellings and the Golden Hinde Boatel. The Beach and the Boatel are the two formal accessways in this area; however, there is evidence of prescriptive rights on many of the undeveloped parcels, particularly those with sandy beach frontage. The three small parcels south of Chicken Ranch Beach are used by the public as an extension of the Beach, while those immediately south of the Boatel are used by visitors there. Trails and informal parking areas are evident on several undeveloped parcels. An offer of dedication of an easement was required by the Regional Coastal Commission for AP #112-101-16.

LCP recommendations: Lateral access shall be required on the three parcels south of Chicken Ranch Beach, AP #112-091-09, 04, and 06.

Lateral access shall be required on the two parcels south of the Golden Hinde Boatel, AP #112-101-05 and 06.

Vertical access shall be provided where the existing trail is sited on AP #112-101-09, 10, or 11, or #112-123-01. Lateral access shall be required on all of these parcels to accommodate existing public use. Shoulder parking in this area shall be maintained.

Lateral access shall be required in AP #112-123-04, 05, 06, and 07 to ensure public access to the sandy beach along the shoreline in this area. AP #112-151-01 to the south, owned by Audubon Canyon Ranch, should be maintained open to the public. If the use changes, easements shall be required to accommodate existing public use.

The offered easement on AP #112-101-16 should be accepted and opened to the public, unless the adjacent undeveloped parcel is purchased by the federal government for public parkland.

(3) Location: Inverness Yacht Club to the Inverness Store.

Description: Development in this section of the shoreline is concentrated primarily around Inverness Yacht Club to the north and Drake's Highway Garage and the Inverness Store to the south. Brock's Boathouse and a number of single-family dwellings are scattered in between. The shoreline south of the Yacht Club is relatively wide and marshy, while that in the vicinity of Brock's Boathouse is narrow and sandy. Formal public access exists at Children's Beach, adjacent to the Boathouse, and the Inverness Store. The area adjacent to the Inverness Library shows heavy use for both vertical and lateral access.

LCP recommendations: Access shall be maintained at Children's Beach, AP #112-193-03, 112-256-03, and 112-310-04. If the use changes, easements shall be required to accommodate existing public use. Lateral access shall be provided on AP# 112-310-06.

Both vertical and lateral access shall be provided on AP #112-310-25, adjacent to the Inverness Library, to accommodate existing public use.

(4) Location: Inverness Store to the William Page Shields Salt Marsh.

Description: This section encompasses a very narrow portion of the shoreline between the Store and Willow Point and a wider area from the Point south. The narrow portion consists of a sandy beach, largely undeveloped, while that to the south includes numerous houses. Several informal parking areas are evident, including the parcel south of Inverness Store. Formal public access and parking are available at the William Page Shields Salt Marsh, owned and maintained by Audubon Canyon Ranch. An

offer of dedication of an easement was required by the Regional Coastal Commission for AP #114-062-11,12, a freshwater marsh now owned by Audubon Canyon Ranch.

LCP recommendations: Vertical and lateral access shall be provided on the parcel adjacent to the Inverness Store, AP #112-310-20.

The offered easement on AP #114-062-11, 12 is not suitable for access because it is located in an environmentally sensitive area, a marsh. In addition, the easement is not necessary due to the availability of public access on the adjacent parcel,
Shields Salt Marsh.

(5) Location: William Page Shields Salt Marsh to Inverness Park.

Description: This area is somewhat different from the other areas on the west shore in that it abuts the Tomales Bay Ecological Reserve, a marsh, rather than Tomales Bay itself. Most of the parcels in this section, particularly towards the northern end, are quite marshy; consequently, most of the existing structures have been built on earth fill or pilings. This development is not readily visible from Sir Francis Drake Boulevard, due to heavy roadside vegetation. An old levee, running along the marsh or back side of these parcels, forms a viewing trail which shows evidence of public use. The levee is sited well away from existing houses and separated from them by additional marsh area. There is no formal access south of the William Page Shields Salt Marsh; however, an offer of dedication of an easement was required by the Regional Coastal Commission for AP #114-072-23.

LCP recommendations: The offered easement on AP #114-072-23 should be accepted and opened to the public.

The levee trail running south from AP #114-072-23 to AP #119-040-13 should be opened to the public on a limited basis. The trail should be closed during the spring nesting season March 1st - June 30th) to conform with the closure of the Tomales Bay Ecological Reserve. Undeveloped parcels shall be required to offer lateral easements, and such easements should be sought on developed parcels in this area.

A vertical access easement shall be provided on AP #114 -082-02 and/or on undeveloped parcels adjacent to it, to connect with the levee trail.

b. East shore of Tomales Bay. Recommendations for the east shore are listed from north to south in seven segments.

(1) Location: Walker Creek delta to Miller Park.

Description: The Walker Creek delta, formed by the deposition of sediment where Walker Creek meets Tomales Bay, is a wide, flat, marshy area. Adjacent parcels between the delta and Highway 1 to the south are long, narrow, and fairly heavily vegetated. Audubon Canyon Ranch owns and preserves the delta as a wildlife sanctuary while the Department of Fish and Game owns several creekside parcels upstream. Access is limited to fishing and picnicking on the upstream parcels. Immediately south of the delta is Jensen's Oyster Beds, a more open 40-acre parcel directly on Tomales Bay. This partially developed property due north of the County-owned Miller Park shows evidence of public use along the shoreline.

LCP recommendations: Vertical and lateral access should be provided by the Department of Fish and Game and Audubon Canyon Ranch on upstream parcels AP #104-030-02, 05, 08, and #104-040-08 and 12, where consistent with the protection of this sensitive resource area.

Vertical and lateral access shall be required on AP #104-110-08, Jensen's Oyster Beds, if it is developed further, to formalize existing public use of the shoreline. Parking shall be maintained in the existing parking area.

(2) Location: Miller Park to North Shore Boats.

Description: This relatively narrow section of shoreline has a variety of visitor-serving, residential, nature preserve, and marine-related uses. Development is concentrated at the northern end near Nick's Cove and at the southern end near North Shore Boats, with a few single-family dwellings scattered in between. Nick's Cove and Miller Park form a popular recreational area used by the public for clamming, boating, and fishing. In addition to public access at this point, limited access is available at North Shore Boats, a boat storage, launching, and repair facility. The undeveloped parcels along the entire shoreline in this area, including that owned by Audubon Canyon Ranch, show evidence of public use for access and parking.

LCP recommendations: Vertical and lateral access to tidelands shall be maintained in the vicinity of Nick's Cove. The developed parcels, AP #104-150-01 and 02 which constitute the Cove, shall incorporate formal provisions for public access if they are further developed. Access on the undeveloped parcels immediately to the south, AP #104-050-07 and 08 shall be required.

Vertical and lateral access and parking shall be required on the Audubon parcel, AP #104-160-01, if its use changes, to guarantee continued public use.

Vertical and/or lateral access shall be provided on AP #104-160-15 and 16.

(3) Location: North Shore Boats to state parkland at Cypress Grove.

Description: North Shore Boats is located on a wide peninsula of land which then narrows considerably to the south. Other than the boatworks, the only type of development is single-family residential, most of which is concentrated in the center of this shoreline section. There is no formal public access point on any parcel, but informal public use is evident on virtually all of the lots to the south, adjacent to state parkland. Numerous roadside turnouts exist along Highway 1 in this southern area. Audubon Canyon Ranch owns several undeveloped lots, one of which is due south of the North Shore Boats peninsula. The southern side of the peninsula, developed with two houses, has a long, sandy, scenic beach. An offer of dedication of an easement was made as a condition of coastal permit approval by the Regional Coastal Commission on AP #104-180-15 and 16.

LCP recommendations: Vertical and lateral access shall be provided on AP #104-190-31 and 32, the latter of which is owned by Audubon. Lateral access shall also be provided on the undeveloped parcels on the southern side of North Shore Boats peninsula, AP #104-180-13, 14, 15, and 16.

Shoulder parking for public viewing purposes shall be maintained on AP #104-190-43, 44, 45, and/or 46, and on AP #104-220-01.

At least three vertical accessways shall be provided in the section of undeveloped lots from AP #104-220-05 south through AP #104-210-09, at approximately 1/4 mile intervals. Lateral access shall be required on all of these lots. Shoulder parking shall be maintained in at least three locations. The offer of dedication of an easement on AP #104-180-15 and 16 should be accepted and opened to the public.

(4) Location: State parkland at Cypress Grove to Marshall Tavern.

Description: At this point on the shoreline, Highway 1 turns inland, creating a relatively broad coastal terrace, approximately 1/2 mile in width. Public, nature preserve, and private uses are located in this area: the northern third forms a recently acquired state park, the central third includes a marsh and is owned and managed by Audubon Canyon Ranch, and the-southern third is a private agricultural operation. The terrain is fairly level, open and covered with grass. Public access will be available at the park in the future when it is opened. Access is presently available to Audubon lands by

appointment. Audubon carefully controls access to and around its marshlands due to their environment sensitivity and value as wildlife habitat.

LCP recommendations: Limited access should continue to ACR properties. Coordination between ACR programs at Cypress Grove and those on adjacent public parklands to the north should be explored.

(5) Location: Marshall Tavern to Marshall Boat Works.

Description: This portion of the shoreline constitutes most of the "town" of Marshall. It is extremely narrow and largely built out with single-family residential dwellings on pilings. The few undeveloped lots, used by the public for parking, viewing, and clamming, serve a very important visual access function by providing a break in the long row of developed lots. The state owns two parcels in this section, AP #106-020-31 and 32.

LCP recommendations: Lateral access shall be maintained on AP #106-020-33, 12, and 17, the first of which is owned by Audubon. Vertical access shall be provided on at least one of these parcels.

Vertical and lateral access shall be required on AP #106-030-16, 106-040-01, 02,03, and 06.

Shoulder parking on all of the undeveloped parcels in this section shall be maintained.

(6) Location: Marshall Boat Works to Marconi Cove Marina.

Description: Except for the boatworks area, the shoreline between the boatworks and the Marina is extremely narrow. Single-family development is grouped in three locations, with long, narrow, undeveloped parcels in between. These undeveloped parcels are regularly used by the public for parking, viewing, clamming, and walking, and provide important visual access to the bay. The three formal access points in this section are located at Marshall Boat Works, Tony's Seafood, and Marconi Cove Marina. An offer of dedication of an easement was required as a condition of coastal permit approval by the Regional Coastal Commission on AP #106-210-41, adjacent to the Marconi Cove Marina, to protect prescriptive rights. This offer has not yet been made.

LCP recommendations: Lateral access shall be provided on AP #106-050-10, to accommodate existing public use. No parking is recommended due to the very limited shoulder area.

Vertical and lateral access and parking shall be required on AP #106-210-46 and 33 to accommodate existing public use.

The required easement on AP #106-210-41 need not be accepted, if offered, due to the availability of access on the adjacent property, Marconi Cove Marina.

(7) Location: Marconi Cove Marina to state parklands on Tomasini Point.

Description: There are sixteen parcels between the Marina and the park, only three of which are developed. The immediate shoreline on all of these lots is quite narrow but sandy in places and suitable for walking. The upland area is fairly steep south of the Marina but towards the park, widens out and shows potential for further development. Ideally, a shoreline trail could connect Marconi Cove Marina with the park on Tomasini Point; however, the presence of two houses on pilings seems to preclude this option. Evidence of prescriptive rights exists on most of the undeveloped parcels. Shoulder parking is available at several points towards the southern end of this section.

LCP recommendations: Lateral access shall be extended south from Marconi Cove Marina onto AP #106-270-09, 10, 07, 08, and 04

Lateral access shall be required on AP #106-280-14, 10, 02, and 03. Although these four lots are located between existing house lateral access easements will maintain the option for a shoreline trail connecting the Marina and the park.

Lateral access shall be required on AP #106-280-05, 06, and 07 and on AP #106-290-01. Vertical access shall also be provided on this latter parcel.

Shoulder parking at existing locations shall be maintained.

c. North of Walker Creek. Recommendations for the area north of Walker Creek are listed from south to north in two segments.

(1) Location: Walker Creek to Dillon Beach.

Description: This area includes extensive agricultural holdings and the popular recreational areas at Lawson's Landing and Dillon Beach. Public access is available to and along the shoreline north of Tom's Point for recreational clamming, boating, fishing, and walking. Public use south of Tom's Point is less but the shoreline is suitable for walking. There are several small marshes in the vicinity of the Point and three large oyster allotments offshore. An offer of dedication of a lateral easement was required as a condition of coastal permit approval by the Regional Coastal Commission on AP #104-040-25.

LCP recommendations: The offered easement on AP #104-040-25 should be accepted and opened to the public.

Lateral access shall be required on all undeveloped parcels on the shoreline between Dillon Beach, AP #100-100-46, and the Walker Creek delta, AP #104-040-03.

(2) Location: Dillon Beach to Estero Americano.

Description: The Oceana Marina subdivision is located immediately north of the village area in Dillon Beach. There is public use of the shoreline in this area; however, low bluffs make access somewhat difficult. North of the subdivision, the terrain becomes quite steep and vertical access to the water is not possible except in a few places. High coastal bluffs offer impressive views of the ocean and the Esteros. Public pedestrian use has been made of an existing dirt road to reach the Estero de San Antonio. North of this Estero, the land is quite inaccessible.

LCP recommendations: Lateral and/or bluff top access easements shall be required on all parcels including and north of AP #100-100-46 at Dillon Beach.

Vertical access shall be provided on AP #100-100-30, adjacent to the Oceana Marin subdivision.

Public pedestrian access to the Estero de San Antonio shall be maintained on the existing dirt road through AP #100-100-57 and 100-040-33.

[Amended pursuant to BOS Resolution No. 88-333 (Attachment 1, p.1) [12/20/88], approved by CCC with suggested modifications 4/12/89, 2nd BOS Resolution No. 89-216 [8/8/89], CCC ED Checkoff 4/13/90]

4. Priorities for acquisition. If funds become available with which to purchase public access easements, such easement shall be purchased first on the parcels listed below. These parcels were designated because they are heavily used by the public and/or are very important for visual access.

a. East shore of Tomales Bay, undeveloped parcels. Public access easements are recommended on the following parcels:

Area	AP Number
North of Cypress Grove	104-210-09
North of Cypress Grove	104-230-03, 04
Marshall	106-040-01, 02, 03
Marshall	106-030-16
Marshall	106-020-12, 17
Marconi Cove Marina	106-210-33, 46

b. West shore of Tomales Bay, undeveloped parcels. Public access easements are recommended on the following parcels:

Area	AP Number
Chicken Ranch Beach	112-091-04, 06, 09

c. Developed parcels. The one developed parcel most desirable for public access is Jensen's Oyster Beds, AP #104-110-08. The southerly portion of the property, adjacent to Miller Park, is particularly suitable for access. The southerly portion of the property, adjacent to Miller Park, is particularly suitable for access.

5. Exceptions for parcels not recommended for access at this time. When the County reviews coastal permits for development on parcels not specifically listed in Policy #3, the general standards in Policy #2 shall apply as well as the following exception:

   Public access may not be required upon specific findings by the County that,

   (1) It is inconsistent with public safety or the protection of fragile coastal resources, or

   (2) Agriculture would be adversely affected, or

   (3) Public use of an accessway would seriously interfere with the privacy of existing homes.

   The County's findings on any point above shall include a consideration of whether or not measures such as setbacks from sensitive habitats, trail or stairway development, or regulated hours, seasons, or types of use, could adequately mitigate potential adverse impacts from access.

6. Bike and pedestrian trails. Requirements for access easements to provide for hiking/biking trails in Unit II are described in Policy #4 under Recreation and Visitor-Serving Facilities.

RECREATION AND VISITOR-SERVING FACILITIES

COASTAL ACT POLICIES/PURPOSE OF LCP RECREATION COMPONENT

The Coastal Act states that maximizing public recreational opportunities in the coastal zone is a basic goal of the State. The Act's policies to achieve this goal generally provide that coastal lands suited for water-oriented or other recreational activities be protected for such uses. Land uses which enhance public recreational opportunities are given priority over other developments, except agriculture and coastal-dependent industry. The Act also encourages the provision of lower-cost visitor and recreational facilities.

While encouraging public recreation on the coast, the Coastal Act recognizes, through its policies on natural resources and visual quality, that provisions for public uses must be balanced with the need to preserve and protect the unique qualities of the coast. The Act also protects special communities which, because of their distinctive characteristics, are popular visitor destination points. The full text of Coastal Act policies on recreation and visitor-serving facilities, contained in Sections 30213, 30220 through 30224, 30250, and 30253(5), is given in Appendix A.

The purpose of this section of the LCP is to inventory existing coastal areas used for public recreation and visitor-serving facilities and to evaluate areas with the potential for such uses. Recommendations are made for public parklands and for new or expanded visitor-serving facilities, including the appropriate location, type, and scale of such development.

DEFINITIONS

Facilities for use by the public which provide for or support recreational activities in the coastal zone can be divided into two categories, as defined below.

Recreational facilities offer recreational opportunities to the public.

> PUBLIC recreational facilities include federal, state, and county parks, recent acquisitions, and nature preserves.
>
> PRIVATE recreational facilities include privately owned facilities which serve a recreational function.

Visitor-serving and commercial facilities are private developments operated for profit which provide basic visitor support services.

> OVERNIGHT ACCOMMODATIONS are utilized by the traveling public and include campsites, trailer/RV parks, hostels, hotels/motels, and vacation or weekend rentals.
>
> OTHER COMMERCIAL FACILITIES serve both the coastal visitor and the local resident, such as restaurants, grocery stores, and gas stations.

OVERVIEW OF RECREATION IN THE UNIT II COASTAL ZONE

Visitors to Marin's scenic coastline can enjoy a variety of recreational experiences in six federal, state, and county parks and numerous private facilities. Two of the public parks, the Point Reyes National Seashore and Tomales Bay State Park, together include approximate*ly* 50% of the 70 miles of shoreline in Unit II and provide most of the public access and recreational opportunities available there. A number of private facilities cover much less land area but are important because they supply most of the camping and other overnight accommodations.

The undeveloped nature of the coastline and cool, frequently foggy weather determine to a large extent the type of recreational activities which occur in the coastal zone. Most uses are low-intensity, dispersed over a wide area, and do not rely on extensive support facilities such as large marinas or golf courses. Along Tomales Bay, the most popular activities are clamming, swimming and sunbathing, fishing, recreational boating, and to a lesser extent, hunting and nature study. Inland, hiking horseback riding, and camping are also popular. Bicycling has become common on Highway 1 and other coastal access roads, while auto travel for sightseeing purposes is the primary activity of up to one-half of all non-county residents on a summer Sunday. For all coastal visitors, the unspoiled character of the Marin coast is a large part of their recreational experience.

Most visitors to the Unit II coastal zone come from Marin or other counties in the Bay Area, especially San Francisco. Because of Marin's close proximity to population centers, many visitors come to the coast for the day only, notably to the southern part of the coastal zone at Stinson Beach. There is in Unit II however, a fairly steady level of overnight visitors as well. Operators of motels, inns, and campgrounds throughout Unit II report that their facilities are consistently full on summer weekends and often during the week as well. Visitation falls in the winter although even then, facilities with indoor accommodations report steady use. Considering visitor use figures for the federal and state parks and estimating visitation in other areas, total annual visitation to the Unit II coastal zone is estimated to be between 2 and 2.5 million people. Historical and recent trends point to ever increasing numbers of coastal visitors, both for the day and overnight, as population continues to grow in the County, San Francisco Bay Area, and State. These visitors will need expanded recreational opportunities; however, future recreational development must preserve the unique qualities of Marin's coast which make it so attractive, and which provide such important habitat for wildlife.

EXISTING RECREATIONAL FACILITIES

Public recreational facilities.

There are-two federal, one state, and three county parks currently open and operating in Unit II. The State has also recently acquired 1200 acres on the Inverness Ridge and 340 acres on the shoreline of Tomales Bay to be opened as public parkland in the future. One other state owned area, the Tomales Bay Ecological Reserve, is not operated as a park

but is used by the public for wildlife observation, nature study, and hunting. Together, these various public holdings include roughly 69,000 acres of land, 38 miles of shoreline, and 15 beaches. Developed facilities include. 144 miles of trails, 1865 parking spaces, 46 campsites, and one hostel. Excluding the hostel, there is 1 campsite per 1500 acres of public open space in Unit II. A list of public lands and facilities is given in Table 3. They are more fully described below.

POINT REYES NATIONAL SEASHORE/GOLDEN GATE NATIONAL RECREATION AREA

The federal Point Reyes National Seashore is the major public park in the Unit II coastal zone, offering magnificent scenery and a wide variety of low-intensity recreational uses. The park includes 65,300 acres or approximately 95% of all publicly owned land in Unit II. The park also has 30 miles of shoreline on the ocean and Tomales Bay, 10. beaches, and 141 miles of trails. The park contains all 46 campsites which exist on public parkland in Unit Ii, the one hostel, and most of the parking spaces. Other facilities include two stables, an information center and visitor center, two food service facilities, and Johnson's Oyster Company which has oyster sales for the public at Drake's Estero. The park receives over 1.5 million visitors annually, 80% of whom utilize the beaches and 20% of whom utilize the trail system and hike-in camps.

The majority of the Golden Gate National Recreation Area is located in Unit I. Olema Valley, the Unit II portion, is a pastoral landscape with historic farm buildings, forested slopes, and open grassy meadows. The valley offers numerous hiking trails which ascend to the ridgetops for ocean views. Except for a few restrooms, picnic tables, and parking sites, the valley is undeveloped. Recent federal legislation, authorizing public purchase of agricultural lands in the Lagunitas Loop and undeveloped lots on the east side of Tomales Bay, would add considerably to the area of the GGNRA in Unit II.

TOMALES BAY STATE PARK/ INVERNESS RIDGE PROJECT

Tomales Bay State Park has offered day use opportunities to the public since its acquisition in 1952. The 1305 acre park has 3.5 miles of shoreline, 4 beaches, and 2.5 miles of trails. Swimming and clamming are the park's major attractions - the park's sandy beaches and protected coves offer ideal sites for these activities. Very often, when the ocean side of the Point Reyes National Seashore is fogbound, sunny sites can be found in Tomales Bay State Park. Annual visitation to the park is approximately 60,000 people.

The Inverness Ridge Project is a recently acquired addition to Tomales Bay State Park, located immediately to the southwest of the park. It has no shoreline frontage. The project encompasses 1200 acres, approximately 540 acres of which have been purchased by the State. The remaining acreage, owned by the Nature Conservancy, Inverness Public Utilities District, and private individuals, is still being transferred to the State. The future parkland has no maintained trails and receives very little use except by locals who know of its existence. Although most of the project area is quite steep, an inventory by staff of the State Parks and Recreation Department determined that several places are gentle enough for the construction of camping or picnicking facilities. Thus far, the

Table 3. Public Parks and Facilities in the Unit II Coastal Zone					
Name	Acres	Shoreline (mi or ft)	Campsites/ hostel (sites/beds)	Parking (spaces)	Other facilities, attractions
Federal Point Reyes National Seashore/ Golden Gate National Recreation Area	65,300	30 mi.	45 sites 1 group site for 120 people 1 hostel with 40 beds	1695	10 beaches 141 mi. trails 2 stables Information Center Visitor Center 2 food service picnic sites Johnson's Oyster Co. oyster sales
State Tomales Bay State Park/ Inverness Ridge Project Tomales Bay Ecological Reserve Tomasini/Millerton Points Cypress Grove Project	1,305 1,200 500 320 22	3.5 mi. 0 1 mi. 2.7 mi. 660 ft.		70-100	4 beaches 2.5 mi. trails picnic sites recent acquisition wildlife refuge recent acquisition recent acquisition
County Chicken Ranch Beach Whitehouse Pool Miller Park	4 23.5 5.7	700 ft. Lagunitas Creek 730 ft.		10 30 50	beach picnic tables boat launch, pier, picnic tables
TOTALS:	68,680	38 mi.	46 campsites 40 hostel beds	1865	144 mi. trails

Department has completed only very preliminary planning for the area and anticipates potential uses to' include hiking, nature study, and scenic enjoyment.

TOMALES BAY ECOLOGICAL RESERVE

The Tomales Bay Ecological Reserve includes 500 acres of marsh with 1 mile of shoreline frontage. The reserve is located at the southern end of Tomales Bay at the outlet of Lagunitas Creek. It is owned by the wildlife Conservation Board of the State Department of Fish and Game and managed as a wildlife reserve for migrating waterfowl and local fauna. Public access is possible in various places; however recreational activities are limited to nature study, photography, birdwatching, and controlled-hunting, in order to protect the habitat resources of the reserve.

TOMASINI POINT/MILLERTON POINT/CYPRESS GROVE PROJECT

These three publicly owned areas were recently purchased by the State Department of Parks and Recreation for future development as public parks. Public purchase of Tomasini and Millerton Points was recommended by the Coastal Commission, the State Department of Fish and Game, and local conservation organizations. The Tomasini/Millerton project includes 320 acres of land with 2.7 miles of shoreline frontage. Most of the property is bayward of Highway 1 although some acreage is upland and east of the road. There are five small houses on the southern side of Millerton Point and several other structures elsewhere on the property. The Tomales Bay Oyster Company has an oyster operation on the narrow strip of land connecting the two points. To the north, the Cypress Grove project consists of 22 acres with 660 feet of shoreline frontage. Neither the Cypress Grove area or the Tomasini/Millerton area is presently open to the public.

The State Department of Parks and Recreation anticipates that preparing a master plan for these properties will take about five years. Recreational uses contemplated for all sites include clamming, boating, picnicking, fishing, hiking, and viewing. Proposed development for Tomasini/ Millerton consists of individual and group day use picnic sites, fishing areas, interpretive trails and nature study areas, limited parking, and administrative facilities. It is also expected that the oyster operation will be incorporated into the interpretive facilities of this park. Limited overnight camping has been discussed for the upland area, as well as a bike path on the bayward lands.

CHICKEN RANCH BEACH

Chicken Ranch Beach is a small county beach located north of the Golden Hinde Boatel on the west side of Tomales Bay. The four-acre beach has 700 feet of shoreline frontage and is unimproved. Shoulder parking is available for approximately 10 cars along Sir Francis Drake Boulevard. The beach is used primarily for swimming and sunning, although when the weather is foggy on the ocean side of the seashore, the sunny beach attracts more visitors. Three undeveloped parcels located to the south are commonly used by the public as an extension of the beach.

WHITEHOUSE POOL

Whitehouse Pool is owned by the State but maintained by the County. The 23.5 acre park, located south of Tomales Bay, straddles Lagunitas Creek. The purpose of the park is to provide fishing access to the creek, the most important salmon-steelhead stream in Marin. The small park has recently been developed with benches, a foot bridge, restrooms, and a 30-car parking lot. The park also offers viewing access to the Tomales Bay Ecological Reserve.

MILLER PARK

Miller Park is a small but heavily used county park on the east side of Tomales Bay south of Walker Creek. The park includes 6 acres of land and water area and 730 feet of shoreline frontage. It is essentially a large parking lot which provides much needed access to the water for small boats. The park has a boat launch ramp and pier. It also has picnic tables and is located adjacent to Nick's Cove, a small restaurant and store where limited supplies can be purchased. Recreational vehicle owners who come to the park for day use activities frequently spend the night parked by the water.

Private recreational facilities.

There are relatively few privately owned areas offering recreational opportunities to the public in the Unit II coastal zone. The major private facilities are Lawson's Landing, north of Tomales Bay, and the Olema Ranch Campground in Olema. Four sites on Tomales Bay have facilities for small boat launching, while two areas allow beach use, nature study, and wildlife observation.

LAWSON'S DILLON BEACH RESORT/LAWSON'S LANDING

The Lawson complexes near Dillon Beach include approximately 20 to 40 acres of developed facilities as well as extensive sandy beach and dune areas. The resorts offer unique opportunities for clamming, boating, fishing, and walking in a very scenic and striking setting. In addition, the largest concentration of overnight accommodations in Unit II is located at Lawson's Landing on Sand Point: 46 campsites and 231 trailer and RV spaces. The number of informal campsites often greatly exceeds the existing spaces, a situation which has created sewage disposal problems in the past. At Lawson's Dillon Beach Resort, located just south of the town of Dillon Beach and owned by another Lawson family, day use of the beach and parking are available for a small fee. Overnight accommodations in this location consist of 25 trailer spaces. The trailer spaces are usually rented a full year at a time. *[Amended pursuant to BOS Resolution No. 88-333 (Attachment 1, p.2) [12/20/88], approved by CCC with suggested modifications 4/12/89, 2nd BOS Resolution No. 89-216 [8/8/89], CCC ED Checkoff 4/13/90]*

PRIVATE BOAT LAUNCHING SITES

Recreational boating is a very popular use of Tomales Bay. In addition to Lawson's Landing, boat launching is possible at four sites on Tomales Bay: the Golden Hinde Boatel, Inverness Yacht Club, Marconi Cove Marina, and Miller Park. Berthing facilities are also available at all of

these locations except Miller Park. Launching of very small skiffs, canoes, kayaks, and wind surfers can occur at most shoreline access points where vertical access is not too steep.

WILLIAM PAGE SHIELDS SALT MARSH/ AUDUBON CANYON RANCH LANDS CHILDREN'S BEACH

The William Page Shields Salt Marsh, owned by Audubon Canyon Ranch (ACR), is open for public use as a nature study area. The small 3.5 acre marsh is located south of Willow Point on the west side of Tomales Bay and has 350 feet of shoreline frontage. Limited parking is available. Several of ACR's other parcels around Tomales Bay have unrestricted public access for swimming, sunning, and walking. A few properties, however, notably Cypress Grove and the Walker Creek delta, are open to the public on a limited basis only due to their environmental sensitivity.

Children's Beach, owned by the Inverness Foundation, is a small community beach with 920 feet of shoreline frontage on the west side of Tomales Bay. Shoulder parking is limited to 2 to 5 cars and the beach is not signed. Brock's Boathouse, also owned by the Foundation, is built on tidelands bayward of the beach. The Foundation has been attempting to sell off the Boathouse and retain the beach for community use.

EXISTING VISITOR-SERVING AND OTHER COMMERCIAL FACILITIES

Overnight accommodations.

Overnight accommodations which serve the coastal visitor can be divided into five categories: motel/hotel/bed and breakfast (B & B) rooms, hostels, campsites, trailer or recreational vehicle (RV) spaces, and second home units or vacation rentals. The location and number of these different types of accommodations in the Unit II coastal zone is shown in Table 4 . (Vacation rentals are not listed since there is no information on their numbers. It is believed, however, that due to rising costs, second homes are becoming fewer and fewer in number.)

There are currently 688 overnight accommodations in the coastal zone: 331 trailer/RV spaces, 235 campsites, 82 motel/hotel/ B & B rooms, and 40 hostel beds. The majority of accommodations are supplied by the private sector. As noted earlier, public parks provide only 46 campsites and one hostel, for an average of 1 campsite per_ 1500 acres of public open space. Most private campsites are located at the northern and southern ends of the Unit II coastal zone, at Lawson's Landing and the Olema Ranch Campground. Marconi Cove Marina also has a limited number of campsites adjacent to its parking lot. The remaining overnight accommodations, motel/hotel/B & B rooms, are found on the Inverness Ridge, with the exception of a small guest house in Tomales. Inverness Ridge offers a total of 70 motel/hotel/B & B rooms in five different locations. One of the motels, the Inverness Valley Inn, has an approved permit to expand its present 9 units to 30 units.
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Table 4. Overnight Accommodations in the Unit II Coastal Zone				
	Hotel/Motel/Bed and Breakfast (B&B) rooms	Campsites	Trailer/RV (spaces)	Hostel (beds)
Olema Olema Ranch Campground		121	75	
Inverness Ridge Inverness Motel Manka's/Inverness Lodge Golden Hinde Boatel Inverness Valley Inn Holly Tree Inn (B&B) #10 Inverness Way (B&B)	 8 9 36 9 3 5			
Marshall/East Tomales Bay Marconi Cove Marina		22 (incl RV)		
Tomales Byron Randall Guest House (B&B) Victoria and Albert (B&B)	 6 2			
Dillon Beach Lawson's Dillon Beach Resort[1] Lawson's Landing	 4	 46	 25 231	
All private All public parks	78	189 46	331	 40
TOTALS:	78	235	331	40

[1]The trailer sites are rented on a yearly basis.

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A telephone survey of the operators of overnight facilities indicated that virtually all units are consistently full throughout the summer on weekends. Many are also full during the week in summer. During the winter, business at Olema Ranch Campground is quite slow, although at Lawson's Landing it remains fairly constant due to fishing and clamming opportunities, except for December and January when the resort closes for repairs. Motel/ hotel rooms continue to operate close to or at full capacity on winter weekends. Some are only open on weekends in winter in response to the fluctuating demand. In recent years, operators have noted a steady increase in business averaging 10% per year, except for this year, a consequence perhaps of rising gas prices.

Other commercial facilities.

Other commercial facilities which serve both the coastal visitor and the local resident include grocery stores, restaurants and bars, gas stations and auto repair shops, and miscellaneous services such as post offices and banks. Among the six coastal villages in Unit II, there are a total of 10 grocery stores, 18 restaurants and/or bars, and 10 gas stations or garages. There are also 3 facilities dispensing marine fuel, 5 post offices, 2 banks, and assorted boat services. Five of the six communities offer all three main services, grocery, restaurant, and gas. (Dillon Beach has no restaurant.) The largest concentration of services is *located* in the largest community, Point Reyes Station, while the fewest services are found in the smallest villages, Olema and Dillon Beach. The location, name, and type of commercial services is shown in Table 5.

EXISTING COUNTY POLICIES ON VISITOR-SERVING AND COMMERCIAL DEVELOPMENT

General policies and zoning summary.

The three village community plans (Point Reyes Station, Inverness Ridge, and Tomales) and the Countywide Plan include policies on visitor-serving and commercial development in the coastal zone. The plans recognize the unique character of West Marin villages and share a common goal of preserving their integrity, diversity, and intimate scale. To achieve this goal, the plans require that new development be compatible in architectural style, scale, and nature with existing community character. Rapid or disruptive growth which would destroy or overwhelm the local community is discouraged and a balance between the needs of visitors and local residents is recommended. The community plans establish compact downtown commercial centers and encourage infilling of existing village expansion areas so that strip commercial development is avoided. In terms of the geographical distribution of commercial development, the plans recognize Point Reyes Station as the commercial center of West Marin because of its size, location and historical importance.

Table 5. Food, Beverage, and Other Commercial Services in the Unit II Coastal Zone				
	Grocery	Restaurant and/or bar	Gas and/or auto repair	Other
Olema				
Olema Store	x			
Jerry's Farm House		x		
Olema Inn		x		
Olema Ranch Campground			x	
Post Office				x
Point Reyes Station				
Cheda Market/Deli	x	x		
Palace Market	x			
Paper Mill Natural Foods	x			
Station House Cafe		x		
John's Truck Stop		x		
Two Ball Inn		x		
Chez Madelaine		x		
Western Saloon		x		
Cheda's Sunbeam Motors			x	
Joe's Phillips 66			x	
Cheda Chevrolet			x	
Bank of America				x
Post Office				x
Inverness Ridge				
Inverness Park Store	x			
Inverness Store	x			
Perry's Deli		x		
Inverness Coffee Shop		x		
Vladimir's Czech Restaurant		x		
Manka's/Inverness Lodge		x		
Inverness Pizza Co.		x		
Drake Hi-Way Garage			x	
Golden Hinde Boatel			(marine fuel)	(boat rental)
Inverness Yacht Club				(marina)
Post Office				x
Marshall/E. Tomales Bay				
Marshall Store	x			
Marshall Tavern		x		
Tony's		x		
Nick's Cove		x		
Marconi Cove Marina	x		x	(marina)
North Shore Boats			(marine fuel)	(boat launch)
Tomales Bay Oyster Co.				(oyster sales)
Post Office				x
Tomales				
Diekmann's General Store	x			
Village Coffee House		x		
William Tell House		x		

Tomales Garage Piezzi's Garage 76 Station Bank of America Post Office			x x x	 x x
<u>Dillon Beach</u> Lawson's Dillon Beach Resort Lawson's Landing	x		x (marine fuel)	(boat launch, storage party boats)

General policies and zoning summary [cont.]

To implement these policies on commercial development, the plans utilize a special zone for the coastal villages, the Village Commercial Residential or VCR zone. VCR permits a diversity of uses and requires design review for any new development. In addition to the VCR zone, six other commercial zones are used in Unit II. These zones and their acreages and distribution are shown in Table 6.

As the table shows, the seven commercial zones cover approximately 530 acres of land, of which more than one-half is in Dillon Beach. There are a total of 176 commercial parcels, with 124 developed and 52 undeveloped. The percentage of developed parcels in the communities ranges from a low of 57% in Tomales to 100% in Dillon Beach. Several factors affect the accuracy of these numbers, however, and should be kept in mind: Not all of the developed parcels are developed with commercial uses - approximately 25% are residential, as permitted in the VCR zone. Similarly, several existing commercial uses are sited on lands zoned for agricultural or residential use. In either case, the existing use could be converted to something else, adding to or subtracting from the total commercial pool. The numbers also do not reflect parcels which could be created by land division or the potential for new or expanded development on already developed parcels, such as Marconi Cove Marina. Both these factors would indicate that more parcels could be made available for commercial development than indicated. On the other hand, because of the counting method used, the numbers may be too high. Environmental and public service constraints on new development which would reduce the number of potential commercial sites, such as steep slopes, tidelands, or lack of adequate water or sewage disposal, have not been evaluated. In the case of Point Reyes Station and Tomales, separate Assessor's Parcel numbers were counted rather than separate ownerships as was the case for the other communities, thereby inflating the totals. Considering all of these factors, it is evident that the numbers shown for developed and undeveloped commercial parcels are only rough estimates and may, in all likelihood, be somewhat high.

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Specific community policies and zoning.

OLEMA

The small village of Olema has more commercially zoned land than any other village in Unit II: 100 acres of RCR and 6.5 acres of H-1. North of town, additional roadside acreage is similarly zoned RCR. This extensive commercial area fronting on Highway 1 reflects old planning concepts which permitted strip commercial development rather than requiring it to be concentrated in a community center. No community plan was ever prepared for Olema and some of the zoning is over 20 years-old. Approximately one-third of the RCR land is developed, largely with the Olema Ranch Campground, while the remaining two-thirds is agricultural land abutting Highway 1. Virtually all of the H-1 land is developed, half with commercial and half with residential uses. Much of the central part of town is zoned A-2: B-2 for exclusive residential development.

The Countywide Plan recommends that small-scale commercial uses in keeping with Olema's historic character be permitted in the community. The County's Coastal Pilot Program, completed in 1976, recommends some commercial expansion in the village, including up to 50 additional napping/RV spaces at Olema Ranch Campground and 2 small hotels or hostels with 15 rooms each. The Pilot Program also recommends that in the Olema Valley (part of the GGNRA),

Table 6. Existing Commercial Zones, Acreages, and Parcels in the Unit II Coastal Zone

Village	Zone[1]	Acres	#Parcels[2] Developed	#Parcels[2] Undeveloped	Total	%Commercial Parcels Developed[3]
Olema	H-1	6.5	6	1	7	85%
	RCR	100	5	1	6	
Point Reyes Station	RMPC	6	4	2	6	77%
	VCR	36	45	13	58	
Inverness Ridge	C-1-H	0.7	4	1	5	75%
	C-2-H	7	9	4	13	
	H-1	3	1	0	1	
	RCR	15	1	0	1	
Marshall/ E. Tomales Bay	C-1-H	5	6	1	7	88%
	C-P	5.7	1	0	1	
Tomales	C-1-H	1	2	0	2	57%
	VCR	36	35	28	63	
Dillon Beach	RCR	280	2	0	2	100%
	RMPC	3	3	0	3	
TOTALS:	7 zones	535	124	51	175	71%

[1]The zones are designated as follows:

C-1-H Retail Business
C-2-H General Commercial
C-P Planned Commercial
H-1 Limited Roadside Business
RCR Resort and Commercial Recreation
RMPC Residential/Commercial Multiple Planned
VCR Village Commercial Residential

[2] Except for Point Reyes Station and Tomales, number of parcels was determined by ownership, rather than individual assessor's parcels.

[3] Note this does not reflect potential for new or expanded development on individual parcels.

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existing ranch buildings be converted to hostels and that 4 to 6 small walk-in campgrounds be developed with 20 sites each. The Regional Coastal Commission has Interpretive Guidelines for new development which accord with existing county policy. The Guidelines note that because Olema is located at an important highway junction serving West Marin parklands, an expansion of visitor-serving facilities is appropriate.

POINT REYES STATION

Existing zoning in Point Reyes Station consists of 36 acres of VCR in the village core plus 6 acres of RMPC, a multiple residential/commercial district, located at the intersection of Highway 1 and Sir Francis Drake Boulevard south of town. The zoning was adopted by the community plan in 1976 and reflects plan policies to concentrate commercial development in the village core, maintain existing scale and architectural styles, and encourage a diversity of uses downtown. Three-fourths of all commercially zoned parcels are developed, and of these, slightly less than one-third are residential.

The community plan recognizes that Point-Reyes Station has been targeted for visitor oriented commercial development and accepts this responsibility. Additional commercial development is encouraged through infilling, although two problems are noted with this approach: lack of adequate parking facilities and lack of adequate sewage disposal. (Additional off-street parking and a community sewer are recommended to address these problems.) The plan also makes two specific recommendations for new overnight accommodations (currently there are none): re-establishment of a hotel use in an existing structure known as the Grandi Building, Assessor's Parcel #119-234-01, and development of a 7.5 acre parcel adjacent to the established commercial area, Assessor's Parcel #119-240-45, with a small 20-unit motel and restaurant. Both sites are zoned VCR. The plan leaves open the option for developing Martinelli Farms, located on the northern boundary of the village expansion area adjacent to the Tomales Bay Ecological Reserve, with visitor-serving uses.

The recommendations in the Coastal Pilot Program are the same as those in the community plan. The Pilot Program also includes a specific proposal for Martinelli Farms: a 25-unit motel and/or 50 campsites. The Regional Coastal Commission supports additional visitor-serving facilities in Point Reyes Station in its Interpretive Guidelines, but because of the sewer problem, limits new development to that with low sewerage discharge requirements. Martinelli Farms has been excluded from the Commission's expansion boundaries for Point Reyes Station.

INVERNESS RIDGE

Commercially zoned land on the Inverness Ridge, including the shoreline of Tomales Bay, consists of 25.7 acres of C-l-H, C-2-H, H-1, and RCR. The 15 acres of RCR are the site of the Inverness Valley Inn. The H-1 property is the Golden Hinde Boatel and the C-zoned land is found in the two community centers of Inverness and Inverness Park. Three-fourths of all commercial parcels are developed.

The zoning on the Ridge was adopted in 1979 as part of the community plan. The zoning on the bayward side of Sir Francis Drake Boulevard is old zoning not addressed in the plan. The plan strictly limits the expansion of any commercial development and restricts new development to established village centers, for two reasons: 1) Inverness is considered to be providing its fair share of visitor enterprises, and 2) Point Reyes Station is recognized as the commercial hub of West Marin. Expansion of the Inverness Valley Inn from 9 to 30 units is endorsed, however, as are Bed and Breakfast accommodations on the Ridge.

In addition to supporting the Valley Inn expansion, the 1976 Coastal Pilot Program proposes that a 25-unit motel be considered in Inverness Park on the east side of Sir Francis Drake Boulevard. The Regional Coastal Commission's Interpretive Guidelines for Inverness Ridge do not specifically address the issue of visitor facilities other than to give priority to such uses where water supply is limited. The Commission did grant a coastal permit for the Valley Inn expansion.

MARSHALL/EAST TOMALES BAY

The east side of Tomales Bay has 10.7 acres of land zoned for commercial development in two locations -- Nick's Cove and Marshall. Much of the acreage is tidelands and/or submerged lands and most is developed. Zoning is generally about 15 years old.

The Countywide Plan recommends that only very limited growth through infilling occur in Marshall, due to sewage disposal problems and the presence of agricultural lands. The plan states that other small clusters of development along Tomales Bay (Nick's Cove, Blake's Landing, Cypress Grove, Reynolds, and Marconi) should not be permitted to grow into villages or merge. No specific recommendations for Synanon are given.

The Coastal Pilot Program recommends up to three clusters of tent and RV campgroups in canyons on the east side of the bay with 25 to 100 spaces each. Increased marina capacity is also supported. The Interpretive Guidelines of the Regional Coastal Commission concur with the Countywide Plan that Marshall has very little potential for expanding its visitor-serving facilities. The Guidelines on Synanon state that no significant intensification of existing uses should occur.

TOMALES

The town of Tomales has 37 acres of commercially zoned land, roughly equivalent to the area in Point Reyes Station. 36 acres are zoned VCR and 1 acre is zoned C-1-H. Slightly more than half of the commercial area is developed, and of that, one-third is residential. The VCR area abuts Highway 1 on both sides in the center of town, while the one C parcel is south of the Tomales-Petaluma Road.

Zoning for Tomales was adopted in 1977 through the community plan. The plan recommends that new commercial development be compatible in architectural style, scale, and character with existing development. Larger commercial facilities allowed in the VCR zone by use permit are to

be restricted to properties south of Dillon Beach Road so as not to interfere with or destroy the ensemble of architecturally significant buildings to the north. The creation of a visitor information program to encourage Bed and Breakfast and other commercial facilities is encouraged.

The Coastal Pilot Program recommends only limited commercial expansion a Bed and Breakfast operation or hostel of 5 rooms in existing structures. The Regional Coastal Commission, in its Interpretive Guidelines, encourages visitor-serving facilities that are scaled and designed to be compatible with the existing community character.

DILLON BEACH

Two distinct commercial zones exist in Dillon Beach – Lawson' Dillon Beach Resort and Lawson's Landing. Lawson's Dillon Beach Resort includes approximately 17 acres that are zoned C-RCR and include the village store and trailer sites between Dillon Beach Road and Dillon Beach Creek, as well as the beach, parking lot, and restrooms on the west side of town. In addition, Lawson's Dillon Beach Resort includes approximately 33 acres that are zoned C-RMPC and are primarily undeveloped. This area includes the site of the former Pacific Marine Station operated by the University of the Pacific. To the south of Lawson's Dillon Beach Resort, is Lawson's Landing, which includes approximately 230 acres that are zoned C-RCR and heavily used for water-oriented recreation.

The Dillon Beach Community Plan contains conservation and development policies for both Lawson's Dillon Beach Resort and Lawson's Landing. The policies require new commercial development to be compatible with the scale and character of current recreation and visitor-serving uses.

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PLANNING ISSUES

There are numerous issues related to the use of land for public recreation or visitor-serving development, as discussed below.

Public park acquisition and development. Because so much of the land area in Unit II already lies within county, state and federal parks, and an additional 3000 acres have been authorized for federal park acquisition, the need for public recreational open space in Unit II has been largely addressed. Two small areas, however, have been identified through the LCP planning process as desirable for public purchase: the property north of Miller Park on the east side of Tomales Bay, and Tom's Point, located north of Walker Creek. The property on Tomales Bay, known as Jensen's Oyster Beds, is used by the public on an informal basis for hiking, viewing, and clamming. It would be a logical extension of Miller Park and has space for picnicking, parking, and possibly camping. The second site, Tom's Point, has significant archaeological and geological resources and wetland areas which merit public purchase.

Within existing parks, there is a major need for overnight camping and hostel facilities. Such facilities would serve the thousands of visitors to the parks and provide a low-cost alternative to the limited private overnight accommodations in Unit II. Currently, on the 68,000+ acres of public parkland in Unit 11, there are only 46 campsites and one hostel for an average of one campsite per 1500 acres of public open space. The 3000+ acres of state parkland have no campsites at all. Two major private camping areas outside the parks, Olema Ranch Campground and Lawson's Landing, do provide substantial camping opportunities for the public. However, these facilities are located at the extreme ends of the Unit II coastal zone, outside the parks where most coastal visitors go.

To address the shortage of camping facilities, the LCP recommends that camping be provided on the Tomasini/Millerton Points property and that the Inverness Ridge project be studied for possible campsite development. Plans by the National Park Service, as described in its General Management Plan, to add campgrounds and hostels to the, federal parks, are strongly supported.

Visitor-serving facilities - location and need. The Coastal Act provides that new development, including visitor-serving facilities, be sited within or adjacent to existing developed areas where possible. The intent of this policy is to direct new development to areas with available public water and sewer service, and to minimize impacts on natural resources, scenic values, agriculture, and road capacity. The Act also strongly encourages public recreation and visitor-serving uses, to the extent that it gives priority to such uses over most others. In assessing the need for additional facilities and their appropriate location, both existing visitor uses and zoning need to be considered.

Most existing visitor-serving development is located in or adjacent to coastal villages, in keeping with Coastal Act and County policies. As with the public lands, there is a need for additional private overnight accommodations in Unit II. Existing motels, inns, and bed and breakfast homes on the Inverness Ridge provide 70 rooms for rental; however, outside the Ridge there are very few facilities. Point Reyes Station, for example, the major commercial center in Unit II. has no overnight facilities at all, To help meet this need, the LCP identifies numerous sites in the various communities where overnight accommodations could be constructed or where existing structures could be concerted to allow visitor-serving uses. The LCP also recommends that limited expansion be permitted at Olema Ranch Campground and Lawson's Landing so that additional low-cost facilities can be provided.

Most commercial zoning in Unit II is also located in or adjacent to already developed coastal villages. Altogether, there are approximately 230 acres of commercially zoned land in Unit II, two-thirds of which is developed. The LCP continues the existing pattern of commercial zoning, but makes changes to consolidate and concentrate commercial zones, eliminate strip development, provide design flexibility through the master plan process, and allow mixed commercial and residential development. Specifically, in Olema, the LCP reduces extensive strip RCR zoning and rezones the center of town from residential and highway commercial zones to VCR, allowing a mix of uses. In Point Reyes Station, the LCP expands the tightly drawn boundary of the VCR zone by three blocks and provides for two sites outside

the downtown, including Martinelli Farms, to be developed with a mix of commercial and residential uses. In Tomales and on the Inverness Ridge, the LCP makes few other changes other than minor boundary adjustments. In the Dillon Beach area, the LCP allows mixed commercial and residential uses adjacent to the old town. Finally, along the east side of Tomales Bay, the LCP identifies several sites where new, expanded, or reconstructed facilities could be built for visitor-serving uses, and rezones parcels where necessary to accommodate such uses. The parcels affected include Nicks Cove, the Marshall Hotel, Synanon, and Marconi Cove. Synanon, an already developed site with extensive facilities, is rezoned to allow mixed commercial and residential uses. (The existing institutional use is not affected by the rezoning

since it operates under a use permit with no time limit.) Marconi Cove, a partially developed fill site, is rezoned to RCR to allow expanded recreational and resort uses. Altogether, these commercial rezonings and adjustments further carry out Coastal Act policies on development and visitor-serving facilities.

Intensity and Types of Recreational Uses/Resource Protection. The Coastal Act states that maximizing public recreational opportunities in the coastal zone is to be done in a manner consistent with resource protection, The Tamale Bay area has several environmentally sensitive habitats, including wetlands, streams, and riparian woodlands. Existing recreational activities, such as clamming, picnicking, and hiking generally do not threaten sensitive habitats because these activities are dispersed in a low-intensive manner around the Bay. Low-intensity uses should be encouraged over more intensive recreational developments such as RV campgrounds or marina complexes which often require extensive site modification, attract large numbers of people, and may result in significant habitat disruption, Providing for low-intensity, low-cost uses also meets the intent of Section 30213 of the Coastal Act which encourages the development of visitor and recreational facilities for persons of low and moderate income.

The construction of a biketrail around Tomales Bay is one new recreational development which has been discussed on several occasions during past planning programs for the area. The Inverness Ridge Communities Plan mentions a biketrail on the west side of the Bay and the County Parks and Recreation Department has expressed interest in extending a biketrail to West Marin. Preliminary investigations have indicated that construction of such a trail on the west side of the Bay should be given priority over construction on the east side for two reasons. One reason is that major parks located on the west side of the Bay are frequent destinations for cyclists. A second reason is that the numerous residents of Inverness, Inverness Park, and Point Reyes Station could use the biketrail for local transportation needs. Development of a biketrail would be consistent with Coastal Act policies encouraging low-cost recreational facilities and energy efficient transportation. The LCP includes a policy supporting the construction of a biketrail and requires easements as a condition of new developments along the expected route of the bike path, to allow for its future construction.

Incompatibility of uses. Recreational uses and visitor-serving development can conflict or interfere with other land uses, such as agriculture, or they may conflict with one another, e.g. hunting and nature study. Visitor uses can also compete with other land uses for limited land area and limited public services, in evaluating existing and potential land uses, the LCP has considered these various conflicting needs and has attempted to strike a balance among them in a manner which reflects both local needs and Coastal Act priorities.

RECREATION AND VISITOR-SERVING FACILITIES

LCP POLICIES ON RECREATION AND VISITOR-SERVING FACILITIES:

1. General policy. The County of Marin supports and encourages the enhancement of public recreational opportunities and the development of visitor-serving facilities in its coastal zone. Such development must, however, be undertaken in a manner which preserves the unique qualities of Marin's coast and which is consistent with the protection of natural resources and agriculture. Generally, recreational uses shall be low-intensity, such as hiking, camping, and fishing, in keeping with the

character of existing uses in the coastal zone. New visitor-serving commercial development shall be compatible in style, scale, and character with that of the community in which it is located and shall be sited and designed to minimize impacts on the environment add on other uses in the area. The County encourages that a diversity of recreational opportunities and facilities be provided, especially those of moderate cost. Facilities for water-oriented recreational uses, such as clamming and boating, are preferred to those which do not require a coastal location.

2. Public parklands.

   a. Role of public parklands. Federal, state, and county parks provide most of the existing opportunities for public recreation in Unit II, for both local residents and coastal visitors. The LCP assumes that most future recreational needs of the public will be met by these parks as well. The potential for additional recreational development on parklands is substantial and would, in concept, be consistent with the goals of the LCP. The policies listed below provide a framework within which such future development is to be evaluated. (Policies on federal lands are given in a separate section of the LCP on page 61.)

   b. State parks. The State Department of Parks and Recreation has numerous holdings in Unit II, several of which have not yet been developed. The State will prepare detailed master plans for the development of these parks which shall be subject to review according to the following standards:

      (1) Inverness Ridge. Development of the 1200-acre Inverness Ridge project should be limited to low-intensity uses such as hiking and nature study. Primitive hike-in campsites are also appropriate in select locations, where the constraints of slope, fire hazard, and water quality impacts can be adequately-addressed. Extreme caution should be taken in siting campsites to minimize fire danger to nearby residential areas. Development of the Inverness Ridge project should be integrated with that of Tomales Bay State Park and the Point Reyes National Seashore. The County encourages the transfer of state parklands on the Inverness Ridge, located between Paradise Ranch Estates and the Inverness Valley Inn, to the federal government for management as part of the Point Reyes National Seashore, as authorized in Public Law 96-199.

      - Tomasini/Millerton Points. This area should be developed both for day and overnight use. Recommended facilities for this park include picnic sites, fishing areas, trails, nature study areas, and campsites. The campsites should be located on the

upland side of Highway 1 where they can be screened from view and sited so as not to interfere with adjacent agricultural uses or create, a fire hazard. The existing mariculture operation on the property should remain and, if possible, be incorporated into the interpretive facilities of the park. The five existing single-family dwellings on Millerton Point should be removed so that the natural beach landscape in this area can be restored. A bike trail connecting with Highway 1 should be included in the development plan and the construction of a boat launch should be considered. All development on the Points should be carefully sited and designed to protect views to and along Tomales Bay.

(3) Cypress Grove project. This property should be a day use area only, due to its small size, high visibility, and exposure. Picnicking, hiking, fishing, and nature study would be appropriate activities for this park. The possibility of incorporating interpretive facilities on this site with those on Cypress Grove properties to the south, owned by Audubon Canyon Ranch, should be explored.

c. County parks. The three county parks in Unit II, Miller Park, Whitehouse Pool, and Chicken Ranch Beach, offer boating, fishing, and swimming opportunities in key locations and should remain in operation. If possible, water should be supplied to Miller Park for the benefit of those who use the facility. Existing roadside parking for Chicken Ranch Beach on Sir Francis Drake Boulevard should be maintained in its present configuration. If parcels to the south are purchased as an addition to the Beach, modest expansion of the parking area should be considered.

d. Acquisitions. The undeveloped shoreline on both sides of Tomales Bay has great value for public recreation, public physical and visual access to the water, and natural resource protection. The County strongly encourages public acquisition of these lands so that they may be preserved for public use and protected from the impacts of development. To this end, the County supports recent federal legislation, HR 3757, authorizing purchase of undeveloped lots on Tomales Bay and recommends that purchase be completed as soon as possible. The County also supports the acquisition of all or a portion of the property known as Jensen's Oyster Beds, AP #104-110-08, as an extension of Miller Park if it is not developed for some other visitor-serving use and the acquisition of Tom's Point, AP #104-040-20,21, to protect the significant archaeological and geological resources on the site.

3. Private recreational and visitor serving development.

a. General standards and zoning. In order to preserve the integrity and special qualities of coastal villages in Unit II, visitor-serving and commercial development shall be compatible in architectural style, scale, and function with the character of the community in which it is located. Such development shall also be evaluated for its conformance with LCP policies on natural resources and agriculture, visual quality, public access, and public services, among others. Existing commercial zoning shall be modified in accordance with policies 3(b) through 3(g) below.

Additional LCP rezonings, not related to commercial development, are given in the LCP section on new development, page 209.

b. Olema. The town of Olema consists of a small enclave of privately owned lands surrounded by federal parkland, located at the junction of two major coastal access roads. Due to its location and function, Olema is an appropriate site for the expansion of visitor-serving facilities. Specifically, an increase in campsites or trailer sites at the Olema Ranch Campground would be appropriate, provided that sewage disposal and other constraints can be met and that suitable landscaping is provided to screen the trailer storage area. New motel construction and/or the conversion of existing structures to hotels or hostels, as well as the development of other commercial services, is also encouraged.

In order to concentrate development, provide for the expansion of visitor-serving facilities, and preserve agriculture, the following rezonings' shall be adopted:

(1) The two large agricultural parcels on the east side of Highway 1 currently zoned for strip RCR development, AP #166-030-15 and AP #166-010-27, shall be rezoned to APZ-60.

(2) The parcels bounded by Bear Valley Road to the south, Highway 1 to the east, Olema Creek to the west, and adjacent to the Olema Ranch Campground but which are -not a part of the campground, shall be rezoned from A-2:B-2 and RCR to VCR.

These parcels include:

AP number	Zoning: Existing	Zoning: LCP
166-181-01,03	RCR	VCR
166-181-04	A-2:B-2	VCR
166-192-01	A-2:B-2	VCR
166-192-02	RCR	VCR
166-220-15,16	RCR	VCR

(3) The parcels in the center of town bounded by Bear Valley Road to the north, Highway 1 to the east, Olema Creek to the west, and a private road to the south, currently zoned H-1 or A-2:B-2, shall be rezoned to VCR. Two small inholdings south of Sir Francis Drake Boulevard on the east side of Highway 1 zoned H-1 shall also be rezoned to VCR. These parcels include:

AP number	Zoning: Existing	Zoning: LCP
166-191-03,04	H-1	VCR
166-201-06,09,10,13	H-1	VCR
166-201-02,07,08	A-2:B-2	VCR
166-203-02,03	H-1	VCR
166-212-03,04	A-2:B-2	VCR
166-213-01,02	A-2:B-2	VCR

(4) The row of four parcels on the northeast corner of Sir Francis Drake Boulevard and Highway 1, uphill from the Old Olema Hotel, shall be rezoned from H-1 and A-2:B-2 to VCR. These parcels include:

AP number	Zoning: Existing	Zoning: LCP
166-202-01	H-1	VCR
166-202-02,03,04	A-2:B-2	VCR

(5) The large 13+ acre parcel upland and north of the Old Olema Hotel, AP #166-193-01, 02, and #166-230-05, shall be rezoned from H-1 and A-2:B-2 to RCR.

This parcel has potential for development as a motel/resort complex, the only parcel with this potential in Olema. The site is large enough for a 20 to 40 unit motel or cottages, a major addition to the town. In order to minimize the impacts of development on this site, the following design *standards* shall be met:

- Structures shall be clustered on the more level areas of the property, away from the steep road cuts on Highway 1 and off of the upper grassy slopes. These upper slopes shall be maintained open to protect their visual character.
- Development shall be designed to minimize visual impacts on adjacent federal parklands, Highway 1, and Sir Francis Drake Boulevard. The height of permitted structures shall be in keeping with the character and scale of surrounding development.
- Pedestrian paths shall be established from the site to nearby federal park activity areas. Minor improvements may be required to Highway 1 in order to safely accommodate such paths.
- The character of the project shall incorporate and reflect the historic character of Olema and existing recreational uses in the area. Comments from the National Park Service shall be solicited in the process of development plan review by the County.
- Development shall include adequate on-site sewage disposal.

c. Point Reyes Station. Point Reyes Station is recognized as the commercial center of the Unit II coastal zone because of its available land area, existing commercial services, and location. The development of additional visitor-serving and commercial facilities in the community is encouraged, especially the development of overnight accommodations, of which the town has none. The LCP supports the recommendations of the community plan that overnight accommodations be established in the Grandi Building, AP #119-234-01, and on AP 1f 119-240-05. Because relatively few parcels in town zoned for commercial uses remain undeveloped, the following zoning changes shall be adopted to ensure that adequate land area is available for future commercial development:

(1) Village Commercial use shall be expanded to include the southeasterly half of the block bounded by A and B Streets and 5th and 6th Streets. This defined commercial area will help to promote commercial infilling within and adjacent to existing commercial uses as recommended by the Community Plan. When the LCP is reviewed in 5 years, further expansion to include the four blocks bounded by B, C, 3rd, and 7th Streets shall be considered if it is determined that additional areas are necessary for visitor servicing and commercial uses. This area of the town constitutes the most suitable area for commercial expansion because it is level, has adequate space, is located adjacent to the existing commercial area, and is several blocks removed from Highway 1, thus reducing the potential for substantial traffic impacts as development proceeds.

(2) The six acres south of town currently zoned RMPC shall be rezoned to VCR. Because of the lack of a community sewer, additional multiple unit development in this area is not appropriate. Existing multiple units can remain and, if destroyed by natural disaster, may be rebuilt.

(3) The 12.7 acre parcel located at the junction of Highway 1 and the Point Reyes-Petaluma Road, AP ,1t 119-240-55, shall be rezoned to permit visitor-serving and commercial uses as a principle permitted use. Under the parcel's current RMP-4 zoning, motels and similar commercial uses are permitted by use permit. The site does appear to have potential for a small 20-unit motel, cottages, hostel, or similar facility. To protect the site's visual and environmental qualities, new development shall be sited and designed to minimize view and traffic impacts on nearby public roads, protect Lagunitas Creek and adjacent riparian vegetation from the impacts of erosion and water quality degradation, and minimize slope disturbance. Development shall be clustered, limited in height to that which is compatible with the surrounding area and scale of development, and shall provide adequate waste disposal on-site.

(1) The 248-acre parcel known as Martinelli Farms provides a unique opportunity for the development of visitor-serving uses. The parcel has adequate land area, a desirable location, and magnificent views on Tomales Bay. A motel or cottages are recommended along with campsites and day use picnic facilities. The site also has potential for other visitor-serving uses such as a restaurant, on-site fishing area, nature study area, or

stables. Due to the large amount of land available in other parts of Point

Reyes Station for residential development, Martinelli Farms is not considered a prime residential site. Limited residential development may be permitted, however, in conjunction with visitor facilities, as a secondary use. Currently, the site is zoned RSP-0.33 for planned residential development. This zoning allows an overall density of 1 unit per 3 acres, or a total of 82 units. The LCP recommends that this density be retained, although the actual density of permitted development may be substantially less, depending on site constraints. To encourage visitor use, the zoning shall be changed to permit mixed commercial and residential use. In addition, a minimum of 50% of the total units constructed shall be visitor-serving. The provisions for visitor-serving units may serve as a trade-off for any inclusionary residential units required by County ordinance.

Prior to the commencement of any project designed for this site, an environmental assessment shall be conducted to identify the environmental resources and constraints of the site. In addition to any development standards proposed as a result of that assessment, the following development standards shall apply:

- Development shall be located out of the most environmentally sensitive areas of the site and shall minimize visual impacts on Highway 1 and other public viewing points. Structures shall be limited in height to that which is compatible with the character of the surrounding area. The site is particularly sensitive visually and must be developed with careful attention to visual factors.

- The option for construction of community sewer facilities on the property shall be retained until an alternative site is selected or until the first review of the LCP in five years. North Marin County Water District shall be consulted on this aspect of the project during the review of development plans by the County.

- Setbacks shall be maintained from the Tomales Bay Ecological Reserve which are adequate to protect wildlife and marsh habitat, as recommended by the State Department of Fish and Game.

- Setbacks from the bluff above the old railroad right of way shall also be required, consistent with LCP policies on bluff-top development.

- The development of an internal vehicular access route to downtown Point Reyes Station to reduce traffic impacts on Highway 1 should be investigated.

d. Inverness Ridge/west shore of Tomales Bay. This area currently provides 70 of the 82 motel rooms or 90% of all such overnight accommodations in the Unit II coastal zone, as well as numerous

other commercial services. Very little commercially zoned land is available for further visitor-serving development; however, because of existing visitor-serving uses on the Inverness Ridge and the space provided in Point Reyes Station and Olema for such development, no significant expansion of commercial zoning on the Ridge is recommended. Expansion shall be limited to adjusting the boundaries of commercial zones in Inverness and Inverness Park to coincide with parcel boundaries. These zones shall be changed to planned commercial in order to allow master plan review in addition, the Golden Hinde Boatel and Inverness Motel shall be rezoned to RCR so that any possible future expansion of these facilities will be subject to master plan review.

e. Marshall/east shore of Tomales Bay. There are very few undeveloped parcels on the east shore of Tomales Bay with the potential for visitor-serving or commercial development, and lack of adequate water supply is a major constraint. However, existing uses on several developed or previously developed parcels could be expanded or modified to allow additional opportunities for coastal visitors, provided that such expanded uses are compatible with the small scale and character of existing development along the Bay. Areas with expansion potential include the property known as Jensen's Oyster Beds, Nick's Cove, Synanon, and Marconi Cove Marina. The town of Marshall, C-CP and the Marshall Boatworks are recommended for local serving and limited visitor serving facilities allowed by C-VCR zoning. Recommendations for these parcels are given below, along with recommendations for commercially zoned parcels in the town of Marshall.

(1) Jensen's Oyster Beds. The 40-acre parcel north of Miller Park, AP #104-110-08, is currently developed with small cottages and a parking area. This property would be a logical addition to Miller Park or the GGNRA, and/or a suitable location for overnight camping. Zoning on the property, currently A-2, shall be changed to permit low-intensity recreational uses. Any new development shall allow for continued mariculture operations off-shore.

(2) Nick's Cove. Visitor-serving uses on this site should be continued, upgraded, and possibly expanded. Overnight accommodations, such as bed and breakfast facilities, on the contiguously owned parcel on the upland side of Highway 1 are encouraged, consistent with the availability of water supply, sewage disposal, and parking facilities. Existing A-2 zoning on this parcel, AP #104-140-02, shall be changed to allow visitor-serving uses. Any expansion or reconstruction of Nick's Cove restaurant shall be designed to minimize visual impacts and provide maximum public physical and visual access to the shoreline. Structures on the upland property shall be limited in height to that which is compatible with the scale and character of surrounding development, while that on the bayside of Highway 1 shall not exceed the height of the existing restaurant.

(3) Marshall. Existing commercial zoning in Marshall, C-CP, shall be changed to C-VCR to maintain and encourage the present residential/commercial mixed use and to encourage locally serving commercial uses.

The boundaries of the zones shall be adjusted to coincide with parcel boundaries. Reconstruction of the old Marshall Hotel is encouraged, provided that adequate water supply, sewage disposal, and parking facilities can be provided. Commercial zoning on the Tony's Seafood parcel, AP #106-050-05, shall be changed to a planned commercial zone. Commercial zoning on AP #106-040-03, a parcel sited amidst residential uses, shall be changed to a planned residential district.

(a) Marshall Boatworks. The Marshall Boatworks/Post Office are shall be rezoned from C-VCR with the Boatworks as a permitted use. This will encourage continuation of this area as a residential/commercial mixed use while supporting its potential as a community activity center and gathering place.

[Amended pursuant to BOS Resolution No. 87-278 [8/4/87], CCC approved as submitted 9/8/87, 2nd BOS Resolution No. 87-360 [10/13/87] passed to implement changes shown, no CCC ED Checkoff required]

(4) Synanon. The 62-acre Tomales Bay Ranch property, owned by the Synanon Foundation, is operated as a drug rehabilitation institution under the auspices of a use permit. The present use or similar institutional uses may continue on the property and are encouraged. If such uses are discontinued, then visitor-serving uses shall be supported. The Tomales Bay Ranch offers the best opportunity for major new visitor-serving uses on the entire east side of Tomales Bay. The site has generally had adequate water supply, and has sewage disposal facilities, direct access on Highway 1, and numerous existing structures. Recommended uses include overnight accommodations, a restaurant, and other uses which benefit the traveling public. Additionally, the site offers opportunities for local "cottage" industries such as boat-building, arts and crafts, and agriculturally related uses, as well as opportunities for community services and limited residential uses, especially those for low and moderate income households. To encourage visitor-serving and other uses on the property, the existing ARP-2 zoning shall be changed to a planned district permitting mixed commercial and residential uses. No further intensification of uses on the property shall be permitted.
Any conversion or modification of existing facilities shall meet the following development standards:

- The historic Marconi Hotel building shall be preserved, renovated, and restored to accommodate uses for which it was originally built, i.e. a hotel. Designation of the hotel as an historic structure by the state or federal government shall be investigated. If and when an Historic Coastal Preservation Commission is established by the County, as recommended in the Unit I LCP, the Marconi Hotel shall be recommended for designation to the Commission.

- Existing accessory buildings on the site may be retained or eliminated upon private re-development as deemed appropriate in the planning review process.

a. Development shall minimize potential impacts on adjacent agricultural operations.

- Facilities shall be sited and designed to minimize impacts on public views from Highway 1 and public parklands across Tomales Bay.

- Adequate water supply and sewage disposal shall be demonstrated.

- If shoreline parcels bayward of the Ranch are acquired in combination with the Ranch, water oriented public recreational uses which complement the Ranch should be explored.

(5) Marconi Cove Marina. The Marconi Cove Marina property is split by Highway 1 into two parts: a 6.5 acre bay front area and a 350+ acre upland area. The bay front portion of the marina has potential for considerable expansion of visitor-serving and marine-related facilities. The site would be suitable for a 20 to 40 unit motel, restaurant, and a small store. Expanded marina facilities, including additional boat slips, fishing pier, and storage space would also be desirable. To allow for these various uses, the bay front parcels, AP #106-260-02 and 03 shall be rezoned from A-2 to RCR. The upland portion of the marina property is presently used for agriculture. The development of campsites in the wooded canyon on the parcel would provide low-cost overnight accommodations to complement uses on the bay front lands and shall be encouraged. Limited residential development, compatible with continued agricultural use of the property, would be acceptable. Existing A-60 zoning shall be changed to APZ-60 to allow continued agricultural use and low-intensity recreational development in the canyon area.

Prior to the commencement of any project designed for this site, an environmental assessment shall be conducted to identify the environmental resources and constraints of the site. In addition to any development standards proposed as a result of that assessment, the following development standards shall apply.

- This site is particularly sensitive visually and must be developed with careful attention to visual factors. Structures shall be limited in height to that which is compatible with the scale and character of the area, and shall be sited to minimize impacts on visual access from Highway 1 to the water. Views from Tomales Bay shall also be considered.

- Landscaping materials shall be selected and planted so as not to significantly interfere with views to and along the water, even when such vegetation is fully grown.

- Adequate waste disposal for the project must be demonstrated. Waste disposal facilities shall also be provided for boats in the marina.

- Expanded berthing facilities shall be sited to minimize potential impacts in this area, including impacts on stream habitats, riparian vegetation, water quality, and mariculture.

f. Tomales. The town of Tomales has adequate undeveloped land zoned for visitor-serving and commercial development to provide for anticipated future needs. No expansion of commercial zoning is recommended. The development of overnight accommodations such as a motel, cottages, and a hostel, is encouraged, given the limited facilities which currently exist in the community. New development shall reflect the historic character of the town's architecture and shall be set back from the creek which flows through the commercially zoned area. The 1 acre of C-1-H shall be rezoned to a planned commercial district to allow flexibility in siting and design.

g. Dillon Beach. Lawson's Dillon Beach Resort, located immediately south of old Dillon Beach, and Lawson's Landing, located on Sand Point, shall be retained as public recreational areas. Both facilities have the potential for expanded visitor-serving development, although providing for adequate water supply and sewage disposal may be problematical.

(1) Lawson's Dillon Beach Resort. Lawson's Dillon Beach Resort, including all properties zoned C-RCR and C-RMPC between Dillon Beach Road and Dillon Creek, would be an appropriate site for new development of a modest scale, including a small motel; cafe, delicatessen, or restaurant; and day-use facilities. Due to the proximity of the site of the former Pacific Marine Station to the shoreline, it is an especially suitable area for facilities where many people can enjoy its prime location. The site offers opportunities, for example, for community services, a conference center, and youth hostel. Limited residential development would be appropriate in Lawson's Dillon Beach Resort, provided it is developed as a secondary use in conjunction with visitor-serving uses. All development shall demonstrate adequate water supply and sewage disposal, and shall be sited out of sand dunes and other environmentally-sensitive areas. Building heights shall be limited to that which is compatible with the scale and character of the area. Existing C-RCR and C-RMPC zoning shall be maintained.

(2) Lawson's Landing. Lawson's Landing is an appropriate site for limited expansion of boating facilities and overnight accommodations. Any such expansion shall be based on thorough planning studies which identify the environmental resources and constraints of the site, including wildlife,-vegetation, and archeological resources, geologic and wave hazards, and public service constraints. Measures to protect the site's resources, particularly sand dunes and dune tansy vegetation, shall be included in any development plan. Any such plan shall also include improvements in sewage disposal facilities, in accordance with the recommendations of the Regional Water Quality Control Board. Existing C-RCR and C-APZ-60 zoning shall be maintained.

[Amended pursuant to BOS Resolution No. 88-333 (Attachment 1, pp. 5-6) [12/20/88], approved by CCC with suggested modifications 4/12/89, 2nd BOS Resolution No. 89-216 [8/8/89], CCC ED Checkoff 4/13/90]

h. Bed and Breakfast Program. The County encourages the continuation and expansion of bed and breakfast facilities in the Unit II coastal zone. A listing of such facilities should be provided at the headquarters of the Point Reyes National Seashore, as information to visitors. In addition, the establishment of a centralized information program is recommended, to coordinate listings of all types of overnight accommodations and provide information on recreational opportunities to coastal visitors.

4. Recreation and Transportation.

a. Bike Paths. The County supports the concept of a bike/pedestrian trail network in Unit II, connecting the villages and providing access to public parks. Several proposed routes have been discussed by West Marin residents and planning groups but no final recommendation has been developed. In the absence of such a recommendation, the LCP assumes that the most likely location for a bike trail is along Highway 1 and Sir Francis Drake Boulevard. Therefore, to maintain the option for a roadside trail, coastal development permits for projects on either side of these roads shall require offers of dedication of easements 10 feet in width. When a final route for the bike/trail is agreed upon by the County, community, and concerned agencies and organizations, requirements for offers of roadside easements shall be modified to account for the new route.

FEDERAL PARKLANDS

INTRODUCTION

The federal Coastal Zone Management Act of 1972 provides that federal lands be legally excluded from the coastal zone and thus exempted from a state's coastal planning and regulatory jurisdiction. However, the federal act also provides that federal activities within the coastal zone boundary must be consistent with a state's coastal zone management program. Because so much of Marin County's shoreline lies in federally owned parks(60%), the impact of federal activities on the County's coastal .lands, particularly in terms of public access and recreation, is significant. The Unit I LCP provides that federal policies and programs for lands in Marin be evaluated as a whole in the Unit II LCP. Therefore, this section discusses all federal lands in the County's coastal zone.

Federal parklands within the County's coastal zone include portions of the Golden Gate National Recreation Area (GGNRA) and all of the Point Reyes National Seashore (PRNS), which together total close to 80,000 acres. The PRNS was established by Congress in 1962, and the GGNRA in 1972. Approximately 50% of the Seashore has since been declared a wilderness area and added to the National Wilderness Preservation System. In the mid-1970's, the National Park Service undertook an extensive park planning program, in conjunction with other federal, state, and local agencies, citizens' groups, and the public. That planning effort culminated in the publication of a General Management Plan for the GGNRA and PRNS, adopted by the GGNRA Citizens' Advisory Committee in 1979. The purpose of the plan is to guide the future management, development, and use of the federal parklands. Given this document as the guiding policy document on the parks, the task of the LCP is to analyze the management plan in relationship to the California Coastal Act, identify potential conflicts between the plan and the LCP, and recommend policies to ensure that federal activities are consistent with the LCP.

THE COASTAL ACT AND THE GENERAL MANAGEMENT PLAN

The Coastal Act lists five basic goals of the state for the coastal zone. These are to protect, maintain, and restore the overall quality of the coastal zone environment and its natural and manmade resources; assure orderly, balanced utilization and conservation of coastal zone resources; maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone; assure priority for coastal-dependent and coastal-related development over other development on the coast; and encourage state and local involvement in implementing the state's coastal program. In order to achieve these goals, the Coastal Act (in Chapter 3) establishes policies on coastal management, planning, and development. These policies are the yardsticks by which the federal General Management Plan (GMP) is to be evaluated.

In general, the GMP and the Coastal Act are consistent in purpose and objective. The GMP however, dealing as it does with the management of parklands, is understandably, much more limited in scope than the Coastal Act. The GMP establishes management objectives to achieve the two major purposes of the parks: to preserve the scenic, historic, and recreational resources of the parks and to make the parks available to the large urban population nearby. These purposes are clearly consistent with the Coastal Act but address only two of the Act's numerous objectives. In the area of agriculture, for example, the GMP is much less clear than the Coastal Act. The GMP is also a very general policy document rather than a specific blueprint for future park development. Consequently, an evaluation of its content in terms of Coastal Act policies must also, of necessity, be quite general. In the text below, the objectives and proposals of the GMP are compared to policies in the Coastal Act on public access and transportation, recreation and visitor-serving facilities, natural resources, agriculture and mariculture, and development. In addition, the issue of public emergency services is reviewed in light of Coastal Act and federal policies, and areas authorized for acquisition by the federal government for addition to the GGNRA or PRNS are described.

PUBLIC ACCESS AND TRANSPORTATION

Maximizing public access to and along the coast is a basic goal of the Coastal Act. The Act also provides that energy consumption and vehicles miles traveled in the coastal zone be minimized. The ownership of federal parklands by the public allows unrestricted public access to the shoreline, in concept, consistent with Coastal Act goals. However, the specific provisions for public access and the development of access roads, trails, and transit opportunities largely determine the extent to which the public can, in fact, make use of its parks.

In the southern GGNRA, direct vehicular access is provided to Rodeo Valley, Muir Beach, Stinson Beach, and the Palomarin Trailhead. In the PRNS, vehicular access is possible to Limantour Beach and the beaches on the seashore peninsula. For most of these areas, access takes the form of "point" access with accompanying support facilities. Transit service is provided to a limited number of these destination points. In addition to access roads, an interconnecting trail system provides hiking and horseback riding opportunities between the southern portion of the park and Muir Woods, Mt. Tamalpais, and Stinson Beach. To the north, the trail network links the eastern portions of the seashore with the beaches on the coast. Many coastal areas in both the GGNRA and PRNS are accessible only on foot or by horse, due to the character of the topography and distance from roads. This form of access limits public use but is generally in keeping with the rugged nature of the coastline and the wilderness status of the seashore.

The GMP recognizes the enhancement of public access and use of the parks as a basic management objective. The GMP recommends the expansion of transit services to serve transit dependent neighborhoods, the use of transit to alleviate traffic impacts on adjacent communities and park resources, and the development of a trail system for the use of hikers, bicyclists, and equestrians. To ease the traffic congestion problem in Stinson Beach, a new parking

lot entrance is proposed south of town to intercept most of the beach visitors before they drive through the community. The plan also proposes interpretive, educational, and informational programs to increase public awareness and appreciation of the parks including programs for senior citizens, the handicapped, and cultural and ethnic minorities. Thus, both transportation and interpretation receive heavy emphasis in the plan reflecting a strong commitment to greater public access, use and enjoyment of the parks. The LCP supports these objectives and recommends that where additional accessways are provided they be connected to transit stops. The LCP also recommends that the most heavily used areas in the parks be given priority in transit development and that an inter-park shuttle be provided.

RECREATION AND VISITOR-SERVING FACILITIES

As with public access, the Coastal Act encourages that maximum public recreational opportunities be provided on the coast. The Act also encourages the development of facilities which serve the traveling public, such as overnight accommodations. Lower cost facilities are particularly favored.

The federal parks currently offer a wide range of recreational activities, although many are limited to a small geographical area. The military forts and park facilities in San Francisco offer a variety of cultural and educational programs. Parklands in northern Marin are best suited for low-intensity recreational uses such as hiking, clamming, and camping. In all areas, the potential for expanded recreational use by the public is substantial. The potential for expanded overnight accommodations in the GGNRA and PRNS is also substantial. Currently, overnight accommodations in the coastal zone are limited to three hike-in campgrounds, one group camp, and two hostels, for an average of 1. campsite per 2000 acres of public open space. There are no accommodations in the Olema Valley or in the PRNS north of Limantour Road.

The GMP includes numerous management objectives to increase public recreational opportunities. The plan recommends developing facilities which provide a wide variety of uses to a diversity of public users, retaining existing uses, encouraging community organizations to use the parks, providing a variety of overnight experiences, and offering food and rental services where need is demonstrated. Specific recommendations for overnight accommodations include the development of 2 group camps and 2 hike-in camps in the southern GGNRA, 1 hike-in and 1 walk-in camp in the Mt. Tamalpais area, 2 walk-in camps and 1 hike-in camp in the Olema Valley along with several hostels in existing structures, and 3 hike-in camps and 1 canoe-in camp in the PRNS. The development of these additional facilities will greatly improve opportunities for coastal visitors to realize the full recreational potential of the parks. No phasing program has been established for the construction of these accommodations, however, so it is unclear when they will be available. The LCP recommends that before existing unused buildings are converted to other uses, they be reviewed for potential overnight accommodations. New facilities should be developed first in the areas of heaviest demand.

NATURAL RESOURCES

Protecting, maintaining, and where feasible, enhancing and restoring the natural land and water resources of the coastal zone is one of the most important goals of the Coastal Act. Indicative of this emphasis is the requirement that, where conflicts occur between different policies in the Act, those conflicts be resolved in a manner which on balance is the most protective of significant coastal resources.

The protection of natural resources is also a major emphasis of the GMP. Along with providing public use and enjoyment, protecting natural resources is a major reason why the parks were established in the first place. The parks essentially preclude further development in most of Marin's coastal zone so that it may be retained in its present natural state. Approximately 50% of the PRNS has been designated as wilderness, which further protects its resources. In addition, the waters surrounding the parklands have been nominated for inclusion in the proposed Point Reyes - Farallones Federal Marine Sanctuary.

The GMP contains numerous management objectives for resource protection. Perhaps the most important are, for the GGNRA, "to maintain the primitive and pastoral character of the parklands in northern Marin County by providing only minimum, dispersed development" and, for the PRNS, "to identify, protect, and perpetuate the diversity of existing ecosystems which are found at PRNS...." In addition to these general resource objectives, the GMP recommends identifying and protecting threatened and endangered plant and animal species and other sensitive natural resources, controlling exotic plants and erosion problems, supporting studies and research programs to enhance knowledge of ecosystem management, and managing park activities in a manner compatible with resource carrying capacity. These plan objectives are clearly consistent with Coastal Act policies. Because of the emphasis in the Act on resource protection, the LCP recommends that federal projects involving the modification or alteration of natural resources be evaluated by the Coastal Commission through the consistency review process.

AGRICULTURE AND MARICULTURE

The Coastal Act strongly supports the preservation of agricultural lands in productive agricultural use and strictly controls the conversion of agricultural lands to other uses. Agricultural land uses are given priority over many other-use in the coastal zone, including visitor-serving development. With regards to mariculture, the Coastal Act encourages its development in coastal waters as a means of providing additional food sources.

Agriculture in the form of dairying and cattle ranching has existed in certain areas of the GGNRA and PRNS for generations. Currently, there are approximately 20 agricultural operations in the parks, generating a wholesale product value approaching $4,000,000 annually and employing roughly 100 workers. The economic activity associated with agriculture in the federal parks forms a significant part of Marin County's total agricultural industry. This situation is described in the Statement for Management for the PRNS, issued by the National Park Service in 1978:

> Dairy and beef cattle operations within the Seashore and Golden Gate lands-managed by the Seashore are sizeable with twelve beef cattle operations and nine dairies covering almost one-third of the park lands. This is a large economic interest operating under special use permit or reservation of possession, and the operations are a significant component of the Marin County agricultural industry. (p. 19)

Agriculture continues in the GGNRA and PRNS due to special provisions in the legislation which established the parks. The legislation authorized the federal government to purchase ranches but supported continued agricultural operations until such time as the Secretary of the interior determined that they were incompatible with the purposes for which the parks were established. Many ranchers, in negotiating the sale of their land, retained rights of use and possession for 25 years or longer. Other ranchers now operate under special use permits of varying length from the federal government. The problem with the special use permit arrangements is that they provide no security to the ranchers. Without a clearer understanding that agriculture will be permitted to continue in the federal parks in the future, the ranchers are reluctant to invest in maintenance and capital improvements.

The GMP supports continued agriculture in the GGNRA and PRNS and establishes a Pastoral Landscape Management Zone-including agricultural lands in northern Olema Valley, northern Point Reyes peninsula, and on the Bolinas Mesa. The plan also recommends the preparation of a grazing management plan to determine the suitability of parklands for grazing and to set up a monitoring system to ensure that proper range management practices are allowed. Based on the results of the grazing plan, the boundary of the Pastoral Zone may be adjusted. The GMP as well as the park enabling legislation are silent on the question of what will happen in the future when existing grazing leases expire. The GMP implies that agricultural uses may be allowed to continue indefinitely; however, the National Park Service has retained the flexibility to alter and possibly decrease the area included within the Pastoral Landscape Management Zone.

Because of the Coastal Act's strong support for preserving agricultural lands and the important role which agriculture in the parks plays in Marin's agricultural economy, the LCP recommends that agriculture in the GGNRA and PRNS be encouraged and carefully monitored to avoid adverse impacts on natural resources and public recreation. Where conflicts arise between agriculture and public park uses, they should be resolved so as to protect resources and public safety while still allowing the continuation of the agricultural operation. Regarding existing leases, the LCP recommends that they be reviewed five years prior to expiration for compatibility with park goals, and revised as necessary. To provide greater security to agricultural operations, long-term lease arrangements and automatic lease renewal provisions are recommended if all terms and conditions of a lease are met. Uniform procedures and standards should be established by the National Park Service to deal with all agricultural tenants.

Mariculture operations in the area of the federal parks consist of the 1060-acre Johnson's Oyster Farm in Drake's Estero and Spengers, a small operation on Tomales Bay. Johnson's Oyster Farm is a major oyster producer statewide, producing some 20% of the state's total marketable oyster crop. Additional mariculture operations could be accommodated on tidelands and submerged lands within the park; however, the National Park Service has a policy against further commercial development.

The GMP supports continued mariculture operations in a manner compatible with resource carrying capacity. Monitoring is also recommended, in cooperation with the California Department of Fish and Game. The LCP concurs that mariculture should continue within the park. The LCP also recommends that additional mariculture operations be considered in park waters, provided that they are compatible with other park uses and that they are subject to consistency review by the Coastal Commission.

DEVELOPMENT

The Coastal Act's policies on development provide that new development be concentrated in existing developed areas and that historic structures and visual resources be protected. The Act also protects special communities which, because of their unique character, are popular destination points for visitors.

Existing development in the GGNRA and PRNS is minimal and is generally concentrated in a few select locations. Scattered ranch buildings, maintenance facilities, and user facilities are also present. The basic management strategy proposed in the GNP to accommodate new and expanded visitor and management needs, such as the establishment of hostels, is to reuse and restore existing buildings. In addition to providing for increased needs, this approach preserves historic structures and the visual quality of developed park areas, and reduces building costs. Indeed, the preservation and restoration of the parks historic, cultural, and archaeological resources is a key objective of the GNP. The GNP also proposes that new development be located in areas previously disturbed by human activity whenever possible. Southern Marin and the San Francisco portions of the GGNRA are to be the sites for whatever concentrated developments are necessary. These management objectives are consistent with Coastal Act policies on the location of development, historic resources, and visual quality. The LCP recommends that the reuse of existing structures be pursued and that new backcountry campgrounds be developed with minimum impacts on visual and habitat resources.

PUBLIC EMERGENCY SERVICES

The County of Marin currently receives approximately $90,000 per year from the National Park Service for the purpose of providing additional public emergency services (ambulance, police, fire) to coastal areas. The funds are intended to compensate local service districts for the extra services required by visitors attracted to the federal parks in West Marin. The GGNRA and PRNS also get $15,000 each from the total annual "emergency services fund" of $120,000. The fund was established in the early 1970's, following the creation of the GGNRA, through legislation sponsored by Congressman John Burton and supported by the County and local citizens' groups. No allocation procedure or funding priorities were included in the legislation.

The County's $90,000 share of the fund is allocated yearly through a negotiation process involving Congressman Burton, Supervisor Gary Giacomini, whose district includes West Marin, and the local districts concerned. In the past, the money has been divided among the coastal ambulance, and coastal fire and other service districts. Numerous issues and questions have arisen in the administration of funds for this program,

including the following: What districts should or should not get money? What percentage of funds should go to the coastal ambulance? Should limitations be placed on how the money is spent once allocated to a district? What priorities, if any, should govern the granting of funds? How should coastal emergency services funded by "Burton money" fit into the emergency services program for the rest of the County?

The answers to these questions are generally beyond the scope of both the GMP and the LCP. The National Park Service has not addressed funding questions in its plan because the emergency funds are granted to the County with the understanding that allocation is a County decision. Also, the money is given to the County for use by service districts which lie outside the boundaries of the federal parks. Funding issues for this program are also beyond the scope of the Coastal Act and the LCP. The LCP does, however, recognize the need for emergency services to cope with visitor impacts and recommends that federal funding for such services be continued. The LCP also recommends that the allocation procedure be examined and clear priorities and criteriaestablished for the granting of funds.

FEDERAL ACQUISITIONS

Legislation approved by Congress and signed into law by the President in 1980, Public Laws 96-199 and 96-344, authorizes federal purchase of certain lands in Marin's coastal zone for addition to the GGNRA or PRNS. The legislation also authorizes the transfer of state parklands and nature preserve and water district lands to the federal government for management as part of these federal parks. All together, approximately 3000 acres are authorized for acquisition. Specific areas covered by the legislation include the following:

Inverness Ridge - Tomales Bay State Park, other State park lands adjacent to PRNS (Inverness Ridge project), Nature Conservancy lands, Audubon Canyon Ranch lands, Inverness Public Utilities District lands, private property in Fish Hatchery Creek watershed, other private property on the Ridge.

Paradise Ranch Estates Subdivision - 40 lots.

AP #114-120-13, 14, 48, 56, 57
AP #114-130-21 23, 25, 27, 29, 54-61
AP #114-150-02, 12, 14, 32-37, 39, 41-50, 52

West side of Tomales Bay - Undeveloped lots as of October 1, 1979 from Whitehouse Pool north to Chicken Ranch Beach on the east side of Sir Francis Drake Boulevard.

East side of Tomales Bay - Tomales Bay Ecological Reserve, Tomasini/ Millerton Points, former Angress lands, some Audubon lands, all undeveloped lots west of Highway 1 from the Tomales Bay Ecological Reserve north through Miller Park except for the town of Marshall (defined as including the Post Office Building on the north to and including Marshall Boat Works on the south), and Marconi Cove.

Agricultural lands - Lands on the east side of Tomales Bay immediately north of Marshall, Waldo Giacomini lands, Gallagher Ranch, Ottinger Estate, Martinelli Farms, other agricultural lands in the Lagunitas Loop.

The legislation authorizing these lands for purchase includes provisions regarding leasebacks to owners of single-family dwellings. These leaseback provisions specify that for homes constructed after May 1, 1979, leases with the federal government allowing the owners to remain on the property will not be available. Thus, residents of homes constructed after that date will be required to move out when their lands are purchased.

FEDERAL PARKLANDS

LCP POLICIES ON FEDERAL PARKLANDS;

1. Public access and transportation.

   a. Additional coastal access trails and bike paths should be provided where feasible and where consistent with the protection of the parks natural resources. Non-vehicular accessways should connect to points accessible by both automobile and transit.

   b. Frequent and convenient transit service from outside the parks to the most heavily used areas in the parks should be given priority in transit planning and funding. The National Park Service should develop a shuttle system to serve points within the parks.

2. Recreation and visitor-serving facilities.

   a. Priority should be given to the development of new facilities in the most heavily used areas of the parks which are close to park interpretive, educational, and other programs and which are easily accessible by transit. The construction of a new visitor center in Bear Valley is encouraged.

   b. Existing unused buildings within the parks, such as military structures, should be carefully reviewed for potential overnight accommodations before they are converted to other cultural or institutional uses.

3. Natural resources. Federal projects which involve the modification or alteration of natural resources should be evaluated by the Coastal Commission through the consistency review process.

4. Agriculture and mariculture.

   a. The continuation of agricultural land uses in the GGNRA and PRNS is strongly encouraged, where and at a level which is compatible with the protection of natural resources and public recreational use. Agricultural operations should be monitored to ensure that they are compatible with resource carrying capacity. Where conflicts arise between agriculture and resource protection or public access or recreational uses, they should be resolved in such a way as to protect resources and public safety while still allowing the continuation of the agricultural operation.

   b. Existing agricultural leases and special use permits should be reviewed five years prior to their expiration for their compatibility with park goals. Operators should be notified at that time whether or not their leases will be renewed and what revisions in operating arrangements, if any, are necessary. Automatic lease renewal provisions should be considered if all terms and conditions of a lease are met. The County encourages the National Park Service to develop uniform procedures and standards to use in dealing with all agricultural tenants. Such procedures and standards should provide for long-term lease arrangements.

c. Existing mariculture operations are encouraged and should be permitted to continue in the parks. Additional mariculture activities should be considered provided that they do not conflict with public access, recreation, or the protection of visual resources. New mariculture activities should be subject to consistency review by the Coastal Commission.

5. Development/historic preservation. New or expanded development should utilize existing structures and be directed to existing developed areas whenever possible. Historic structures should be preserved, restored, and formally designated as historic resources where appropriate. The County should work with the National Park Service to coordinate historic preservation activities in the coastal zone. The majority of park development should *be* concentrated in the southern GGNRA due to its close proximity to urban population centers, easy accessibility, and availability of existing facilities. New backcountry campgrounds should be developed with minimum impacts on visual and habitat resources.

6. Public emergency services. The County supports continued financial assistance from the National Park Service for emergency services in coastal areas heavily impacted by visitors to the federal parks. A review of the procedures used by the County to allocate such funds is recommended, along with the establishment of clear priorities and criteria for the granting of funds.

II. RESOURCE PROTECTION

- NATURAL RESOURCES
- AGRICULTURE

NATURAL RESOURCES

COASTAL ACT POLICIES/INTRODUCTION

The protection of natural resources in the coastal zone is a major emphasis of the Coastal Act. The Act's policies on natural resources, contained in Sections 30230, 30231, 30236, and 30240, can be divided into two main categories: water and marine resources, and environmentally sensitive land habitats. The full text of these sections is given in Appendix A.

Based on the characteristics of natural resources in the Unit II coastal zone, the two resource categories which appear in the Coastal Act have been expanded into five: 1) the marine environment of Tomales Bay, 2) water quality in Tomales Bay, 3) streams and riparian habitats, 4) wetlands, and 5) coastal dunes and other sensitive land habitats. LCP policies on these topics are divided into five corresponding groups. The discussion below combines a description of Unit II's resources with the planning issues involved.

MARINE ENVIRONMENT OF TOMALES BAY

The major marine resource in the Unit II coastal zone is Tomales Bay, which offers a great diversity of marine habitats and, correspondingly, a rich and diverse marine life. The importance of Tomales Bay as a natural resource has been recognized statewide.

Habitats and marine life. Rocky points, intertidal areas, and shoreline substrates in Tomales Bay offer habitat for a wide variety of marine invertebrates, birds, and occasionally, marine mammals. The Bay's benthic sediments vary from cobble and coarse sand to gravel, fine silt, and mud. Depth conditions are similarly varied, offering habitats for many distinct invertebrate communities. Biologists have estimated that over 1000 species of invertebrates can be found in the Bay. The great variety of fishlife also reflects the Bay's many habitats. Herring, crab, and perch are the most frequently caught commercial species. In addition, halibut, jacksmelt, striped bass, rockfish, and greenlings are taken. Oysters are grown commercially in several locations around Tomales Bay and recreational clamming for some half dozen species of clams is very popular. Other notable marine life found in Tomales Bay includes harbor seals, which use the sand spits surrounding Hog Island as a haulout area, and several species of sharks and rays which spawn in the Bay.

Eelgrass beds. One of the most significant marine resources of Tomales Bay are the extensive eelgrass beds which occur primarily in shallow waters at the northern end of the Bay. These eelgrass beds are critical for the survival of a particular species of migratory bird, the Black Brant, which depends upon the eelgrass for food. Eelgrass is also important to the Pacific herring which enters the Bay annually to deposit eggs, principally on the eelgrass. Approximately 5000 tons of these fish run in Tomales Bay each year.

Special recognition. The importance of Tomales Bay as a resource is indicated by the fact that the Bay was one of four areas in California to be considered in 1978 for nomination as an Estuarine Sanctuary under the Federal Estuarine Sanctuary Program. Tomales Bay is also included in a proposed Point Reyes - Farallones Marine Sanctuary, one of three such marine sanctuaries in the state which are currently being studied by the National Oceanic Atmospheric Administration (NOAA). In recognition of the importance and unique values of Tomales Bay, the Regional Coastal Commission adopted a resolution in February 1979 designating Tomales Bay a "Special Resource Area". That resolution states in part, "... the North Central Coast Regional Commission does ... designate the coastal waters and immediately adjacent uplands of Tomales ... Bay ... as a Special Resource area; such designation to denote the Commission's commitment to the protection, enhancement, and where feasible, restoration of the unique and important natural resources of this area."

WATER QUALITY IN TOMALES BAY

Water quality issues in the Unit II coastal zone have revolved primarily around the condition of Tomales Bay. Although the quality of waters in the Bay is considered to be generally good, there have been certain problems which deserve discussion here.

Natural runoff/agricultural uses. Tomales Bay has a record of coliform contamination during the rainy season when freshwater runoff is greatest. There are numerous sources of coliform in the Bay, including natural sources, such as wildlife guano, domestic animals, and septic systems. Dairy operations in the watershed also contributed to high levels of coliform in the past. In an effort to correct this problem, the Regional Water Quality Control Board established "Minimum Guidelines for Protection of Water Quality from Animal Wastes", which have been implemented gradually since 1975. The implementation of these guidelines has resulted in a general improvement in the coliform quality of tributary streams to Tomales Bay. Local dairymen, and the individuals from local, state, and federal agencies who assisted them, are to be commended for their efforts to implement the Minimum Guidelines and thus preserve a high level of water quality in the Bay.

Due to the fluctuating water quality of Tomales Bay brought about by changes in season and runoff volumes, the Bay's waters have been classified as "conditional" by the State for the purpose of commercial shellfish production. (It should be noted that all other natural water bodies in California in which shellfish are grown commercially have been given the same classification.) The State Department of Health takes frequent water quality samples from the Bay and, when necessary, temporarily closes shellfish operations until coliform levels have dropped to acceptable levels. The shellfish then purify themselves in a short period of time. The fact that Tomales Bay is suitable for raising animals for human consumption is indicative of its generally high water quality.

Unlike shellfish operations, recreational use of Tomales Bay generally has not been hampered by lowered water quality. Water quality monitoring has shown that general health standards in the Bay are adequate for most of the spring, summer, and early autumn when recreational use is heaviest.

Septic systems. Widespread use of septic systems along the shoreline of Tomales Bay and in the watershed also contribute to water quality problems in the Bay. Many systems on the bay shore are old and built on, over, or in bay mud or sand. Because of shoreline erosion in certain areas of the Bay, such as Marshall, some existing residences have lost a significant portion of their leachfields. The erosion of a leachfield area reduces the volume of soil which can filter and cleanse the septic effluent, thus creating the potential for water quality degradation. In addition, few if any of these systems meet the County's septic system code. Septic systems in the watershed of Tomales Bay, such as those in Inverness Ridge, may also contribute pollutants to groundwater supplies and possibly the Bay.

Studies of the hydrodynamic conditions of Tomales Bay have shown that flushing characteristics in different parts of the Bay differ substantially, a fact which is significant for water quality control. In general, the northern third of the Bay near the mouth is flushed fairly thoroughly by tides, the middle third is sluggishly mixed, and the southern third has very poor flushing characteristics. Thus, it is possible that the southern end of the Bay is more susceptible to water quality degradation than the northern end.

Erosion and siltation. Soil erosion in the watershed of Tomales Bay and subsequent sedimentation in the Bay itself adversely affect water quality and the viability of marine habitats. Although some erosion occurs naturally in all ecosystems, the rate of erosion has been greatly accelerated in certain areas of the Bay's watershed due to construction activities, road building, improper agricultural practices, stream alterations, and vegetation removal. Soils on the Inverness Ridge are especially susceptible to erosion due to their poorly consolidated character and steep slope: almost one-half of the Ridge has slopes equal to or greater than 30%. The cachement basin for all materials eroded from the Tomales Bay watershed is, of course, the Bay itself, which has experienced accelerated filling in past years, especially at its southern end. To reduce erosion problems in the future, the LCP proposes strict standards on grading and land development.

STREAMS AND RIPARIAN HABITATS

There are a large number of streams in the Unit II coastal zone, of many different sizes and with different characteristics. The discussion below applies to most of these in a general way. The LCP policies proposed for streams are intended to apply to perennial or intermittent streams which are mapped by the United States Geological Survey (U.S.G.S.) on the 7.5 minute quadrangle series.

Streams. Streams and creeks are sensitive habitats for many species of birds and fish. The Walker and Lagunitas Creek systems which feed Tomales Bay support runs of anadromous fish in Marin County, primarily silver salmon and steelhead trout.

Walker Creek currently supports only remnant populations of salmon and trout, although the Department of Fish and Game expects to enhance these populations with a restoration program associated with the Soulajule project. Restoration measures, including a fish augmentation program, streamside habitat improvement, and fish stocking, will probably take at least ten years to show an effect. Lagunitas Creek supports a spawning run of several thousand fish, which is also expected to be increased as a result of restoration measures by Fish and Game.

Continued freshwater inflows to Tomales Bay are required to meet the spawning needs of these anadromous fish. Freshwater inflows are important for other reasons as well. They flush salt water, accumulated bottom sediments and toxic elements seaward. Such inflows also influence the distribution of shellfish in the Bay and may be significant for invertebrate populations and plant life in wetland areas, in turn affecting the birds which use these areas to feed.

Because of the critical importance of freshwater inflows to the ecology of Tomales Bay, water diversions and dam construction on tributary streams have been significant issues. Approximately 75% of all freshwater inflow to the Bay comes from the two largest creeks: Lagunitas Creek to the south and Walker Creek to the north. Major impoundments in the watershed of Lagunitas Creek include Kent, Alpine, and Bon Tempe Lakes, Lake Lagunitas and Nicasio Reservoir. On Walker Creek, the largest project to date is the Soulajule Reservoir. Estimates are that these and smaller diversions have reduced the mean annual net freshwater inflow to Tomales Bay by approximately 25%. The long-term effects of such diversions on marine resources in Tomales Bay are poorly understood.

Other issues of particular concern in relation to streams in Unit II are sedimentation and water pollution, both in the streams themselves and downstream. Heavy siltation of stream beds destroys fish habitat, increases flood hazards, and retards groundwater recharge. Runoff from upland development or agricultural areas can pollute streams and downstream waters. Overgrazing and dairy waste pollution have been the major causes of these problems in the past. Damage from agricultural uses can occur by allowing livestock free access to natural waterways and grazing livestock up to the edges of streams and in riparian areas. As a result, habitats are damaged by streambank erosion, the trampling of vegetation, sedimentation to streams, and contamination through runoff.

Riparian habitats. Protection of streams requires both protection of a stream itself and of the riparian vegetation growing adjacent to it. Common plant genera associated with this vegetation type include maple (Acer), alder (Alnus), ash (Fraxinus), and willow (Salix). On steeper sites, riparian vegetation is generally confined to a narrow strip along watercourses, while in flatter areas, it may extend for several hundred feet in width.

Riparian vegetation provides a valuable and limited habitat for bird and animal life and helps maintain a high level of water quality by filtering sediment from surface runoff and stabilizing soil on adjacent stream banks. The shading offered by streamside vegetation maintains cool streamwater temperatures for fish. This vegetation promotes a favorable habitat for fish in other ways by contributing insects to the stream for food and helping to shape pools and riffles. Riparian vegetation growing at the edges of wetland areas acts as a noise and visual buffer between developed areas and wildlife habitat. All of these beneficial effects are lost, wholly or in part, when this vegetation is damaged or destroyed.

WETLANDS

Definitions. The Coastal Act includes numerous policies on wetlands, estuaries, and other water bodies. Since these policies apply differently depending on the water body involved, it is important that the distinction between such water bodies be clear. The State Coastal Commission has adopted Interpretive Guidelines containing specific definitions of wetlands, estuaries, streams and rivers, lakes, and open coastal waters. For wetlands, the Commission's interpretation is based on a definition developed by the U.S. Fish. and Wildlife Service. According to this definition, generally, wetlands exist where the soil is predominantly hydric (wet), the plant cover is predominantly hydrophytic (plants grow in water or in very moist ground), and the land is flooded or saturated at some time of year. A full definition is given in Appendix B.

In the Unit II coastal zone, there are two coastal wetland areas of statewide significance: one is Tomales Bay and the other, the northern county region including the Estero Americano and the Estero de San Antonio. Since over two-thirds of the original coastal wetlands in California have been destroyed or degraded, the remaining wetland areas, such as those in Unit II, assume an even greater significance.

Tomales Bay. In addition to the important marine habitats in Tomales Bay discussed earlier, the Bay includes approximately 440 acres of marsh and 2900 acres of mudflats which have great value as a wetland habitat, and for recreation, water quality, and scientific and educational purposes. The wetlands are a vital link in the migratory path - the Pacific Flyway - of many species of waterfowl, and thousands of birds use the Bay each year. Wetlands also serve as corridors to valuable spawning and nursery sites for anadromous fish, primarily silver salmon and steelhead trout. Water quality and supply are enhanced by the filtering and storage functions of wetland areas. Recreational opportunities, too, for fishing, birdwatching, and photography, are provided by Tomales Bay wetlands. All of these beneficial functions may be threatened by dredging and filling, sedimentation from upland development, incompatible uses or overuse, and stream alterations.

The largest wetland area in Tomales Bay, consisting of salt marsh and mudflats, is located at the southern end of the Bay within the Tomales Bay Ecological Reserve. The reserve comprises approximately 500 acres of land, owned and managed by the State Wildlife Conservation Board. At one time, the wetlands in the area of the reserve covered an additional 500 acres to the south. This acreage, however, was diked, drained, and converted to agricultural use many years ago. Other areas of salt marsh in Tomales Bay occur in small scattered patches along the east shore, most notably at the mouths of Walker Creek and Millerton Gulch and on Tom's Point. Areas of freshwater marsh can be found on the upland side of many salt marshes fringing Tomales Bay. The largest of these is the Olema marsh, near the junction of Olema and Lagunitas Creeks. The Cypress Grove area also has sizeable marsh habitat.

Estero Americano and Estero de San Antonio. The second major wetland area in the Unit II coastal zone is north of Tomales Bay and includes the Esteros Americana and de San Antonio, These esteros are described in the report The Natural Resources of Esteros Americano and de San Antonio by the State Department of Fish and Game, from which this discussion was taken. According to this report, the open waters of the Estero American cover about 300 acres, and wetland habitats extend over an additional 400 acres. The smaller and more southerly Estero de San Antonio includes about 90 acres of open water and over 200 acres of wetland habitats.

The esteros are unique in comparison to other coastal wetland areas. Originally formed from "drowned river valleys," the esteros have steeply sloping hillsides which create an abrupt transition from uplands to open water. The resulting fjord-like quality of the esteros is not found in other California wetlands. The esteros are also unique in that they are "seasonal estuaries" whose connection to the ocean is periodically closed. During the late spring and summer months, when the inflow of freshwater from the upland watershed is small, a sand bar forms at the mouth of each estero. Tidal influence is eliminated and evaporation is high, sometimes resulting in a hypersaline estuary with salinities far above that of the ocean. In winter months, by contrast, winter rainfall runoff keeps the mouths of the esteros flooded and open. During this time, tidal influence extends three to four miles upstream, approximately half the length of each estero.

Within the watersheds of the esteros, there are a wide variety of habitat types and a high diversity of associated animal species. Major habitats include open water, seasonal brackish marsh, California annual type grassland, coastal prairie and coastal scrub. Animal life includes seventy-one species of water and marsh-related birds and sixty-six species of terrestrial birds. Monthly observations of birdlife indicate the importance of the esteros to migrating and wintering birds-as well as to year-round residents. Surveys of fish species are equally impressive, identifying thirty-one marine and freshwater species in the two esteros. Greatest species abundance and diversity are located at each estero mouth. The rich bird and fish populations are due, in part, to the abundance of marine invertebrates which inhabit the mudflats, eelgrass beds, and channel bottoms of the esteros.

The State of California, acting through the State Lands Commission, is the owner of all tide and submerged lands in Estero de San Antonio and Estero Americano. Lands adjacent to these two esteros are privately owned; as a result, there is free public access to the water only from the public roads crossing the esteros and from the Pacific Ocean.

Agriculture continues, from its historic beginnings, as the primary use of the lands surrounding the esteros. Dairying and sheep and cattle grazing are at present the major agricultural industries in the area, although some farms raise turkeys. Past agricultural land uses have included row crops of corn, beets, potatoes, onions, oats, and hay, only small areas of which continue today. Estero Americano was reportedly a navigable body of water in the late 1880's and was used for shipping potatoes to market.

Estero Americano and Estero de San Antonio [cont.]

Major problems threatening the existence of Esteros Americano and de San Antonio as they are today include encroachment by urban development and degradation of water quality. Northwest of the mouth of Estero Americano, and south of the mouth of Estero de San Antonio, are coastal subdivisions of immediate threat to the esteros lands. Water quality problems have resulted from improper agricultural practices producing runoff and increased sedimentation. In response to federal * water quality regulations, the North Coast Regional Water Quality Control Board in conjunction with the Soil Conservation Service has been involved in a local program to eliminate point and non-point source discharges which have been degrading the quality of estero waters. The effectiveness of this program to date indicates the likelihood of non-polluted estero water in a few years.

The Marin County General Plan designates the Esteros Americano and de San Antonio as "conservation zones." However, specific plans for implementation of this concept do not presently exist. The lands surrounding the esteros are designated "agricultural" and are zoned C-APZ-60.

[Amended pursuant to BOS Resolution No. 88-333 (Attachment 1, p.2) [12/20/88], approved by CCC with suggested modifications 4/12/89, 2nd BOS Resolution No. 89-216 [8/8/89], CCC ED Checkoff 4/13/90]

COASTAL DUNES AND OTHER SENSITIVE LAND HABITATS

Environmentally sensitive. habitat areas are defined in Section 30107.5 of the Coastal Act as, "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem." More specifically, such habitats may serve as prime examples of particular natural communities; be unique, rare or fragile; provide habitat for rare or endangered species of wildlife and thus be vital to species survival; or be of particular scientific or educational interest.

One of the most significant habitat areas in Unit II is the area of coastal dunes, encompassing some 250 acres, in the vicinity of Sand Point. This area, located at the mouth of Tomales Bay just southeast of the community of Dillon Beach, is used for a recreational resort known as Lawson's Landing. The resort includes recreational trailer, boat rental, moorage, and repair areas and is used for a wide variety of recreational activities including camping, picnicking, clamming, beachcombing, and hang-gliding. Expansion of the resort has been considered in the past.

In addition to recreational uses, a 23-acre site located approximately mile southeast of Dillon Beach is used for a sand quarry operation under a surface mining and quarry permit from the County. The permit, issued in 1977, allows 10-15,000 tons of sand to be quarried each year for five years. The project as conditioned did not require an EIR. The permit conditions included limiting the operation to excavation only (no processing allowed) and allowing the County to limit or reduce the extent or rate of excavation if it exceeds the natural rate of replacement. The project should be reviewed prior to any extension of the permit to ensure that sand quarrying is not causing a deterioration of dunes or vegetation.

The dunes on Sand Point, varying in height from 10 to 150 feet, occur in two formations: fore dunes, a series of three longitudinal dunes running parallel and the adjacent to the ocean beach; and rear dunes, located inland systems. The foredunes

serve the important function of protecting inland area from wave runup generated by prolonged storms and high seas. Both foredunes and rear dunes provide unique habitats for several species of plants and animals which have been able to adapt to the harsh environment of the shoreline and the rigors of wind, sand and salt. One particular plant of note in the area, the Dune Tansy, is a rare and endangered plant as listed by the National Smithsonian Institution and the California Native Plant society. The entire dune area should be considered Tansy habitat.

All vegetation in the dunes forms an integral part of the dune ecosystem by stabilizing dune formations. Plants impede the rate of sand movement by breaking up the smooth flow of air and causing sand to settle. Dune and plant associations are fragile systems which are especially subject to disruption. If the protective mantle of vegetation is broken, dune movement is accelerated to a point where plant growth cannot keep pace with shifting sand, causing erosion and a change in dune position. Heavy recreational use in dune areas and overly rapid sand extraction can adversely impact dune stability and should be regulated to prevent this occurrence. Stabilization of the dunes in the Sand Point Area has been accomplished over a fifty year period in conjunction with Soil Conversation Service. Great care should be taken to ensure that protective vegetation is not disturbed if additional development or increased use occurs in the area.

LCP POLICIES ON NATURAL RESOURCES:

1. Marine environment. Tomales Bay is currently being considered for inclusion in a proposed Point Reyes - Farallones Federal Marine Sanctuary. The County of Marin strongly supports the objectives of the proposed Marine Sanctuary which would protect valuable habitat for marine species, and recommends that local Marin County organizations and qualified citizens be represented in any citizens advisory committee that may be established for the Sanctuary.

2. Water quality. The County encourages the Regional Water Quality Control Board, State Department of Health, and other responsible agencies to continue working on identifying sources of pollution in Tomales Bay and to take steps to eliminate them. LCP policies which address specific development-related water quality problems, such as septic system discharges, are contained in the LCP sections on Public Services and New Development. Other LCP policies on the location and concentration of development and protection of riparian habitats address water quality concerns from a broader perspective.

3. Streams and riparian habitats. The policies contained in this section shall apply to all streams in the Unit II coastal zone, perennial or intermittent, which are mapped by the United States Geological Survey (U.S.G.S.) on the 7.5 minute quadrangle series.

   a. Stream alterations. Stream impoundments, diversions, channelizations, or other substantial alterations shall be limited to the following purposes:

      (1) Necessary water supply projects, including those for domestic or agricultural purposes;
      (2) Flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development; or
      (3) Developments where the primary function is the improvement of fish and wildlife habitat.

      Before any such activities are permitted, minimum flows necessary to maintain fish habitat and water quality, and to protect downstream resources (e.g. riparian vegetation, groundwater recharge areas, receiving waters, spawning habitats, etc.) and downstream users shall be determined by the Department of Fish and Game and the Division of Water Rights of the State Water Resources Control Board. New impoundments which, individually or cumulatively, would decrease streamflows below the minimum shall not be permitted.

   b. Conditions. The alteration of streams allowed for the purposes listed in (a) above shall be held to a minimum to protect streamwater quality and the volume and rate of streamflow. All such developments

shall incorporate the best mitigation measures feasible, including erosion and runoff control measures, and revegetation of disturbed areas with native species. Disturbance of riparian vegetation shall be held to a minimum.

c. Stream Buffers. Buffers to protect streams from the impacts of adjacent uses shall be established for each stream in Unit II. The stream buffer shall include the area covered by riparian vegetation on both sides of the stream and the area 50 feet landward from the edge of the riparian vegetation. In no case shall the stream buffer be less than 100 feet in width, on either side of *the stream, as measured from the top of the stream banks.

d. Development in Stream Buffers. No construction, alteration of land forms or vegetation removal shall be permitted within such riparian protection area. Additionally, such project applications shall identify a stream buffer area which shall extend a minimum of 50 feet from the outer edge of riparian vegetation, but in no case less than 100 feet from the banks of a stream. Development shall not be located within this stream buffer area. When a parcel is located entirely within a stream buffer area; design review shall be required to identify and implement the mitigation measures necessary to protect water quality, riparian vegetation and the rate and volume of stream flows. The design process shall also address the impacts of erosion and runoff, and provide for restoration of disturbed areas by replacement landscaping with plant species naturally found on-the site. Where a finding based upon factual evidence is made that development outside a riparian protection or stream buffer area would be more environmentally damaging to-the riparian habitat than development within the riparian protection or stream buffer area, development of principal permitted uses may occur within such area subject to design review and appropriate mitigation measures.

e. Diversions Outside the Coastal Zone. Freshwater inflows to Tomales Bay are critical to the ecology of the Bay. These inflows maintain unique estuarine habitats along the shoreline of the Bay, affect the spawning characteristics of silver salmon and steelhead trout, flush saltwater and accumulated bottom sediments seaward, and influence the distribution of shellfish, including a rare and endangered species of shrimp, Syncaris pacifica. Existing dams and reservoirs have already significantly decreased the mean annual net freshwater inflow to Tomales Bay by approximately 25%. There is general recognition that the water quality and marine life of Tomales Bay have been adversely affected by these reduced inflows. The effect of further diversions on the Bay is not known; however, the cumulative effect is generally regarded as significant.

Coastal Act policies 30230 and 30231 provide for the protection of marine resources and water quality. In addition, Section 30402 provides that all state agencies shall carry out their duties and responsibilities in conformance with the policies of the Act. Although most freshwater diversions occur outside the coastal zone and are thus beyond the jurisdiction of the LCP, the important effects of such diversion projects on the coastal zone should be considered by all agencies involved so that conformance to the Coastal Act policies cited above is ensured. The County urges all agencies involved with diversions outside the coastal zone which

affect freshwater inflows to Tomales Bay to properly notify the County of any plans for such diversions so that opportunity for local comment is assured.

The LCP recommends that the impacts from diversion projects, especially on the two major tributaries to Tomales Bay, Walker and Lagunitas Creeks, be fully studied through the EIR process before they are permitted to proceed and that in all cases, mitigation and enhancement measures be required to ensure that coastal resources influenced by freshwater inflows are not significantly damaged.

4. Wetlands. Wetlands in the Unit II coastal zone shall be preserved and maintained, consistent with the policies in this section, as productive wildlife habitats, recreational open space, and water filtering and storage areas. Land uses in and adjacent to wetlands shall be evaluated as follows:

   a. Diking, filling, and dredging of wetlands shall be permitted only in conformance with the policies contained in the LCP on this subject, presented on page 136. In conformance with these policies, filling of wetlands for the purposes of single-family residential development shall not be permitted.

   b. Allowable resource-dependent activities in wetlands shall include fishing, recreational clamming, hiking, hunting, nature study, birdwatching and boating.

   c. No grazing or other agricultural uses shall be permitted in wetlands except in those reclaimed areas presently used for' such activities.

   d. A buffer strip 100 feet in width, minimum, as measured landward from the edge of the wetland, shall be established along the periphery of all wetlands. Where appropriate, the required buffer strip may be wider based upon the findings of the supplemental report required in (e). Development activities and uses in the wetland buffer shall be' limited to those specified in (a) and (b) above.

   e. As part of the application for a coastal development permit on any parcel adjacent to Tomales Bay, except where there is no evidence of wetlands pursuant to the Coastal Commission's guidelines, the applicant shall be required to submit supplemental biological information prepared by a qualified ecologist at a scale sufficient to identify the extent of the existing wetlands, based on Section 30121 of the Coastal Act and the area of the proposed buffer areas.

5. Coastal Dunes and Other Sensitive Land Habitats. Development in or adjacent to sensitive habitats shall be subject to the following standards:

   a. Coastal Dunes. No development shall be permitted in coastal dunes in order to preserve dune formations, vegetation, and wildlife habitats. If additional development is proposed at Lawson's Landing, it shall be sited out of the dunes and designed to minimize impacts on adjacent dune vegetation and habitat. Overuse in the dune area

shall be prevented by such mechanisms as restricting parking, directing pedestrian traffic to areas capable of sustaining increased use, and fencing. No motor vehicles shall be permitted in beach or dune areas except for emergency purposes. The existing sand quarry operation shall be reviewed in February 1982 when the current permit expires for conformance with LCP policies.

b. Other Environmentally Sensitive Habitats. Other sensitive habitats include habitats of rare or endangered species and unique plant communities. Development in such areas may only be permitted when it depends upon the resources of the habitat area. Development adjacent to such areas shall be set back a sufficient distance to minimize impacts on the habitat area. Public access to sensitive habitat areas, including the timing, intensity, and location of such access, shall be controlled to minimize disturbance to wildlife. Fences,' roads, and structures which significantly inhibit wildlife movement, especially access to water, shall be avoided.

AGRICULTURE

COASTAL ACT POLICIES

Agricultural land use and the protection of agriculturally productive lands is a high priority of the Coastal Act. The Act's policies on agriculture are contained in Sections 30241 and 30242. In addition, Section 30250(a) gives criteria by which land divisions in rural areas are to be evaluated. With a few exceptions, these sections apply both to prime agricultural lands, as defined in the Williamson Act, and to non-prime lands. The full text of Coastal Act policies is given in Appendix A.

PERSPECTIVE ON AGRICULTURE

Coastal Act policies reflect the importance of agriculture to California and to the nation. In 1977, California produced $9.3 billion in agricultural crops and livestock, and accounted for some 25% of the nation's table food, 40% of its fresh fruits and vegetables, and 10% of its total agricultural export. Agriculture is the leading industry in the state. Many of California's more than 250 crop and livestock commodities are produced in sizeable amounts in the coastal zone. The state's two leading agricultural commodities, dairy products and cattle/ calves, are also the leading agricultural commodities in the San Francisco Bay Area and in Marin County. In 1979, the County's gross agricultural income amounted to over $36 million.

Unfortunately, agricultural land in California and the coastal zone which supplies the state's bountiful agricultural yield is steadily diminishing, primarily due to urban expansion and its effects. Statewide, the loss of prime agricultural land is estimated to be 25,000 to 50,000 acres per year. In the coastal zone, one out of every 12 acres (about 8%) of cropland was lost in the 1960's, according to the California Coastal Plan of 1975. In Marin County, total agricultural acreage, most of which is grazing land on non-prime soils, decreased over 8% in the ten years from 1968 to 1978. Thus, in various forms, prime, non-prime, cropland and grazing land, agricultural land in the state is steadily being lost. Coastal Act policies are intended to reduce this loss in the coastal zone.

CHARACTERISTICS OF AGRICULTURE IN MARIN COUNTY AND ITS COASTAL ZONE

Land area and soil types. Agriculture is an important and widespread land use in Marin County, outside of the heavily populated Highway 101 corridor in eastern Marin. Out of 333,380 acres in the County, 139,010 acres or 42% of the total were devoted to agricultural uses in 1979. By far the bulk of this acreage, 96%, is used for pasture and range. The few remaining agricultural lands are used for growing hay, grain, silage, fruits, nuts and vegetable crops, and nursery products.

Approximately 27% of all agricultural land in Marin and 28% of the pasture and range is located in the Unit II coastal zone. This covers

some 37,000 acres or 58 square miles. Agricultural lands in Unit 1 add another 2000 acres to this total. Virtually all of this area is presently zoned A-60 (Agriculture - 60 acres minimum lot size). Soil types in Units I and II are primarily Class VI or VII, classified as non-prime by the Williamson Act. These soils are classified as non-prime due to their steep slope which makes them unsuitable for row crops and easily subject to erosion if disturbed. They do, however, make excellent grazing soils. There are limited areas of prime Class II soils and non-prime Class III soils located it and adjacent to the riverbottoms along Lagunitas and Olema Creeks, Walker and Keys Creeks, and the two esteros.

Williamson Act status. Many landowners in Marin County, particularly in the coastal zone, have demonstrated a commitment to agriculture by entering into Williamson Act contracts and, in some cases, more would do so but cannot because they are not the sole owners of the property. In 1979, approximately 97,000 acres were under contract, or 70% of all agricultural land in the County. In the Unit II coastal zone, the percentage is even higher: 28,500 of the 37,000 acres or 77% are presently under contract. Most of this land, as well as the 8500 acres in Unit II not under contract, is zoned A-60. In Unit I, approximately 800 acres of lands zoned A-60 are under contract.

Williamson Act contracts are due to expire on several parcels in the coastal zone in 1981; however, these parcels form a very small percentage of the total agricultural acreage. In Unit II, contracts are due to expire on two parcels north of Walker Creek which together cover 12 acres. In Unit I, one contract is due to expire on a 4-acre parcel north of Bolinas Lagoon.

Types of agriculture. Dairying is and has historically been the predominant agricultural activity in Marin County and its coastal zone. Marin was the first county in California to develop a major dairy industry and, by the late 19th century, produced some 75% of all dairy products in the state. Although the County's share of the dairy market has since greatly decreased due to growth in the industry in other parts of the state, dairying remains the biggest contributor to the County's agricultural income. There are approximately 70 dairies in Marin, 26 or approximately one-third of which are located in the coastal zone, as shown in Table 7.

Livestock production is the other major agricultural activity in Unit II. Beef stock, cow/calf, and sheep grazing operations are common, and some turkey-framing, raising replacement heifers for dairies, and breeding stock are also practiced. Except for turkey farming, the various types of livestock operations are often combined on one ranch, i.e. one rancher may graze cattle as well as sheep. Countywide, a total of 67 ranchers are involved in beef operations, while 34 ranchers graze sheep. Approximately 30 of the beef operations and 20 of the sheep operations are located in the coastal zone, both Units I and II. The few areas in the County (less than 5,000 acres) used for field crops and nurseries are found outside the coastal zone. The contribution of all the various agricultural commodities to the total agricultural income of the County is shown in Table 8.

Table 7. Type and Number of Agricultural Operations in Marin County and its Coastal Zone, with Average Size of Herd			
Type of Operation	Number in County[1]	Number in Coastal Zone	Average Size of Herd[2]
Dairy	70	26	209
Beef stock-cow/calf	67	30	155
Sheep	34	20	569
Poultry	1	1	---

[1]Source: Farm Advisor, Marin County
[2]Source: Study by Baxter, McDonald and Smart, 1974, The Viability of Agriculture in Marin County

Table 8. Value of Agricultural Commodities for Marin County, 1979, by Rank		
	Gross Dollar Value	% of total
a. Milk: Market		
b. Cattle	$21,774,000	59
c. Eggs: hatching &	7,560,000	21
production	1,968,500	5
d. Poultry, all	1,223,500	3.3
e. Cut plants	1,114,900	3
f. Pasture, non-irrigated	1,064,000	3
g. Hay, grain and silage	1,005,000	2.7
h. Lambs	365,750	1
i. Milk: manufacturing	240,000	.7
j. Nursery crops	150,000	.4
k. Wool	112,900	.3
l. Fruits, nuts, and	72,000	.2
vegetables	53,000	.15
m. Pasture, irrigated	18,400	.05
n. Hogs and pigs		

COMPILATION, IN DOLLARS:	
Livestock and Poultry Products	24,095,400
Livestock and Poultry	9,167,650
Field and Orchard Crops	2,194,000
Nursery Crops	1,264,900
TOTAL	$36,721,950

Source: County of Marin, Annual Livestock and Agricultural Crop Report, 1979

Climate and topography. The climate and topography of West Marin and the coastal zone have largely determined the extensive type of agricultural uses found there. The hilly topography of coastal grasslands, non-prime soils, and the lack of a reliable year-round water supply combine to create a terrain which does not lend itself to the cultivation of row crops. The coastal lands are, however, among the best lands in the state for grazing livestock.

Marin's coastal zone is favored by a cool, moist climate. The relatively high rainfall on the coast generally produces better quality rangeland than inland. The cooler weather and greater precipitation enables coastal rangeland to produce more grass and thus to support more cows per acre than range inland, i.e. the coastal range has a higher carrying capacity. As an example, the carrying capacity of Marin dry range (not irrigated) often approaches 1 cow/calf pair per 4 acres. In the Central Valley by contrast, the carrying capacity is generally 1 cow/calf pair per 15 acres.

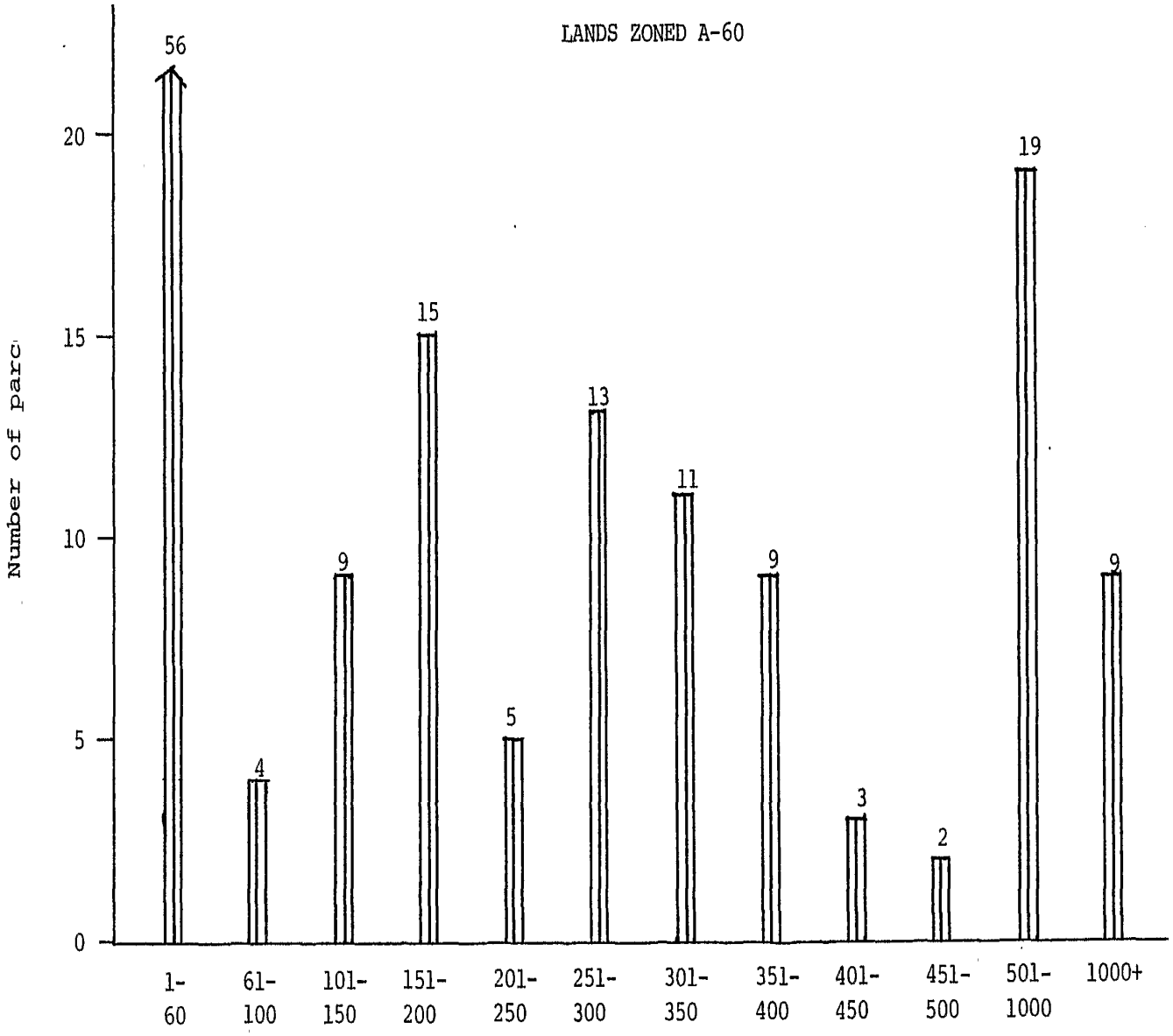
The main importance of the productive coastal range for the dairy and livestock industry in Marin is that it reduces the need for ranchers to either purchase supplemental feed or irrigate pasture. That portion of the livestock diet that comes from the range is less expensive than that which is purchased. This is a boon to ranchers in Marin since feed costs are a major operating expense. (The County is feed deficient and must import most dry feed required from the San Joaquin Valley. High feed and transportation costs makes this requirement very expensive.)

Ownership patterns. Agriculture in Marin County is very much a family business. Most ranches are owned and operated by families or a partnership of family members and many ranches have been handed down within the same family for generations. Statistics from the 1974 Census of Agriculture, compiled by the Bureau of the Census of the U.S. Department of Commerce, reflect the high percentage of ranch owner-operators in Marin County: 183 out of a total of 250 farms in the County, or 73%, were operated by a full or part owner in 1974, while the remaining 27% were operated by a tenant. These percentages were unchanged from 1969. The 1974 study by Baxter, McDonald, and Smart on The Viability of Agriculture in Marin presented similar results. A. survey completed for the study found that 81% of the ranchers surveyed operated only lands owned by themselves or lands both owned and rented. Only 16% of the ranchers operated rented lands exclusively.

LAND ACREAGES

Parcel and farm sizes. The 37,000 acres of agricultural land in Unit II are divided into approximately 155 parcels, (One "Parcel" is defined as all contiguous assessor's parcels owned by one individual or group. Although there is some question about the effect of recent state legislation on merged parcels, the County of Marin does have a merger ordinance which, in the opinion of County Counsel, most likely merges these agricultural parcels. The specific effect of the legislation would have to be determined on a case-by-case basis.) About one-third of the 155 parcels, 56 parcels, are 60 acres or less in size while the remaining 99 are greater than 60 acres. Excluding the holdings less than 60 acres, the majority of remaining parcels are 300 acres or larger with a sizeable number over 500 acres. The distribution of parcels by size is shown in Figure 3.

Figure 3: Parcel Size Distribution, Lands Zoned A-60
Unit II Coastal Zone



The parcel size distribution shown in Figure-3 for the Unit II coastal zone is similar to that found countywide by the 1974 Census of Agriculture. Excluding farms less than 50 acres, the census shows that more than half of the remaining farms in Marin are 500 acres or larger. According to the census, the average size of all farms in the County in 1974 was 596 acres. Results from the census on farm size distribution are given in Table 9.

Table 9. Distribution of Farms by Size, Marin County

Size of farms in acres	Number of farms	% of total
< 50	80	32
50-179	31	12
180-499	39	16
500-999	40	16
1000-1999	48	19
2000+	12	5
	250	100

Source: 1974 Census of Agriculture

Viable units. It is extremely difficult to define the precise acreage necessary to maintain an economically "viable" agricultural enterprise in Marin County because of the many variable factors which affect agriculture. These include the experience and ability of the management, the character of the terrain, soil quality and water availability, land and operating costs, taxes, the availability of product distribution centers, fluctuating herd sizes, and the widespread practice of leasing additional acreage at certain times of the year. In spite of these limitations, however, existing land ownership patterns in the agricultural areas of the County do give an idea of the acreage necessary to maintain a dairy or livestock operation, and help to define a range of ranch sizes within which most operations can succeed.

Statistics and estimates from numerous studies on agriculture give additional projections of "viable" farm sizes for Marin. For example, according to the 1974 study by Baxter, McDonald and Smart, The Viability of Agriculture in Marin, the average size of a Marin dairy is 1257 acres. This size reflects the reliance of Marin dairies on extensive use of pasture. Another study done for the County in 1978, the Cooley Land Division Draft Environmental Impact Report by HKS Associates, estimated that the average acreage of the approximately 65 dairies in Marin County was between 800 and 1000 acres. A third study recently completed by People for Open Space (POS), Farmland and Farming in the Bay Region: A Description, estimated that t common size range for a dairy in the San Francisco Bay Area (including Marin) is between 400 and 1000 acres. A comparable size range for beef cattle operations in the Bay Area is

between 500 and 10,000 acres, The report noted that these sizes may vary greatly due to leasing and weather variations.

Data from one final study, completed in August 1979 by consultants Goldman and Strong for the California Coastal Commission and entitled Economic Considerations of California Coastal Agriculture, corresponded closely to those of the studies previously mentioned. In this fourth study, Goldman and Strong defined the minimum acreage necessary for a "viable" agricultural operation as "the amount of land needed to produce a net income of $18,000." Using this definition, they estimated that a cow/calf operation would require a minimum of 700 acres, assuming a 0% return to land, a land value of $400 per acre, and 7 acres needed to support one animal. Figures for a beef stocker operation were slightly higher: 791 acres required to yield the same $18,000 annual income with 0% return to land assumed, a land value of $400 per acre, and 4 acres needed to support one animal. To generate a 1% to 3% return to land, more acreage would be necessary for both types of operations. Estimates from the four studies are summarized in Table 10.

Table 10. Four Estimates of Acreage Needed to Operate a Dairy or Beef Ranch

Source of estimate	Geographical area	Acres needed: Dairy	Acres needed: Beef
Baxter, McDonald, & Smart (BMS)	Marin	1257	--
HKS Associates	Marin	800-1000	--
People for Open Space	Bay Area	400-1000	500-10,000
Goldman and Strong	Monterey, Mendocino, San Mateo/ San Luis Obispo Counties	--	700-800 (Minimum)

The figures in the table above vary within a fairly broad range and no estimate can include every operation which exists or could possibly succeed. However, the various studies do indicate the general range of acreage sizes needed to support the types of agricultural operations found in Marin and its coastal zone.

TRENDS

In looking at the general trends in agriculture over time in Marin County, four patterns can be discerned: 1) a decrease in the acreage of land in agricultural use and in the numbers of agricultural operations; 2) a constant percentage of tenant operators and a constant average farm size; 3) a gradual shift in the types of agriculture from dairying to livestock grazing, with a recent stabilization of this trend; and 4) an increase in the real dollar value of agricultural production.

Agricultural acreage and operations. The Censuses of Agriculture published by the Bureau of the Census of the U.S. Department of Commerce issued at 5-year intervals, shows that the number of farms countywide decreased 34% between 1959 and 1974, from 377 to 250. In this same period, the total acreage in agricultural use decreased 35%, from 227,450 to 148,893 acres. Thus, whereas in 1959, 68% of the total County area was in agricultural use, by 1974 that percentage had dropped to 45%. Table 11 summarizes these figures. The County Agricultural Commissioner's reports show somewhat different figures for this period, due to the use of a different definition of agricultural lands, but a similar declining trend in agricultural acreage. According to the Commissioner, agricultural acreage decreased from 167,883 acres in 1959 to 139,010 acres in 1979.

Table 11. Trends in Selected Agricultural Characteristics for Marin County, 1959-1974

	Census Year			
	1959	1964	1969	1974
Number of farms	377	289	263	250
Land in farms, acres	227,450	172,885	175,038	148,893
Area of County in farms, %	68	52	53	45
Average size of farm, acres	603	598	666	596
Farms by size, acres				
<50	130	87	78	80
50-179	41	32	29	31
180-499	60	54	54	39
500	64	55	35	40
999	82	45	48	48
1000-1999		16	19	12
2000+				
Tenure of operator, number of farms:				
Full owner	211	165	147	148
Part owner	50	46	46	35
Manager	9	--	--	--
Tenants	107	74	70	67
% tenants	28	26	27	27

Source: Censuses of Agriculture, 1959, 1964, 1969, 1974
Bureau of the Census,
U.S. Department of Commerce

The downward trend in agricultural land acreages in West Marin is due primarily to the expansion of public parklands and, to a much lesser degree, to urbanization. Outside of parks and established communities in West Marin, agricultural acreages have remained quite stable for many years, due to the use of the Williamson Act contracts, A-60 zoning, and the Coastal Commission's strict policies on land divisions in rural areas.

In the future, the major pressures on coastal agriculture are likely to come from rising land values combined with a desired coastal location which make agriculture less and less attractive, rather than from encroaching urbanization. Upward pressure on land values will reduce the economic appeal of continued agricultural production, particularly where little or no capital investment in agriculture has been made, such as for grazing. The effects of such pressure have already been felt in the Nicasio Valley where spreading large-lot residential uses are making continued agriculture more and more difficult. As the Nicasio Valley Community Plan notes,

> "Escalating costs and land sales prices reflect a market for residential development and not for continued agriculture." (Page 7)

It is likely that, without strict agricultural preservation policies, the gradual conversion of agricultural lands to rural residential uses will continue.

Ownership and farm sizes. The Censuses of Agriculture also show patterns in average farm size and in the distribution of farms by size. The average farm size in Marin County increased in the decade before 1959 but has remained relatively constant since then at approximately 600 acres. The distribution of farms by size has also remained relatively constant, as shown in Table 11. Table 11 also shows that the types of farm operators in Marin have remained relatively constant over the past 20 years. Approximately 70-75% of all farm operators are full or part owners in the operations they conduct. The tenancy rate has remained between 25 and 30% since 1959.

Types of agriculture. Since 1959, the number of dairies in Marin County has decreased 60%, from 176 to approximately 70. A number of smaller dairies were consolidated, but the majority were closed down and converted to livestock grazing operations of one kind or another. In the 1950's, dairy products comprised over 80% of the net income from agriculture in Marin. By 1979, that figure had dropped to 60%. The losses in dairy product income have been largely offset by an increase in income from livestock and poultry, other livestock products, and nursery products and cut flowers.

Many factors contributed to the decline in dairies in Marin County. These include the high costs of operation, including costs of transportation, pollution control facilities, labor, and especially imported feed; high land costs, which limit the expansion of existing operations, prevent new ranchers from entering the business, and make land sales more attractive than continued dairying; high land and inheritance taxes, the encroachment of urban influences, including the introduction of incompatible

uses, increasing numbers of people, and increasing land values; competition between small family-run operations in Main and large-scale dairies in the Central Valley; and the uncertainty of future agricultural viability due to zoning changes, urban pressures, and changes in land uses.

The County Assessor, in a review of County agricultural operations in 1972, opined that most land which had gone out of dairying up to that date had been converted to livestock grazing, especially of beef cattle, because grazing functions as a holding use (requiring little capital investment, pollution controls, or management), pending sale of the land for more intensive use. The Assessor made the following comments on the nature of this conversion:

> "Owners of lands formerly used for dairy cattle grazing, while waiting for the time to convert land to higher uses, have been willing to accept a very modest return from grazing leases. They not only derive a modest income, but are able to keep the land from becoming over-run with brush and tall grass, which presents a dangerous fire hazard. Then, too, neither the landowner, or the lessee, need to make large capital expenditures in plant, or are likely to be subject to the costs of pollution control measures."
>
> Thus ... "livestock grazing has come to be a means of defraying some of the costs of land ownership (including return on investment) and maintaining vegetation control pending an opportune time to convert the land to a higher use or to sell to another land investor who has capital appreciation as his ultimate goal."
> (letter dated 4/7/72 from County Assessor to Board of Supervisors)

In general, the conditions for dairying in Marin County have improved considerably in recent years due to changes in the milk price formula and increases in the cost of transporting milk from the Central Valley. Marin dairies are now in a very favorable economic position to supply markets in the San Francisco Bay Area. Consequently, the outlook for the dairying industry is considerably brighter than it was even 10 years ago and the shift from dairying to grazing has stabilized.

Dollar value of agricultural production. The gross dollar value of all agricultural products in Marin County has more than doubled in the 10-year period from 1969 to 1979, from 15.5 to over 36 million dollars. However, considering the inflation which has occurred during this period of approximately 78%, the actual change has been considerably less. The difference between 15.5 and 36 million dollars, 20.5 million, when reduced by 78% to account for inflation, amounts to approximately 4.5 million. Thus, the 36 million dollar figure, valued in 1969 dollars, is worth 15.5 plus 4.5, or 20 million dollars. The increase from 15.5 to 20 million dollars from 1969 to 1979 represents an increase of approximately 30%.

EXISTING AGRICULTURAL POLICIES IN MARIN COUNTY

The County's existing policies on agriculture are contained in the Countywide Plan, written in 1973. The plan generally supports continued agriculture in rural Marin but does not address the issue of preserving agriculture in the long term. It focuses, rather, on the open space values of agricultural land. For example, the plan recommends that "Agricultural preserve contracts and zoning to minimum lot sizes of 3 to 60 acres should be the primary means used to preserve open space ... while allowing for the pursuit of agricultural activities" (Countywide Plan, page 2-15, emphasis added). The plan assumes a 25% reduction in agricultural land between 1970 and 1990, most of it going into open space.

The Countywide plan relies on two implementation techniques to encourage and preserve agriculture:

> A-60 zoning. A-60 zoning allows a density of one unit per 60 acres. A variety of agricultural, open space, and conservation uses are permitted in the zone by right. Certain other uses, many of which are not related to agriculture, are permitted by conditional use permit.
>
> Williamson Act Contracts. These contracts provide for lowered tax assessments for landowners who agree to restrict their land to agricultural uses for a ten-year period. Because participation in the program is voluntary, landowners may withdraw if they so choose, ten years after giving notice, or they may request cancellation at any time upon payment of a penalty fee, provided that both the State Department of Resources and the Board of Supervisors agree. In the latter case, (never used in Marin County), the Board must also make a finding that the cancellation is in the public interest.

In addition to these two implementation techniques, the Countywide Plan recommends that limited recreational uses, such as dude ranches, campgrounds, and hostels, be permitted in agricultural areas to allow for reasonable use of private lands.

The buildout potential under the Countywide Plan for agricultural lands in the Unit II coastal zone can be calculated by applying existing zoning densities. Buildout figures for lands zoned A-60 or ARP-60 are given in Table 12. One "parcel" is defined as all contiguous assessor's parcels under common ownership,

Table 12. Development Potential for Agricultural Lands Zoned A-60 or ARP-60, Unit II Coastal Zone

	# Parcels	Total units possible	Existing units	Potential units
# Parcels ≤ 60 acres	56	56	31	28
# Parcels > 60 acres	99	542	125	417
Williamson				282
Non-Williamson				135
Totals:	155	598	156	445

In addition to the units listed above for A-60 lands, approximately 270 additional units could be built on lands in other zoning categories. The majority of these units (over 200) would be located on lands to the north of Dillon Beach which are presently zoned A-2.

PLANNING ISSUES

The preservation of agriculture in the Unit II coastal zone raises a number of significant issues. These include the question of defining "agriculture" and uses compatible with it, establishing minimum parcel sizes, buildout potential and its cumulative effects on public services and coastal resources, establishing stable boundaries between rural and urban areas, the question of agriculture on public parklands, and alternative methods of preserving agricultural lands.

Definition of "agriculture" and compatible uses. Section 30241 of the Coastal Act supports agriculture by providing among other things, that conflicts be minimized between agricultural and urban land uses. The definition of "agricultural" uses and "compatible" non-agricultural uses has been left to local governments. An accurate definition of agriculture should include the concept of "productive" use of the land since agriculture is much more than retaining open space.

Productive agricultural activities in Marin County fall into four categories, as reported by the Agricultural Commissioner: livestock and poultry, livestock and poultry products, field crops, and nursery products. These uses are allowed as permitted uses in "A" zoning districts, according to the County's zoning ordinance. The zoning ordinance, however, also allows numerous non-agricultural uses in "A" districts, either as permitted or as conditional uses. Many of these, such as motorcycle riding trails and aircraft landing strips, would not be compatible with agriculture.

To protect agricultural operations, uses which would clearly conflict with such operations should be eliminated from the "A" district. Also, the definition of agriculture should be clarified to include only the types of agricultural uses which exist or which are feasible in Marin County. Recommended changes are given in the LCP policies.

Minimum parcel size. A major purpose of agricultural policies in the Coastal Act is to preserve agriculture by retaining productive agricultural land in units of sufficient size for agricultural use. Sections 30241, 30242, and 30250(a) of the Act support this purpose by strictly limiting the conversion of agricultural lands to other uses. Any potential land use regulation must be evaluated, to a large degree, for its effectiveness in achieving this goal.

The needs and characteristics of agriculture in Marin County demonstrate what this industry requires to survive. The predominant dairy and livestock grazing operations utilize large acreages of land for pasture, much larger than the minimum size allowed by A-60 zoning. According to the Censuses of Agriculture for Marin County published by the U. S. Department of Commerce, the average farm size in the County over the past 20 years has remained approximately 600 acres. In the coastal zone, a

parcel inventory of A-60 lands shows that, excluding holdings of 60 acres or less, the majority of remaining parcels are 300 acres or larger with a sizeable number over 500 acres. Many ranchers lease lands in addition to those they own, a factor which increases the acreage of operating units still further. Studies of agriculture estimate that approximately 400 to 1200 acres are needed to operate a dairy in Marin County while beef grazing operations need 500 acres or more.

Given the requirements of dairy and grazing operations in Marin County, it is apparent that units of land larger than 60 acres are needed to maintain agriculture. Over the long term, this relatively small parcel zoning serves as a subdivision plan which slowly erodes the agricultural land base and permanently reduces the amount of land necessary to maintain agricultural uses. Although the LCP recognizes that 60 acre units are generally too small to independently support existing agricultural uses in the coastal zone, 60-acre densities have been retained in the plan. The LCP has, however, made major changes in the pattern of potential parcel configurations by requiring clustering and has added numerous conditions which must be met before development can be permitted. The addition of these various protective standards do, on balance, adequately protect agriculture in Marin's coastal zone while retaining the overall density of 1 unit per 60 acres.

Buildout potential/concentration of development. The buildout potential of lands in Unit II zoned A-60 is 442 units total, 28 on parcels 60 acres or less in size and 417 on parcels greater than 60 acres. Of these 417 units, 282 are on lands under Williamson Act contracts while 135 would be built on lands not under contract. Total buildout potential is thus significantly reduced, at least for the next 10 years, by the relatively widespread use of Williamson contracts. On agricultural lands in other zoning categories, such as A-2 and A-20, approximately 270 additional units could be built outside of village expansion boundaries, the majority on lands north of Oceana Marin.

Buildout at this scale raises several conflicts with the Coastal Act. One of the major conflicts is with the Act's policies requiring that new development be located within or close to existing developed areas or in other suitable areas where it can be concentrated (Section 30250(a), The purpose of these policies is to avoid sprawl and its associated environmental and economic costs.

Buildout under A-60 zoning would spread evenly at low density over the 37,000 acres of agricultural land in the Unit II coastal zone, inefficiently utilizing the land, requiring large investments for public services, and pushing out agricultural uses. A more desirable alternative would be to cluster development in a few select locations and to direct new construction to existing communities where it could be accommodated. LCP policies are written to achieve these purposes.

Buildout potential/adequacy of public services. Another conflict between the buildout numbers allowed under existing zoning and Coastal Act policies is the lack of public services for additional development. The Coastal Act requires that new development outside of existing developed areas be located where adequate public services are available (Section 30250(a). The Act also states that where such services are limited, coastal dependent, agriculture, and public uses shall not be precluded by other development, e.g. private residential (Section 30254). The public services of major concern for development on agricultural lands in the Unit II coastal zone are water supply, road capacity, and sewage

disposal. Of these, sewage disposal would not be a problem since on-site septic systems could, in most if not all cases, be accommodated on 60-acre lots. The other services are more problematical.

The lack of water has been a limiting factor for development on the east side of Tomales Bay for many years. Geologic studies described by Clyde Wahrhaftig and J. Ross Wagner in The Geologic Setting of Tomales Bay, 1972, show that there are no dependable supplies of groundwater in any quantity in the Franciscan Formation on the east side of the Bay. Of the springs and creeks which exist in the area, many are intermittent or do not provide sufficient quantities for development on a large scale. Although some lands on the east side of Tomales Bay lie within the annexation area of the North Marin County Water District, no improvement district has been established to develop a water supply system nor does the District have any plans to develop such a system in the foreseeable future. In short, water supply is a serious constraint.

The traffic capacity of Highway 1 is the second major public service constraint. Expansion of the road is limited by Section 30254 of the Coastal Act which requires that Highway 1 remain a two-lane road in rural areas of the coast. The Coastal Commission hired consultants De Leuw, Cather and Company to research the traffic characteristics and capacity of Highway 1 in Marin and other northern coastal counties. Their study, Highway 1 Capacity Study, dated June, 1979, contains a quite technical analysis of traffic patterns on different segments of Highway 1. Essentially, the study showed that sections of the road in the Point Reyes Station and Marshall areas are near their "peak capacity" on weekends, while further north, near the town of Tomales, considerable additional traffic could be accommodated without congestion.

Although 400+ additional units are possible on agricultural lands at 60-acre densities, several factors mitigate the potential impact of these units on highway capacity. At least one third of the units would be located north of Walker Creek in the vicinity of the town of Tomales, where substantial excess capacity exists. Roughly another third would be located between Pt. Reyes Station and Walker Creek where three other coastal access roads are available: the Tomales-Petaluma, Marshall-Petaluma, and Pt. Reyes Petaluma Roads. Finally, LCP policies on agriculture require the submittal of a comprehensive master plan for any development, in which the County can require alternative sites and clustering of development so that impacts are minimized. Given these various factors, it appears that the traffic impacts of future development at 60-acre densities can be adequately addressed.

Buildout potential/impacts on coastal resources. A final concern regarding buildout numbers is the cumulative impacts that such development would have on the water quality of local streams and Tomales Bay, habitat and wildlife, and the visual character of the area. These issues are raised in Sections 30250(a), 30240, 30231, and 30251 of the Coastal Act.

Development at 60-acre densities would significantly alter the visual character of the east side of Tomales Bay, which is largely open grasslands. Much of this area is visible from Highway 1 and other public viewing points across Tomales Bay, including the Point Reyes National Seashore. Clustered development or reduced densities would better protect the scenic quality of this area.

Protecting the water quality and habitat resources of Tomales Bay would be an issue with any new development. The extensive wetlands at the southern end of the Bay serve as habitat for thousands of migrating waterfowl each year. The fisheries resources of the Bay support a small but thriving commercial fishing fleet. Mariculture is a growing industry in Tomales Bay. Public recreational

use of the Bay for boating, swimming, and clamming is substantial. Widespread development in the watershed of Tomales Bay could adversely affect these many uses.

In the past, land uses in the watershed of the Bay, notably dairy operations caused significant water quality problems, leading to intervention by the Regional Water Quality Control Board. Additional development in the watershed of Tomales Bay could cause similar problems unless carefully sited and designed. LCP policies have been written taking these concerns into account.

Urban/rural boundaries. Section 30241 of the Coastal Act requires that stable boundaries separating urban and rural areas be established. The purpose of this section of the Act is to preserve existing agricultural lands for agricultural use while at the same time allowing for reasonable growth within urban areas through infilling and limited expansion outward.

There are six developed areas in the Unit II coastal zone. From north to south, these are Tomales, Dillon Beach, Marshall, Point Reyes Station, Inverness Ridge, and Olema. The Countywide Plan, (CWP), written in 1973, established urban/rural boundaries or "community expansion boundaries" for each of these communities based on ten criteria as shown below. These criteria were further refined in the specific community plans for Tomales, Point Reyes Station, and Inverness Ridge, written subsequently.

CRITERIA USED TO SET VILLAGE EXPANSION AREA BOUNDARIES (CWP)

A. Boundaries of existing and proposed public open space (Golden Gate National Recreation Area, Point Reyes National Seashore).
B. Boundaries used in studies by the Planning Department and local planning groups.
C. Areas under agricultural zoning.
D. Service area boundaries of utility districts.
E. Watershed boundaries.
F. Natural barriers: terrain, water, cliffs, open space separating developed areas.
G. Man-made barriers: roads, dikes.
H. Adequate land to accommodate 1990 population recommended in Countywide Plan and to allow flexibility and choice.
I. Existing subdivisions.
J. Flood plains and areas subject to seismic hazard.

	A. Public Open Space	B. Planning Studies	C. Agricultural Zoning	D. Utility Service Areas	E. Watersheds	F. Natural Barriers	G. Man-made Barriers	H. Land Needed	I. Subdivisions	J. Flood Plains, Seismic
Dillon Beach			X	X		X		X	X	X
Tomales			X				X	X		X
Marshall			X			X				X
Inverness	X	X			X	X		X	X	X
Inverness Park	X	X			X	X		X	X	X
Pt. Reyes Stn.		X	X	X		X	X	X	X	X
Olema	X									X

According to the Tomales Community Plan, the main criterion used in drawing that community's expansion boundary was "to avoid development intrusion into surrounding lands zoned and used for agricultural purposes located within the Marin County Agricultural Preserve" (Tomales Community Plan, p. 1-2). The expansion boundary was also drawn to include those parcels that are too small for large-scale agricultural use and those parcels that are zoned for commercial use. The expansion boundary for Tomales thus encompasses a core of lots zoned VCR and C-RSP for higher residential densities at one unit per 6,000 square feet, surrounded by a buffer of parcels two to 15 acres in size zoned for lower residential densities that range from one unit per two acres to one unit per 20 acres. Except for two public school sites, no parcel larger than 15 acres lies within the expansion boundary. Outside the boundary, all lands are zoned either C-ARP-20 or C-APZ-60.
[Amended pursuant to BOS Resolution No. 96-140 (Attachment 3, p.2) [10/1/96], approved by CCC as submitted 2/5/97, 2nd BOS Resolution No. 97-22 [3/11/97], CCC ED Checkoff 5/16/97]

The expansion boundary for Tomales clearly divides urban and rural-residential from agricultural areas. The parcel and zoning pattern creates a low-density buffer between the village center and surrounding agricultural lands. Provision for reasonable growth in the future has been made. In addition, the community expansion boundary as adopted in the Tomales Community Plan has been endorsed by the Regional Coastal Commission. For these reasons, the boundary appears to meet the intent of Section 30241 of the Coastal Act and thus can be adopted for the purposes of the LCP.

In the case of Point Reyes Station, the community plan cites seven criteria on which the expansion boundary is based: the location of public parklands, lands zoned for agriculture or under Williamson Act contracts, utility service areas, natural and man-made barriers, flood plain and seismic hazards, and current development patterns. The expansion area includes a village center zoned VCR, an area zoned for 10,000 square foot residential lots, and several planned residential districts. These more dense development areas are buffered from nearby agricultural lands, zoned A-60, by low density large-lot zones to the north and various natural features to the east, south, and west.

The Regional Coastal Commission has adopted its own community expansion boundary for Point Reyes Station which differs somewhat from that of the County. The major difference is that the County has included a 248-acre undeveloped parcel at the northern end of town within the expansion area while the Coastal Commission has not. The parcel, Martinelli Farms, is presently used for agriculture but is zoned RSP 0.33, i.e. 1 unit per 3 acres. The community plan anticipates that the parcel may eventually be used for a much needed waste treatment facility for the town.

Excluding Martinelli Farms from the expansion area of Point Reyes Station would preserve agricultural use on the property, as intended by Section 30241 of the Coastal Act, and still provide adequate room for future community growth. The parcel would also continue to serve as a buffer, between the community and the nearby Tomales Bay Ecological Reserve. However, excluding the parcel would eliminate a possible site for the waste treatment facility, making it more difficult to adequately service the town, as required by Section 30250(a) of the Coastal Act. In light of these conflicting needs, it is evident that the exact determination of an expansion boundary for Point Reyes Station must await an analysis of the community's public services and land use, to be undertaken in that section of the LCP on new development.

Inverness Ridge also has a community plan which sets community expansion boundaries for Inverness and Inverness Park. As the plan notes, future growth on the Ridge is limited by Tomales Bay to the east and public parklands to the north, west, and south. These features create a stable boundary within which growth can occur on the Ridge, in accordance with Section 30241 of the Coastal Act. The Regional Coastal Commission has recognized the numerous public service problems posed by further development on the Ridge but it has not taken a position against the expansion boundaries adopted in the plan. Those boundaries can be adopted as expansion limits for the purposes of the LCP.

The three remaining villages in the Unit II coastal zone do not have community plans or formal expansion boundaries. The Countywide Plan, however, does discuss the future growth of these areas. For Marshall, the Countywide Plan notes that the town "is unable to expand without further polluting the Bay [Tomales] or encroaching on grazing lands" (CWP, p 3-25). "Only very limited growth through infilling is recommended," (p. 3-25), and, "No expansion area is recommended" (p. 3-24). The plan also states that the small clusters of development on the east side of Tomales Bay, such as Nick's Cove and Blake's Landing, should not be allowed to grow into villages or to merge. These policies are very similar to those adopted for Marshall by the Regional Coastal Commission.

The Countywide Plan policies recognize the adverse impacts on water quality and agriculture which would occur if Marshall were to expand. In addition, expansion would be inconsistent with Coastal Act policies requiring adequate public access to the coast (Sections 30210-30214), and concentration of development (Section 30250(a)). Because of these conflicts, the LCP establishes the expansion boundary for Marshall so that, on the east side of Highway 1, it includes the dozen or so small already subdivided parcels abutting Highway 1, located between the Marshall-Petaluma Road and the Marshall Boat Works, which are zoned A-2. On the west side of Highway 1, the expansion area boundary is drawn immediately north of Marshall Store and Post Office and immediately south of Marshall Boat Works.

For the small village of Olema, the Countywide Plan lists two criteria for defining the expansion boundary: the presence of public open space, and flood plains and seismic hazards. The future expansion of Olema is strictly limited by federal parklands which completely surround it. Adopting the parkland boundary as the expansion boundary for Olema would fulfill the requirements of Section 30241 and is thus recommended for the LCP.

According to the Dillon Beach Community Plan, the community expansion boundary for Dillon Beach extends form the Oceana Marin subdivision on the north to the southern end of Lawson's Dillon Beach Resort, and from the shoreline on the west to the eastern side of Oceana Marin, the Village, and Lawson's Dillon Beach Resort. The 12-acre parcel east of and contiguous to the initial community expansion boundary along Lawson's Dillon Beach Resort (AP #100-100-47) was included within the expansion boundary in 1988, as part of adoption of the Dillon Beach Community Plan. Areas to the north and east of the community expansion area are zoned as agricultural production zones with a maximum of one unit per 60 acres (C-APZ-60) in order to protect agricultural uses, the water quality and habitat of Esteros Americano and de San Antonio, and the area's scenic resources. The area from the expansion boundary south to Tomales Bay (Lawson's Landing) is zoned for resort and commercial recreation (C-RCR), but is also used during part of the year for grazing cattle.
[Amended pursuant to BOS Resolution No. 88-333 (Attachment 1, p.7) [12/20/88], approved by CCC with suggested modifications 4/12/89, 2nd BOS Resolution No. 89-216 [8/8/89], CCC ED Checkoff 4/13/90]

Agriculture on publicly owned lands. There are extensive state and federally owned lands in the Unit II coastal zone. A sizeable portion of these lands is presently in agricultural use or was used for agriculture in the past. The County's authority to plan for agriculture (or any other land use) on state and federally owned parkland through the LCP is limited, particularly for federal lands. However, the County can adopt advisory policies for the public agencies with jurisdiction. A review of agriculture on federal parklands is presented in the LCP section on Federal Parklands, p.56, Agriculture on state parklands is discussed below.

State holdings in Unit II - Tomales Bay State Park, Tomales Bay Ecological Reserve, Millerton Point, the Cypress Grove project, and lands along Walker Creek are considerably smaller than those owned by the federal government and generally have less potential for agricultural use because of topographical and vegetational characteristics. There are no operating ranches on state parklands in Unit II and the State Department of Parks and Recreation does not currently lease land to private individuals for agricultural purposes. The few state holdings with the potential for grazing use, lands on the east side of Tomales Bay, have been acquired only recently. These lands are not currently open to the public and, according to the department, will remain closed for at least five years while a master plan for their development is prepared.

The State Department of Parks and Recreation does not have an official policy on agricultural use of its parklands, especially for the long-term as public needs and uses of the parks change. In concept, the department has indicated support for agricultural use provided that such use is consistent with resource protection and public recreational use. In practice, the department has been reluctant to allow its lands in Unit II to be used for agriculture because of a concern that once established, agriculture would be difficult to move or eliminate and would thus foreclose future planning options. The primary concern is maintaining planning and management flexibility in the event that agricultural uses conflict with the two major goals for which the parks were established: wilderness preservation and restoration, and public recreation.

The Coastal Act includes policies on public recreation and resource protection but also strongly supports agriculture. Given these policies and considering the major goals for which the parks were established, it seems evident that agriculture in parks should be encouraged, where feasible, and controlled to avoid adverse impacts on resources and recreation. If conflicts between agriculture and public uses occur, they should be resolved in such a way as to protect resources and public safety while still allowing the continuation of the agricultural operation. State parklands with the potential for agricultural use on the east side of Tomales Bay should be made available for such use, especially during the interim period before the parks are opened for public use. Leases with private operators should be reviewed prior to their expiration for compatibility with park goals and the agricultural operators should be notified at that time whether or not their leases will be renewed. These procedures, along with provisions for long-term leases, are encouraged to provide stability to agricultural tenants. In general, the maximum area feasible should be made available for agricultural production since much land has already been converted from agricultural use and often, the loss of leased grazing land can be critical to a rancher.

Alternative methods of preserving agricultural lands. The County has explored several methods of preserving agricultural lands Countywide, not only in the coastal zone. Three of these methods have received the most attention recently: the concept of Transfer of Development Rights (TDR), the establishment of an agricultural land trust, and the revision of the zoning ordinance to provide for an Agricultural Production Zone (APZ). Because implementation of the first two methods requires a long-term program which is not yet in effect, the LCP relies on the third method, the Agricultural Production Zone, to carry out the goals and objectives of the Coastal Act. The LCP also includes a policy encouraging the use of TDR and the land trust in the future.

Following a recommendation of the Nicasio Valley Community Plan, the County participated in a study of the concept of Transfer of Development Rights and its applicability to Nicasio Valley. The objective of the study, Nicasio Valley Water Quality Protection Report: A_ Study of Transfer of Development Rights, by consultant Matthew Guthrie, was to analyze TDR and determine if, as a method for preserving agricultural and watershed lands, it would be an effective alternative to existing zoning procedures and proposals to purchase land. (TDR provides for the transfer of development rights from one property to another in order to locate development where its impacts on the environment and on agricultural land uses can be minimized.) The conclusion of the study was that a simplified TDR system could be implemented in the Valley; however, if it were to succeed, considerable cooperation and coordination would be required between the community, the County and property owners in Nicasio Valley, including the Marin Municipal Water District. Since the study was completed in March 1980, no TDR schemes have yet been put into practice and the long-term effectiveness of TDR in preserving agricultural lands remains to be seen. Because of the complexity of TDR as an approach to land use regulation and the lack of information on its applicability to the coastal zone, the LCP does not rely on TDR as the major means for preserving agriculture, although provisions for its future use are made.

A second approach to preserving agricultural lands in the County and the coastal zone is through the Marin Agricultural Land Trust, which was recently incorporated with funds from the San Francisco Foundation. The trust was sponsored by the Marin County Farm Bureau and supported by the Trust for Public Land, Nature Conservancy, Marin Environmental Forum, Environmental Action Committee of West Marin, and the Marin Conservation League. The concept of the trust is to preserve agricultural lands by precluding development. The trust would secure development rights to Marin agricultural land by purchase or donation, or a combination of both. Property owners involved in a donation with the trust would retain the right to farm their land and would enjoy significant reductions in inheritance taxes, thus preserving their property as farmland and forestalling the need to sell the land for development due to economic pressures. The operation of the trust would also allow the sale or exchange of land solely for agricultural purposes, facilitate the continuation of farming from one generation to the next, provide an opportunity for ranchers to expand their holdings at affordable prices, and enable new young ranchers to purchase land and set up an agricultural operation. B y removing development potential from agricultural land, the trust would permanently secure its use for agriculture, unlike zoning which is subject to change. The board of directors for the trust has been selected, although funding sources to purchase development rights or easements have yet to be determined. The trust has received widespread support throughout the County from a broad spectrum of citizens. Its application in the coastal zone is certainly to be encouraged.

The method for preserving agricultural lands used in the LCP is the Agricultural Production Zone or APZ. Briefly, the APZ establishes a planned zoning district in which all land divisions and developments require an approved master plan. The master plan is evaluated according to a set of agriculturally related criteria. The APZ has a maximum density of 1 unit per 60 acres; actual density is determined based on a review of the master plan according to the proposed criteria. The APZ also refines the definition

of "agricultural" land uses and establishes a list of permitted and conditional uses for the zone. The APZ concept is strongly supported by the Marin County Farm Bureau and has been widely discussed in the County. The County's position is that the APZ offers the most feasible method of preserving agricultural lands in a manner consistent with the Coastal Act and at the same time allows for the operation of the agricultural land trust.

AGRICULTURE

LCP POLICIES ON AGRICULTURE:

1. General policy. Marin County intends to protect the existing and future viability of agricultural lands in its coastal zone, in accordance with Sections 30241 and 30242 of the Coastal Act. The County's LCP policies are intended to permanently preserve productive agriculture and lands with the potential for agricultural use, foster agricultural development, and assure that non-agricultural development does not conflict with agricultural uses or is incompatible with the rural character of the County's coastal zone. These policies are also intended to concentrate development in suitable locations, ensure that adequate public services are available to serve new development, and protect coastal wildlife, habitat, and scenic resources, in accordance with Sections 30240, 20250, and 30251 of the Coastal Act.

2. Agricultural Production Zone. To implement the goals stated in Policy #1 above, the County shall adopt a planned district zone for all privately owned lands in the Unit II coastal zone currently zoned A-60 or other agricultural zoning district, such as A-20, which are outside of the community expansion boundaries identified in the LCP. Agricultural lands in Unit I which are zoned A-60 shall also be included. The planned district zone shall be known as the Agricultural Production Zone (APZ) and shall have a maximum density of 1 unit per 60 acres. The actual density of permitted development may be less and shall be determined based on the standards in Policy #4 below. The County recognizes that parcel sizes of 60 acres are too small, generally, to independently support existing agricultural operations in the coastal zone. However, 60-acre densities, when combined with the protective standards in Policy #4, do on balance adequately protect agriculture on the coast. The APZ should be reviewed in 5 years to determine its effectiveness, and necessary changes considered at that time.

3. Intent of the Agricultural Production Zone. The intent of the Agricultural Production Zone is to preserve lands within the zone for agricultural use. The principal use of lands in, the APZ shall be agricultural. Development shall be accessory, incidental, or in support of agricultural land uses, and shall conform to the policies and standards in #4 and #5 below.

4. Development standards and requirements. All land divisions and developments in the APZ shall require an approved master plan showing how the proposed division or development would affect the subject property. In reviewing a proposed master plan and determining the density of permitted units, the County shall make all of the following findings:

   a. The development would protect and enhance continued agricultural use and contribute to agricultural viability.

   b. The development is necessary because agricultural use of the property is no longer feasible. The purpose of this standard is to permit agricultural landowners who face economic hardship to demonstrate how development on a portion of their land would ease this hardship and enhance agricultural operations on the remainder of the property.

c. The land division or development would not conflict with the continuation of agriculture on that portion of the property which is not developed, on adjacent parcels, or those within one mile of the perimeter of the proposed development.

d. Adequate water supply, sewage disposal, road access and capacity and other public services are available to service the proposed development after provision has been made for existing and continued agricultural operations. Water diversions or use for a proposed development shall not adversely impact stream habitats or significantly reduce freshwater inflows to Tomales Bay, either individually or cumulatively.

e. Appropriate public agencies are able to provide necessary services (fire protection, police protection, schools, etc.) to serve the proposed development.

f. The proposed land division and/or development will have no significant adverse impacts on environmental quality or natural habitats, including stream or riparian habitats and scenic resources. In all cases, LCP policies on streams and natural resources shall be met.

g. Development consists of permitted and conditional uses as authorized in the APZ.

5. Conditions. As part of the approval of a master plan, the following conditions shall be required:

a. All development shall be clustered to retain the maximum amount of land in agricultural production or available for agricultural use Development, including all land converted from agricultural use such as roads and residential support facilities, shall be clustered on no more than five percent of the gross acreage, to the extent feasible, with the remaining acreage to be left in agricultural production and/ or open space. Development shall be located close to existing roads and shall be sited to minimize impacts on scenic resources, wildlife habitat and streams, and adjacent agricultural operations.

b. Permanent conservation easements over that portion of the property not used for physical development or services shall be required to promote the long-term preservation of these lands. only agricultural uses shall be allowed under the easements. In addition, the County shall require the execution of a covenant not to divide for the parcels created under this division so that they are retained as a single unit and are not further subdivided.

c. The creation of a homeowner's or other organization and/or the submission of agricultural management plans may be required to provide for the proper utilization of agricultural lands and their availability on a lease basis or for the maintenance of community roads or mutual water systems.

6. Definitions and uses. The definition of agricultural uses in the APZ is given below, along with permitted and conditional uses.

a. Definitions. For the purposes of the Agricultural Production Zone, agricultural uses shall be defined as uses of land to grow and/or produce agricultural commodities for commercial purposes, including:

c. Livestock and poultry - cattle, sheep, poultry, goats, rabbits, horses unless they are the primary animals raised.
d. Livestock and poultry products - milk, wool, eggs.
e. Field, fruit, nut, and vegetable crops - hay grain, silage, pasture, fruits, nuts, and vegetables.
f. Nursery products - nursery crops, cut plants.

b. Permitted uses. Permitted uses include the following:
g. Agricultural uses as defined above.
h. One single-family dwelling per parcel. "Parcel" is defined as all contiguous assessor's parcels under common ownership.
i. Accessory structures or uses appurtenant and necessary to the operation of agricultural uses, other than dwelling units of any kind, but including barns, fences, stables, corrals, coops and pens, and utility facilities.

c. Conditional uses. Conditional uses include the following:
j. Land divisions.
k. Farmworker housing.
l. Mobile homes so long as they are used exclusively for employees of the owner who are actively and directly engaged in the agricultural use of the land.
m. Hog ranch.
n. Veterinary facilities.
o. Fish hatcheries and rearing ponds.
p. Stabling of more than five horses on ranches where horses are the primary or only animals raised.
q. Raising of other food and fiber producing animals not listed under (a) above.
r. Planting, raising, or harvesting of trees for timber, fuel, or Christmas tree production.
s. Facilities for processing or retail sale of agricultural products.
t. Greenhouses.
u. Commercial storage and sale of garden supply products.
v. Water conservation dams and ponds.
w. Mineral resource production.
x. Game or nature preserve or refuge.
y. Public or private recreational activities, such as hunting, fishing, and camping.
z. Bed and breakfast operations in existing structures up to a maximum of 5 rooms.
aa. Construction, alteration, or maintenance of gas, electric, water, communication, or flood control facilities, unrelated to an agricultural use, as approved by the appropriate governmental agencies.
bb. Dump.

7. Alternative methods of preserving agricultural lands, The County strongly supports the objectives of the Marin Agricultural Land Trust to protect agricultural lands through the transfer, purchase, or donation of development rights or conservation easements on agricultural lands. The County supports and encourages action by the Trust in the coastal zone to preserve agricultural land for productive uses. The County also supports the use of Transfer of Development Rights (TDR) and similar innovative techniques to permanently preserve agricultural lands.

8. Agriculture on state parklands. State parklands with the potential for agricultural use should be made available for such use, especially during the interim period before the parks are opened for public use. Once opened, the parks should retain agricultural uses unless public recreation or natural resources on the site would be adversely affected. If conflicts between agriculture and public uses occur, they should be resolved in such a way as to protect resources and public safety while still allowing the continuation of the agricultural operation. Agricultural leases with private operators should be reviewed five years prior to expiration for compatibility with park goals. Operators should be notified at that time whether or not their leases will be renewed and what revisions in operating arrangements, if any, are necessary.

III. TOMALES BAY USES

- MARICULTURE
- COMMERCIAL FISHING/RECREATIONAL BOATING
- PUBLIC TRUST LANDS
- SHORELINE STRUCTURES
- DIKING/FILLING/DREDGING

MARICULTURE

COASTAL ACT POLICIES/PURPOSE OF LCP MARICULTURE COMPONENT

Mariculture is an increasingly important coastal-dependent use which produces food, enhances fisheries stocks, and contributes to the state's economy. The purpose of this LCP Mariculture Component is to provide for mariculture sites in Tomales Bay in a location and manner which is consistent with the policies of the Coastal Act. Technical assistance for this effort has been provided by the Department of Fish and Game.

Until recently, mariculture received little attention in state planning law and policy. The Coastal Act mentions mariculture specifically only twice, although several policies of the Act do apply to mariculture on a general level. A major development in state mariculture policy occurred in 1979 with the passage of SB 52, the California Aquaculture Development Act. The Act establishes policies encouraging aquaculture in California and provides for cooperation between the Department of Fish and Game and the California Coastal Commission in designating sites for aquaculture in local coastal programs.

Of major significance to LCP's, the Aquaculture Act adds Section 30411(c) to the Coastal Act. This section states that "aquaculture is a coastal-dependent use which should be encouraged to augment food supplies...." The section also enables the Department of Fish and Game to identify coastal sites appropriate for aquaculture and to transmit such information to the Coastal Commission and relevant local governments. Local governments and the Commission are then to provide for as many of the sites as are consistent with Coastal Act policies.

In addition to Section 30411(c), other sections of the Coastal Act. which apply to mariculture include 30101, 30230, 30231, 30233(a)(8), and 30255. The full text of these policies is given in Appendix A.

DEFINITIONS

Aquaculture is defined in the California Aquaculture Development Act as "...the culture and husbandry of aquatic organisms, including but not limited to, fish, shellfish, mollusks, crustaceans, kelp, and algae." Mariculture is the term used to describe saltwater or marine aquaculture. For the purposes of this LCP component, the term mariculture will be used exclusively since all aquaculture in Marin's coastal zone occurs in saltwater.

There are two types of mariculture systems: intensive and extensive. Intensive systems, often housed in buildings onshore, maintain high densities of animals in ponds or tanks, requiring supplemental feeding and environmental control. Extensive systems, by contrast, culture relatively low densities of animals in large ponds, bays, or estuaries where the natural productivity of the water body provides all necessary nutritional and environmental requirements. In the

Tomales Bay area, only extensive culture is anticipated because of the very limited shoreline area available around the Bay.

STATEWIDE PERSPECTIVE

Mariculture in the form of oyster culture-has been practiced in California since the early 1850's. The state's current oyster industry is located on approximately 5000 acres of leased submerged lands distributed over four bay systems, two of which are located in Marin County. The production from these four bays, Humboldt, Tomales, Drake's, and Morro accounts for all marketable oysters produced in California waters. Drake's Bay alone supplies approximately 20% of California's entire commercial crop. The statewide industry produced close to 5 million pounds of oyster meat between 1972 and 1977, a harvest valued at 1.8 million dollars in 1977 alone. Oyster culture and other forms of mariculture have gained increasing attention in recent years, both at the state and national levels, due to their economic benefits and contribution to available food protein.

MARICULTURE IN TOMALES BAY

Mariculture began in Tomales Bay over 100 years ago when, in 1875, a shipment of eastern oysters was planted in the Bay. Early enterprises included the Pacific Oyster Company, established in 1907, and the Tomales Bay and Jensen Oyster Companies, both started in 1913. In 1928, seed of the Giant Pacific oyster was imported from Japan. This non-native oyster, Crassostrea gigas, became the mainstay of the industry in Tomales Bay and is still the most important commercial species cultivated. Production varies through the years but in 1979, approximately 68,000 pounds of Pacific oyster meat were produced in the Bay.

Currently, there are seven oyster allotments and one mariculture lease on state lands in Tomales Bay, as shown in Table 13. These allotments and lease encompass 819 of the Bay's 7,760 acres or 10.5% of the total water area, and are grouped at the northern and southern ends of the bay, with a few small areas scattered in between. Only a small portion of the 819 acres of allotments, 80 to 100 acres, are under active cultivation at the present time.

In addition to mariculture activities on state lands in Tomales Bay, there are three small oyster cultivation areas on private holdings and one within the Point Reyes National Seashore. The private holdings are operated by Jensen Oyster Company, American Shellfish Corporation, and Tony's Seafood, all located on the eastern side of the Bay. The lease within the Seashore is located at Sacramento Landing on the west side of the Bay and is held by Frank Spenger, the well-known Berkeley restaurateur, who leases from the National Park Service. The only mariculture activity outside Tomales Bay is found in Drake's Estero, also within the National Seashore, where Johnson Oyster Company holds a 1060-acre oyster allotment.

Table 13. State Oyster Allotments and Mariculture Leases in Marin County				
Oyster allotment number	Allottee	Location	Number of acres state land	Termination date
M430-O1	Jensen Oyster Beds	Tomales Bay	30	9/7/80
M430-03	Int'l Shellfish Enterprises, Inc.	Tomales Bay	260	4/29/96
M430-04	Int'l Shellfish Enterprises, Inc.	Tomales Bay	133	8/14/2002
M430-05	American Shellfish Corporation	Tomales Bay	320	10/7/2001
M430-07	WHD Enterprises dba Pigeon Point Shellfish Hatchery	Tomales Bay	19	11/30/2003
M430-08	Int'l Shellfish Enterprises, Inc.	Tomales Bay	26	5/21/2003
M430-09	G.R. Johnson & P.H. Dunn	Tomales Bay	20	3/1/2004
M438-01	Johnson Oyster Co., Inc.	Drakes Estero	1,059	2/19/1990
M438-02	"	"	1	"
Mariculture Lease Number	Lessee			
M430-06	Morgan Oyster Co.	Tomales Bay	10	1/31/88
Source: Department of Fish and Game, 5/1/79				

TECHNICAL NEEDS OF THE MARICULTURE INDUSTRY

Several factors influence the desirability of a site for mariculture production from a technical standpoint:

Water quality. Clean water is absolutely essential for mariculture production since animals are grown for human consumption. The fact that Tomales Bay is desirable from an industry standpoint is indicative of its generally high water quality. Specific measures of water quality and suitability for mariculture include the level of dissolved oxygen, salinity and seasonal changes with freshwater runoff, turbidity, temperature, and fecal coliform bacteria levels.

Water depth. Water depth is rarely a limiting factor for mariculture because of the wide variety of culture methods (e.g. raft, rack, stake), available for different depth conditions, Depth may be limiting if the animals to be cultivated, such as fish, require a minimum depth of water to survive.

Bottom type. The nature of bottom material, such as sand, mud, or rocks, may be important for mariculture, particularly if bottom culture is contemplated, Soft bottoms can create unstable conditions that cause oysters to sink into the bottom and smother.

Exposure. The wind and wave conditions of a site may significantly influence its suitability for mariculture. Strong or frequent winds in exposed areas make mariculture operations difficult and pose a risk of destruction or loss of mariculture equipment. Consequently, protected areas are generally best for oyster culture.

Eelgrass beds. The presence of eelgrass limits the type of culture method possible and interferes with boating access to the operation. The Department of Fish and Game limits mariculture activities in eelgrass to protect this resource.

Access and onshore support facilities. Mariculture operations require one or more shoreline access points to reach their culture areas. Boat launches, loading areas, and storage space onshore may be necessary as well. The location of these facilities will affect transportation costs, the ease of transporting materials, and the ability to plant and tend crop. The distance of the mariculture operation to the shore may also affect the operator's ability to protect his holdings from theft and vandalism.

On a given mariculture site, several types of culture are possible, such as bottom culture, stake, rack, or raft culture, cages, or floating pens. Under existing permit procedures, the choice of a culture method is left to the applicant and is then evaluated when the particular project is reviewed for a permit by the Department of Fish and Game. The applicant's choice of culture method is largely dictated by the type of seed to be grown (single seed or seed attached to a mother shell - cultch), potential conflicting uses of the proposed culture area, site exposure to wind and waves, bottom composition, presence of eelgrass, and water depth. Of these, water depth is probably the most important because it determines what type of structure can produce the greatest yield. Water

depths and corresponding culture methods are shown in Table 14. The most commonly used culture methods in Tomales Bay are bottom and rack culture. Stake and raft culture are also used, though less extensively.

Several points should be noted regarding culture methods. One is the trade-off between water depth and animal population concentration. Generally, the deeper the water, the greater the number of animals which can be grown in a given area because. deep water allows utilization of the vertical water column. Conversely, the shallower the water, the larger the acreage necessary to raise a given number of oysters. Oysters in shallow water also require a longer growing time because they are exposed at low tide and cannot feed. A second point is that animal densities will determine the number and placement of structures. To ensure an adequate food supply (and boat passage by the operator and other boaters), an open food-producing buffer must be retained around rafts and racks. The concept is similar to that of grazing cattle on the land: only a limited number of animals can be supported by a certain size and quality of range. It is anticipated that, given existing technology, no more than 50% of each allotment will be covered with structures due to the need for spacing. A final point on culture methods is that by permitting high animal densities, deep water culture may reduce the potential for conflicts with other uses, such as boating and fishing.

EXISTING REGULATIONS

Most mariculture activities occur on state tidelands and submerged lands. The legal authority to lease these lands for mariculture is held by the State Fish and Game Commission. As part of the leasing process, the Commission reviews all potential environmental impacts associated with a project through procedures established by CE QA. Thus, by the time a project reaches the County, many potential problems have already been addressed.

The Commission issues two types of leases: a mariculture lease or an oyster allotment. These leases are granted for a maximum of 25 years and require payment of an annual rental fee, $10/acre for a mariculture lease or $1/acre for an oyster allotment. Legally, mariculture leases and oyster allotments are virtually the same; however, they evolved separately due to the historical predominance of the oyster industry. The major considerations for a potential operator in choosing between a lease or an allotment are the difference in rental fees between the two and the type of animal to be cultivated.

Each mariculture lease or oyster allotment carries with it several conditions. One condition is that the lessee obtain a valid cultivator's license. These licenses are issued annually upon payment of a small fee and are of two types.

> Mariculture license - permits the holder to cultivate all forms of marine fish and shellfish that are authorized by the Fish and Game Commission (including oysters).
>
> Oyster cultivation license - permits the holder to cultivate only various species of oysters.

Another condition of a mariculture lease or oyster allotment is that the lessee meet the minimum planting and harvesting requirements established

Table 14. Culture Methods and Water Depths			
	Examples of culture method	Typical water depths (feet)	Description
Proven Methods	Bottom	0 to -1.5	Strings of cultch or scattered cultch on firm bottom.
	Stake	+1 to -2	Low stakes on which individual pieces of cultch are attached.
	Rack	-2 to -5	Wooden frames supporting strings of cultch.
New methods (in some cases experimental)	Bottom tray	+1.5 to -1	Wire baskets and trays containing individual shellfish.
	Low stakes	0 to -5	Stakes supporting strings of cultch.
	Long line	-2 to -8	Buoyed lines supporting lantern nets (trays) containing individual shellfish.
	Raft	-5 to -12	Used to support stacks of trays in the water – most efficient use of water column, permits highest density animal crop in smallest area by utilizing vertical dimension.
	Floating pen	-8 and deeper	Used to rear fish species such as trout or salmon.
Source: Department of Fish and Game			

by the Fish and Game Commission. The intent of this condition is that state lands encumbered with leases are used for the purpose intended. Generally, a cultivator has several years from the date the lease is first granted to "prove up" the lease. Production requirements start at 25% and increase gradually to 100% over a period of four years. From the time production begins, a harvest or landing fee is levied annually based on the number of gallons or pounds of shellfish produced per acre. If production requirements are not met, the lease may be considered for termination or abandonment by the Fish and Game Commission.

Mariculture operations working private lands do not need a mariculture lease or oyster allotment from the Fish and Game Commission, nor are they required to pay rental or harvest fees. They are required, however, to obtain the appropriate cultivator's license and to enter a mariculture agreement with the Commission, specifying that they will adhere to its regulations. Their shellfish plantings, as well as those on state lands, are also subject to periodic inspection by the Department of Fish and Game.

In addition to the Fish and Game Commission, numerous other agencies issue permits for mariculture activities, These include the Coastal Commission, the Department of Health, and the Army Corps of Engineers. The County of Marin requires a tidelands permit if structures on tidelands are proposed. The existence of these many regulatory agencies has led to a complicated permit process which is not encouraging to potential mariculturists. Although the number of permits required by an operator will not be reduced by the adoption of the LCP, it is anticipated that the standards in the LCP will serve as a uniform set of criteria to be applied by all agencies involved, and thus, that a streamlined permit process will result.

PLANNING ISSUES

Numerous issues have been raised during the course of planning for mariculture in Tomales Bay, as explained below. In attempting to resolve these issues, the major goal of the LCP planning effort has been to provide for mariculture and other uses, such as recreational boating, clamming, and commercial fishing, in a manner which minimizes conflicts between these uses and protects the natural resources of Tomales Bay. Attention has been drawn to the fact that although oyster culture in various forms has been practiced in Tomales Bay for many years, the cultivation of other non-traditional species, such as exotic clams or trout, under mariculture licenses, could cause problems not anticipated at this time. The LCP has attempted to address this concern to the extent possible based on available information. The LCP recommendations are intended as flexible guidelines which, when the LCP is reviewed in five years, may be modified in response to new information, changes in technology, or problems which develop with existing uses.

Resource protection. Three major concerns have been raised regarding the impacts of mariculture on the natural resources of Tomales Bay: impacts on eelgrass beds, water quality and siltation, and on the total carrying capacity of the Bay.

Numerous scientific studies have documented the importance of eelgrass to the ecology of Tomales Bay. Extensive eelgrass beds, located primarily in the northern end of the Bay, provide food for many species of waterfowl, shelter juvenile fish populations, and act as a substrate for the deposition of herring eggs. Possible impacts on eelgrass from mariculture include shading from rafts or racks, disruption of the substrate

by staking or anchoring of structures, and damage by boats used for maintenance and harvesting.

Under existing law, eelgrass beds are protected from cutting or disturbance, and the Department of Fish and Game has the responsibility for ensuring their protection. According to the Department, mariculture operators whose allotments encompass eelgrass beds can only efficiently operate in the channels and openings within the beds. Their boats and barges are shallow draft and what little vegetation is clipped soon regenerates. Surveys of eelgrass beds by the Department indicate that oyster culture as practiced in Tomales Bay is not a threat to this vegetation.

The second major concern regarding the impacts of mariculture on the resources of Tomales Bay involves water quality and siltation. Existing and proposed allotments and leases would cover approximately 11% of the area of the Bay. The concern is that animal cultivation may degrade water quality, especially if shellfish relay and depuration (purification) projects are proposed, or animals other than the traditional oyster are cultivated. Also, mariculture structures may cause increased siltation rates in some parts of the Bay and bottom scour in others.

Historically, mariculture operations have not caused water quality problems in Tomales Bay or in other bays of the State where a much greater percentage of the area is devoted to mariculture. The impact of oyster culture on these bays has been negligible and experience has shown that production activities and the maintenance of a healthy biological environment are compatible. The introduction of exotic marine fauna, such as predatory drills, via shellfish relay operations or exotic animals would be very damaging to the mariculture industry itself. The regulations of the Department of Fish and Game forbid such importations and the industry has cooperated with government agencies for many years to prevent this occurrence.

As far as siltation is concerned, the Department of Fish and Game does not anticipate that existing or proposed mariculture structures in Tomales Bay will seriously impede tidal flows or cause excessive siltation. The early use of stingray fences in the Bay caused a greater impediment to flows than existing structures and there is no evidence that these fences, the remains of which can still be seen, caused excessive siltation or scouring of bay bottoms. Dense eelgrass beds would be as likely to cause settling of fine silt particles as mariculture structures; however, tidal currents prevent this from happening by maintaining the particles in suspension. Stream-borne sediment, deposited at the mouths of Walker and Lagunitas Creeks, is due to upstream erosion in the watershed, not to mariculture structures in the path of the flow.

The third major concern that has been raised regarding resource impacts is the effect of mariculture on the carrying capacity of Tomales Bay. The Bay presently supports a vast population of native flora and fauna. If additional animals are introduced to "graze" on the nutrients of the Bay, the concern is that food competition with native populations might result. There is little specific information available on this question, but the assessment of the Department of Fish and Game is that the effect of mariculture on marine resources would be negligible.

This assessment is based on many years of experience managing mariculture operations, observations of the rapid growth. rates of native clams and cultivated oysters in Tomales Bay, and a comparison of mariculture activities in the Bay with other bays in the state.

Tomales Bay has 819 acres of existing allotments and leases with approximately 80 additional acres proposed, for a total of 900 acres or 11% of the Bay's water area. The other three major bays in California used for mariculture have a much higher percentage of area allotted for oyster cultivation than Tomales Bay, as shown in Table 15. However, no adverse ecological effects have been noted. The Department of Fish and Game considers suitable space and potential conflicts with other uses to be the factors limiting mariculture operations in Tomales Bay, not food production. The proposal for 900 acres is based on these limitations. The low oyster production shown for Tomales Bay in Table 15 is due, not to food shortages and poor growth rates, but to the fact that many of the existing allotments are not yet planted or fully developed.

Another reason that mariculture activities would most likely not impact carrying capacity is that Tomales Bay receives large inputs of nutrients from the surrounding watershed. Runoff from upland areas carries with it a high nutrient load which supports abundant plankton and eelgrass production. Mariculture structures may in fact actually enhance native fish populations by serving as artificial reefs. The structures provide cover and an attachment surface for food organisms which then attract forage species and in turn, predatory species such as striped bass.

Table 15. Oyster Allotment Acreage and Production for California Bays

Area	Size in acres	Allotment acres	% of allotments utilized 1979	Allotments as a % of total Bay area	Shellfish meat est. average yield (lbs)
Humboldt Bay	9,600	2,000	50	20.8	516,000
Tomales Bay	7,760	819	10	11.6	49,940
Drakes Estero	2,190	1,060	20	48.4	352,024
Morro Bay	2,610	944	30	36.2	120,400

Source: Department of Fish and Game, 1979

Recreation and access. Tomales Bay offers opportunities for a wide variety of recreational activities, including clamming, swimming, boating, hunting, and fishing. Mariculture operations have the potential to conflict with these uses and with public vertical, lateral, and boating access unless carefully sited and designed.

Clammers require access to shallow tidelands along the shore. Sections 6496 and 6523 of the State Fish and Game Code provide that state lands which are used by the public for clam digging shall not be leased or allotted and shall remain open to the public for such digging. Thus, areas of Tomales Bay used for clam digging are not subject to lease for mariculture. The Department of Fish and Game proposes that mariculture activities be sited in water deeper than -1.5 feet to preclude conflicts with recreational clammers and to ensure lateral access to the public, except in the area north of Miller Park which has large intertidal areas suitable for culture and is largely inaccessible from shore.

Boaters, including sailors, fishermen, and hunters, have access to most of the Bay. Water depth and eelgrass are the major factors limiting their activity. According to these groups, the relatively narrow width of the Bay (1/2 to 1 mile) makes turning and navigation difficult in some conditions. They are concerned that the placement of mariculture structures might cut into an already narrow sailing and boating area.

Existing allotments and leases have been located, for the most part, in the shallower areas of the Bay which are less suitable for boating and are thus not heavily used. Efforts have been made to place new allotments also in areas where conflicts with boating will be minimized. To this end, siting recommendations in the LCP provide that new allotments should abut existing allotments whenever feasible. Section 6524 of the State Fish and Game Code protects public boating access for hunting and fishing to all state lands within allotment areas. Thus, no allotments may be closed to public boat traffic. Mariculture operators provide boating access in any case, for their own maintenance and harvesting purposes.

Public access to and along the shoreline may also be adversely affected by mariculture support facilities located onshore. To protect such access, the UP recommends that mariculture activities and onshore support facilities incorporate provisions for public vertical and lateral access unless it would interfere with the mariculture operation and the impacts from access cannot be mitigated.

Commercial fishing. Commercial fishing is a small but well-established industry in Tomales Bay, especially the herring fishery which is heavily dependent upon the integrity of eelgrass beds (herring spawn in the beds). Fishermen fish the area between Tom's Point and Tomasini Point, usually in deeper waters. They are concerned that mariculture structures, especially large fish cages or pens, might interfere with boat movement or foul their nets. To address these concerns, the LCP recommends that structures in the Bay avoid prime fishing areas to the extent possible and be located in shallower waters near the shoreline. The Department of Fish and Game staff has noted that the requirement that structures be sited close in towards the shore where water is shallow virtually precludes the use of large cages or similar structures.

Navigation and safety. Recreational boaters and fishermen have raised the concern that mariculture structures might impede navigation or block access to the shoreline. As explained above, no allotments may be closed to public boat traffic. Existing regulations require that all structures be placed and marked so as to preclude navigational hazards. In addition, the Coast Guard and the Army Corps of Engineers restrict such hazards.

Onshore support facilities. Mariculture operations require shoreline access points from which boats used for maintenance and harvesting may be launched. In addition, onshore facilities for loading, storage, and processing may be necessary. Unless appropriately sited and scheduled, these activities may compete with those of commercial fishermen and the recreating public. Extensive facilities for processing are not anticipated for the shoreline of Tomales Bay due to its narrow width. Activities will probably be limited to loading and transfer.

To avoid potential conflicts, the LCP recommends that applicants for coastal permits specify the type and location of necessary facilities and the timing of use. If private lands are to be used, agreement from the property owner (if other than the mariculture operator) is required and uses must conform to the LCP land use plan. If public lands are to be used, formal arrangements should be made with the County or the State so that use for mariculture does not interfere with that by the public.

Visual quality. Questions have been posed about the visual effects of mariculture structures. In shallow areas, these structures are exposed at low tide, while in deepwater areas, the buoys marking submerged structures will be visible. Mariculture structures are relatively small-scale and inconspicuous. Because shellfish must be submerged during part of the day for feeding, structures supporting the shellfish in shallow water are only a few feet high. Rows of structures may be considerably longer. However, the wood and wire materials used are compatible with the visual character of Tomales Bay and, due to the nature of mariculture operations, structures are never sited in solid rows for acre upon acre. Rather, space is left within allotments to allow for boat passage and to ensure adequate food supply for growing animals. One local oyster cultivator estimated that no more than 50% of his allotment would ever be planted with actual structures, due to the need for spacing.

Though not invisible, mariculture structures can be viewed as part of the local color of Tomales Bay and tangible evidence that the Bay. is being used for the beneficial use of producing food. Similar structures have been used in Drake's Estero, in the middle of the National seashore, for many years and have been favorably received by the public. The LCP recommends that mariculture structures be sited and designed to minimize visual impacts, especially in areas which are highly visible from public viewing points.

Minimum allotment size. Existing allotments in Tomales Bay range in size from 10 to 320 acres. However, the Department of Fish and Game recommends that the 80 acres of new allotments be granted in parcels no larger than five acres each. The purpose of this size limitation is to

provide opportunities for many different mariculturists to become established, since relatively few acres remain to be allotted. In addition, the five-acre limit will allow flexibility in siting the allotments and ensure that allotted acreage is in fact used for mariculture activities. (One problem with existing allotments is that they have not been fully developed.) According to Fish and Game, the operator would be required to meet production requirements on each five-acre parcel before being granted additional acreage. At this time, there is little information available as to what sized parcel is "viable" from an economic *standpoint.* Five acres *is Fish* and Game's "best guess" of a viable unit, which may be modified in the future if experience shows that a change is necessary.

The five-acre minimum size has not been applied to existing allotments which come up for re-allotment because some of them are located in extremely shallow water where five acres would be impractical. Also, and more importantly, if allotments are developed with structures and producing shellfish, a reduction in allotment size would be disadvantageous from both a public and private standpoint. These allotments will be reviewed when they terminate, according to LCP policies, for appropriateness of size and location.

MARICULTURE

LCP POLICIES ON MARICULTURE:

1. General policy. The County of Marin supports and encourages mariculture in its coastal zone for the purposes of producing food, enhancing and restoring fisheries stocks, and contributing to the State's economy. This policy recognizes, however, that the need for mariculture sites in coastal waters must be balanced with the need to provide for other uses, such as commercial fishing, recreational clamming and boating, and the need to protect coastal wildlife, water, and visual resources.

2. General standards. The following standards and procedures shall apply to all mariculture operations:

   a. Acreage limit. In conformance with the recommendations of the Department of Fish and Game, the total acreage designated for mariculture operations in Tomales Bay shall not exceed 900 acres during the five year period following adoption of the LCP. This 900 acres includes 819 acres of existing allotments and leases and a maximum of 81 acres of new allotments and leases. When the LCP is reviewed in five years, additions or reductions in acreage may be considered.

   b. Size limit on allotments and leases. Mariculture in Tomales Bay has received increasing interest in recent years, as it has statewide. To provide flexibility in responding to new information about the industry, new technology, and changing public needs, allotments and leases considered for development in a coastal permit shall be limited in size to five acres. Applicants shall be required to meet the production requirements of the Department of Fish and Game for each five-acre parcel before being granted a permit to develop additional acreage. Allotments and leases in existence at the time of LCP adoption shall not be subject to this policy. Re-allotted acreage shall be retained and shall be reviewed for appropriate size and location according to LCP policies in this and other sections.

   c. Time limit on allotments and leases. To increase flexibility in the administration of mariculture activities for the purposes stated in (b) above, the County encourages the Department of Fish and Game to limit new allotments and leases in Tomales Bay to 10 years, subject to renewal up to 25 years as allowed by law.

   d. Protection of eelgrass beds. The siting of oyster allotments, mariculture leases, and mariculture structures shall avoid interference or damage to eelgrass beds in Tomales Bay, in conformance with Section 165(5), Title 14, of the California Administrative Code.

   e. Exotic animals. The importation of exotic fish, shellfish, or other marine species shall be carefully reviewed for its potential effect on native organisms in Tomales Bay, in accordance

with Sections 130 and 131, Title 14, of the California Administrative Code. Before a coastal permit is granted, persons requesting to cultivate exotic species shall be required to demonstrate that no significant adverse impacts will result from the introduction of such species.

f. Shoreline access. Mariculture operations and onshore support facilities shall incorporate provisions for public access to and along the shoreline unless such access would interfere with mariculture and the impacts from access cannot be mitigated. In evaluating coastal permits for mariculture, the County shall consider the location of existing accessways and potential conflicts between mariculture and public use of the shoreline. Areas of State land used by the public for digging clams shall remain open to the public for such digging, in conformance with Sections 6496 and 6523 of the State Fish and Game Code.

g. Boating access. The placement of structures within new or existing allotments and leases shall not interfere with public boating access at high-tide to State lands within the leased areas, in conformance with Sections 6497 and 6524 of the State Fish and Game Code. If boat passages are proposed, they shall be spaced at a minimum of one passage per 1/2 mile of shoreline.

h. Marking of structures. Mariculture structures shall be clearly marked above water in accordance with Sections 6499 and 6526 of the State Fish and Game Code, and the regulations of the Army Corps of Engineers and Coast Guard.

i. Onshore support facilities. Applicants for a coastal permit shall specify what access points and onshore support facilities (e.g. boat launch, loading dock, etc.) are required for the proposed mariculture operation, where such facilities will be located, and the timing of use. If private lands will be used for access or support facilities, the applicant shall submit a written statement from the property owner(s) agreeing to such use. If public lands will be used for access or support facilities, the applicant shall arrange a lease with the County or State specifying the type, location, and timing of use which is acceptable.

j. Visual impacts. Mariculture structures shall be sited and designed to minimize visual impacts, especially in areas which are highly visible from public roads, parks, or other public viewing places.

k. Permit requirements. Coastal permit applications for mariculture operations shall include the following information, submitted as part of the environmental statement on the project required by Public Resources Code Section 833:

. map of location, scale of 1:2000
. presence of eelgrass beds and other resources (e.g. seal haul-outs) on the site
. depth of water and type of substrate
. species to be cultivated and culture method to be used (e.g. raft, stake, bottom culture)

. percent of allotment or lease covered by structures
. method of anchoring structures
. method of marking structures
. provision for shoreline and/or boating access, as necessary
. location of access to mariculture operations and of onshore support facilities
. list of adjacent property owners and upland property owners within 1/2 mile of proposed activity
. list of other permits applied for or. granted

1. Notification of property owners. The County shall notify all property owners within 1/2 mile of the proposed mariculture operations and interested organizations when a coastal permit is filed with the County for mariculture activities.

3. Technical Advisory Committee. The County shall explore the possibility of establishing a Technical Advisory Committee composed of qualified persons for the purpose of providing technical expertise and assistance to the County in its review of coastal permits for mariculture.

4. Existing allotments and leases. The County of Marin recognizes existing oyster allotments and mariculture leases in Tomales Bay and encourages their development. This policy recognizes, however, that adjustments in allotment size and location may be necessary in the future in response to new information about the mariculture industry, new technology, or changing public needs.

   Development of existing allotments and leases shall conform to the standards set forth below. The allotments are listed from north to south.

   a. Allotment #430-03, Int'l Shellfish Entrp. There are two major concerns with this allotment: the presence of eelgrass beds and the close proximity of the allotment to the Walker Creek delta. To protect the eelgrass, minimize interference with freshwater outflows from Walker Creek, and reduce possible impacts on spawning fish in the creek, mariculture structures shall be located out of eelgrass beds and set back from the delta. Mariculture operations shall allow boating access to and along the shore at high tide.

   b. Allotment #430-04, Int'l Shellfish Enterprises. The presence of eelgrass beds is the major concern with this allotment. To minimize damage to this resource, structures shall be sited out of eelgrass beds. Boating access to the shoreline at high tide shall be maintained.

   c. Allotment #430-01, Jensen Oyster Company. Development on this allotment shall be sited out of eelgrass beds, set back from the Walker Creek delta, and designed to minimize visual impacts on adjacent areas which are visible from Highway 1 and Miller Park. When the allotment terminates in 1980, the siting and development of re-allotted acreage shall take these concerns into account. New development on the upland parcel, AP #104-110-08, shall allow for the continuation of mariculture operations.

d. Allotment #430-08, Parcel 2, International Shellfish Enterprises. This allotment is located offshore from state parklands, thus mariculture development should be coordinated with that of the park. Structures shall not interfere with boating access to or with lateral access along the shoreline. Visual impacts from development shall be minimized and structures shall be sited out of eelgrass beds.

e. Allotment #430-07, Parcel 2, WHD Enterprises. This allotment is located in a relatively busy area of Tomales Bay. Mariculture development shall be sited and designed to minimize conflicts with commercial fishing activity at Marshall Boat Works and Tony's Seafood and with recreational boating at Marconi Cove Marina. The visual impacts of development on this highly visible site shall be minimized and interference with recreational clamming along the shore shall be avoided.

f. Lease #430-06, Morgan Oyster Company. This lease is located adjacent to Marconi Cove Marina and as such appears to present potential conflicts with recreational boating and clamming there, especially if the marina is expanded. Mariculture structures shall be sited to minimize these potential conflicts. Relocation of the lease to the northwest or southwest should be considered, if it appears necessary, when the lease. terminates in 1988.

g. Allotment #430-09, Parcel 2, Dunn and Johnson. This allotment is located offshore from recreational clamming areas between Marconi Cove Marina and state parklands to the south. The major concerns with its development are visual impacts, and possible interference with recreational clamming and boating. Development shall be designed to minimize visual impacts and sited close to the shoreline to avoid recreational boat traffic.

h. Allotment #430-05, American Shellfish Corporation. This allotment, which includes 20 acres of private water bottoms, is the largest in the Bay and wraps around state parklands on Tomasini and Millerton Points. Mariculture development should be incorporated into the interpretive facilities of the park and should proceed with attention to the needs and characteristics of the park. Public access along the shoreline and by boat at high tide shall be maintained at all points. If boat passages are proposed through structures, they shall be provided, at a minimum, on the north side of Tomasini Point and on the lee side of Tomasini and Millerton Points. Structures shall be sited and designed to minimize visual impacts. Materials used shall be compatible with the park setting.

i. Allotments #•430-07, Parcel 1, WHD Enterprises, and #430-09, Parcel 1, Dunn and Johnson. These allotments are located at the southern end of the Bay, out of the way of most other uses. Development shall proceed with attention to visual impacts and recreational boat traffic.

5. New allotments and leases. Based on Section 30411(c) of the Coastal Act, the County has taken the recommendations of the Department of Fish and Game as the starting point for evaluating new allotments and leases in Tomales Bay. The Department has recommended 82 acres of allotments in various locations around the Bay, to be granted in parcels of five acres each. After evaluating this proposal in light of Coastal Act policies, the County has concluded that 82 acres and five acre parcel sites would be appropriate for Tomales Bay. However, the location of this acreage needs adjustment in some cases. In addition, the structural development of allotments needs to be conditioned to ensure that it conforms to the policies of the Coastal Act.

   To meet these concerns, the following standards on location and development of new allotments and leases are proposed:

   a. West side of Tomales Bay.

      Proposal: The Department of Fish and Game has stated that a maximum of two acres of allotments would be sited between Teacher's Beach and the boundary of Point Reyes National Seashore to the north, between the -1.5 and -8 contour lines (MLW). Fish and Game gives these allotments very low priority because of heavy recreational use in the area and states that great need would have to be demonstrated before they would be considered.

      Description: This area lies adjacent to Tomales Bay State Park. The park and offshore area are heavily used by boaters, clammers, swimmers, and hikers. The main boating channel in the Bay is located near the shore.

      LCP Recommendations: Because of the heavy use of this area and the potential for conflicts between mariculture operations and other uses, the County does not regard the west shore as appropriate for mariculture and shall not grant coastal permits for such operations there. To maintain the opportunity for mariculture, the two acres shall be relocated to the east side of the Bay.

   b. East side of Tomales Bay, Tom's Point to Miller Park.

      Proposal: The Department of Fish and Game proposes twenty-five acres of allotments in five-acre parcels between the +1 foot tide level and the -12 foot contour line (MLW).

      Description: This area lies out of the most actively used portions of Tomales Bay and would be appropriate for additional mariculture development (.431 acres of allotments already exist). The major concerns in this area are the presence of eelgrass beds, harbor seal haulouts on Hog Island, freshwater outflow and siltation at the mouth of Walker Creek, public clamming at Nick's Cove and Miller Park. recreational boating from Miller Park, and visual impacts on the Park and Highway 1.

LCP Recommendations: The twenty-five acres shall be sited out of eelgrass beds and set back from the Walker Creek delta. Allotments shall abut existing allotments where possible and shall avoid open water used by boat traffic. Setbacks of 150 yards minimum shall be maintained from identified seal haulout areas and from Nick's Cove and Miller Park. Visual impacts from development on the cove and park shall be minimized.

c. East side of Tomales Bay, Miller Park to Cypress Grove.

Proposal: The Department of Fish and Game recommends thirty acres of allotments in five-acre parcels between the -1.5 and -12 foot contour lines (MLW).

Description: This area of the Bay has 18 acres of existing allotments and appears to represent one of the areas with the greatest potential for mariculture expansion. However, it is quite exposed and somewhat problematical from an industry standpoint. The major concerns include the presence of eelgrass beds near the shore, commercial fishing, numerous recreational clamming sites, public parkland, and visual impacts on public parks, viewing areas, and Highway 1.

LCP Recommendations: Mariculture structures shall be sited out of eelgrass beds, allow boating access to the shoreline, and be set back a minimum of 150 yards from Miller Park and North Shore Boats. Existing lateral access shall be maintained on public parkland near Cypress Grove and on private lands to the north and south. Allotments shall be sited close in towards the shore to minimize conflicts with commercial fishing and shall be designed to minimize visual impacts on public viewing areas and Highway 1.

d. East side of Tomales Bay, Marshall to the southern end of the Bay.

Proposal: The Department of Fish and Game proposes twenty-five acres of allotments in five-acre parcels between the -1.5 and -8 foot bottom contours (MLW). The allotments would be sited close to existing allotments.

Description: This area of Tomales Bay includes 370 acres of existing allotments and leases, most of which have not yet been developed. There are numerous other uses in this relatively busy area, particularly between Marshall and Tomasini Point, including recreational clamming and boating, commercial fishing, a marina, boat works, and state park. New allotments in this area have the potential to conflict with these uses unless carefully sited.

LCP Recommendations: Mariculture structures shall be set back a minimum of 150 yards from Marshall Tavern, Marshall Boat Works, Tony's Seafood, and Marconi Cove Marina. Structures shall allow boating access to the shoreline at high tide, shall not interfere with lateral access, and shall be designed to minimize visual impacts. Allotments placed to the south of Marconi Cove Marina shall abut existing allotments and be located out of recreational boating lanes.

COMMERCIAL FISHING AND RECREATIONAL BOATING

COASTAL ACT POLICIES

Coastal Act policies on commercial fishing and recreational boating are contained in Sections 30224 and 30234. Both sections encourage increased fishing and boating in coastal waters by supporting the development of land uses adjacent to the water, such as launching and berthing facilities, which serve fishing and boating. Other policies of the Act more generally protect the shoreline for "coastal dependent" and water-oriented recreational uses which cannot be sited inland. Section 30234 also provides that proposed recreational boating facilities shall, where feasible, be designed and located so as not to interfere with the needs of the commercial fishing industry. Thus, the Coastal Act regulates onshore and marina development related to fishing and boating. Because the regulation of fishing permits and harvests is the responsibility of the State Fish and Game Commission, neither the Coastal Act or the LCP contains policies on this subject. The full text of Coastal Act policies cited above is given in-Appendix A.

PLANNING ISSUES

Tomales Bay is regularly used for both commercial fishing and recreational boating. The herring roe fishery is especially important in the Bay. Most boating activity of both kinds is confined to Tomales Bay itself (as opposed to the open ocean) because of the hazardous wind, wave, and depth conditions which exist at the mouth of the Bay.

Currently, there are eight boat works, marinas, or launching facilities around Tomales Bay. These include the Golden Hinde Boatel, Inverness Yacht Club, and Berrywood Boat Works on the west side of the Bay, Marconi Cove Marina, Marshall Boat Works, North Shore Boats, and Miller Park Boat Launch on the east side of the Bay, and Lawson's Landing to the north of the Bay. Together, these facilities offer approximately 120 seasonal and permanent boat slips or berths, dry storage for 160 boats, and 65 moorings.

The potential (and need) for increased development of boating facilities in Tomales Bay is relatively small. As noted earlier, most boating activity occurs in the Bay itself and is thus limited by the size and resources of the Bay. Much of the Bay is very shallow and would require considerable dredging for marina development. The shoreline of the Bay provides little space for on-shore development in most places because of its narrow width. Lack of water supply and adequate parking space also constrain new large-scale marina development. Because of these conditions, it is recommended that most new development of any scale be located within or adjacent to existing boat service areas. Only very limited new facilities, such as launching ramps, are recommended in undeveloped areas. Appropriate sites for new development related to fishing and boating are described in the LCP section on "New Development" which covers the Tomales Bay shoreline, p. 211.

COMMERCIAL FISHING AND RECREATIONAL BOATING

LCP POLICIES ON COMMERCIAL FISHING AND RECREATIONAL BOATING:

1. General policy. The use of Tomales Bay for commercial fishing and recreational boating shall be supported and protected. Facilities on the shoreline of the Bay which support such uses shall be protected and, where feasible, upgraded. The County particularly encourages continued commercial fishing in Tomales Bay.

2. Development standards. Development of new boating facilities on the shoreline shall conform to the following standards:

   a. New marinas or boat works shall generally be located within or adjacent to existing facilities and where adequate public services (parking, sewage disposal, etc.) exist. New boating facilities in undeveloped areas shall be limited to small-scale facilities such as launching ramps. Adequate waste pump-out facilities shall be provided.

   b. New or expanded boat works or marinas shall be directed to deeper water areas with good tidal flushing in order to minimize the need for dredging and the risk of water pollution and stagnation. In general, the southern end of Tomales Bay is inappropriate for marina development because it is shallow and poorly flushed by tides.

   c. In the allocation of berthing spaces in new or expanded marina between commercial fishing and recreational boats, adequate space shall be provided for commercial fishing boats to ensure protection of this coastal-dependent industry.

   d. The design of marina facilities shall incorporate provisions for public access to and along the shoreline and shall minimize alteration of the natural shoreline, in conformance with LCP policies on public access and wetlands protection.

   e. Houseboat living on Tomales Bay is not an appropriate use of the Bay's waters.

PUBLIC TRUST LANDS

COASTAL ACT POLICIES

The California Coastal Act of 1976 applies to all lands within the State's coastal zone. The coastal zone is defined to include tidelands, submerged lands, and other public trust lands on the coast, filled or unfilled. Therefore, the Act's policies on development, as contained in Chapter 3, apply to public trust lands.

Several other. sections of the Coastal Act, 30416, 30519(b) and 30603(a), establish the relationship between public trust lands and local coastal programs (LCP's). These sections provide that the State Lands Commission shall review LCP's before they are certified and that, after certification, the Coastal Commission shall retain permit authority over development on public trust lands. The full text of these policies is given in Appendix A.

It is significant to note that, in establishing post-certification permit procedures, the Coastal Act distinguishes between public trust lands and virtually all other lands in the coastal zone. This distinction reflects the State Legislature's assessment that development on public trust lands is a particularly significant issue. As stated in Section 30519(b), the State Coastal Commission retains original permit authority over development on public trust lands, even after LCP's are certified. By contrast, for development on other lands approved pursuant to certified LCP's by local governments, the Commission retains only appeal authority or, in some cases, no authority at all.

The State Lands Commission, as the State agency with sole responsibility for administering the trust, adopted regulations in 1977 pertaining to the protection and use of public trust lands in the coastal zone. In addition, the staff of the State Lands Commission has proposed recommendations on public trust lands in Tomales Bay for incorporation into the County's Unit II LCP. The background discussion and planning issues presented below reflect both the regulations of the State Lands Commission and its staff's recommendations on Tomales Bay.

DEFINITIONS AND BACKGROUND

Public trust lands in Tomales Bay can be divided into two major categories:

Tidelands - The area situated between the line of ordinary high water and the line of ordinary low water along the State's shoreline, including inlets or tributaries, covered by the daily flux and reflux of the tides. The term "ordinary" is a legal term which means "last natural."

Submerged lands - the area below the line of ordinary low water and extending seaward to the 3-mile limit of State jurisdiction,

Ownership (fee-title) of public trust lands passed from the Federal government to the State of California at the time of statehood in 1850, to be held in trust by the State for the benefit of the public. In 1938, the California Legislature established the State Lands Commission to administer this trust. Under a series of statutes adopted after 1850, the Legislature authorized the sale of tidelands by patent. (Sales of submerged lands were not authorized by these statutes.) Valid State patents did not divest the public of its rights in the tidelands, however. The buyer of land received title to the underlying soil of validly patented tidelands but the State retained a public trust easement over the property. For the unpatented tidelands and submerged lands, the State retains complete ownership (fee title).

The public trust easements on tidelands traditionally have been defined as easements for the purposes of commerce, navigation, and fisheries. They have been held to include the right to fish, hunt, bathe, swim, to use for boating and general recreational purposes the navigable waters of the State, and to use the bottom of the navigable waters for anchoring, standing, or other purposes. The courts have recognized that the public uses suitable for tidelands are sufficiently flexible to encompass changing public needs. There is growing recognition that one of the most important uses of tidelands - a use encompassed within the trust - is the preservation of these lands in their natural state, so that they may serve as ecological units for scientific study, open space, and environments which provide food and habitat for birds and marine life and which favorably affect the scenery and climate of the area.

Based on the public trust doctrine, the tidelands and submerged lands of Tomales Bay are subject to the State's public trust easement. Although many of the tidelands in the Bay were surveyed between 1859 and 1872, and title to the soil was sold to private parties, the public trust easement over such parcels still exists. For some of these parcels, the exact location of tidelands boundaries based on the early surveys has not yet been determined by the State Lands Commission. In addition to administering the trust in Tomales Bay, the State Lands Commission has identified the Bay as an area possessing significant environmental values where only certain types of development are appropriate.

PLANNING ISSUES

The presence of public trust lands in the Tomales Bay area raises several significant issues related to present and future uses of the Bay and its shoreline. It should be noted that recent federal legislation authorized the purchase of most undeveloped lots on the shoreline of the Bay for addition to the Point Reyes National Seashore or the Golden Gate National Recreation Area. (The actual area included in the legislation is described in the LCP Section on Federal Parklands.) If and when these lots are finally acquired, the preservation of most public trust lands on the shoreline of the Bay for public use will be ensured. The discussion of issues presented below should be read with this fact in mind.

Consistency with public trust needs. The State Lands Commission reviews all projects on public trust lands, both patented and unpatented, for consistency with public trust needs. In addition to this-review, a project may or may not require a permit or lease from the Commission, depending on the ownership status of the public trust lands on which it is located.

The major question related to public trust lands in the Tomales Bay area is determining what land uses are consistent with public trust needs. Where such lands are owned in fee by the State, only those uses within the scope of the trust are permitted. Generally, permitted uses must be publicly oriented and, in each specific case, determined to be the most appropriate public trust use. Where private development on patented tidelands is involved, a review is made to determine whether or not public trust needs warrant an exercise of the State's public trust easement over the property. If this review shows that trust needs preclude the proposed private development, several options are possible. The State Lands Commission may, by virtue of its title interests in the property, prohibit the development, or the Commission may require conditions to ensure that public trust needs are protected.

Boundary determination. Determining whether a proposed tideland development is consistent with public trust needs requires that the location of parcel boundaries, the validity of the patent, and the landward extent of the State's interest be determined. This may be a complicated and time-consuming process.

Typically, such investigations may involve tracing a parcel's chain of title back to 1850, and even to earlier Spanish and Mexican land grants. They may also require the determination of the validity of a tideland sale or the examination of archaeological finds. In order to establish the character and use of such lands in 1850, or in their last natural state, hydrographic and topographic maps and survey charts, as well as aerial photos may have to be examined so that the extent of tidal influence may be established. Once-found, they must be carefully analyzed to help distinguish tidal areas from areas inundated by fresh water. Not atypically, these are found in library archives from Berkeley to Washington, D.C., or in old photo collections. Such investigations may also include interviews with persons who have lived, or whose family has owned property in the area in question for some time. Last, but not least, the location of the ordinary high water mark must oftentimes be property surveyed and located on today's lands.

In-attempting to establish the precise boundaries of tideland parcels, the State Lands Commission has often encountered difficulties because of the imprecision of original surveys, physical changes which have occurred in the lay of the land since patents were issued, and the time which has elapsed since the surveys were made. All of these factors make exact boundaries on tideland parcels difficult to ascertain.

After the land use plan for Tomales Bay is adopted, the State Lands Commission will determine tideland boundaries on a case-by-case basis in areas designated as appropriate for further development, or infilling. Where questions arise concerning the extent of public trust interest, the Commission may use mechanisms established by the State Legislature to settle boundary disputes.

One such mechanism consists of a boundary line agreement, which establishes a legal boundary between the State and a tideland patent owner. Such agreement fixes the boundary between State and private lands once and for all. The line represents the agreed location of the mean high or low tide line. A boundary line agreement is reached and executed by all affected property owners, is approved by the State Lands Commission, and must ultimately be signed by the Governor.

A second mechanism is a land exchange, made pursuant to Public Resources Code Section 6307, in which the State Lands Commission may quit claim its interest in certain lands in return for lands *of* equal or greater value. Such transactions may also include a termination of the public trust over lands agreed to be in private ownership which are filled and found to no longer be necessary for public trust purposes. Land exchanges are often parts of the settlement of boundary disputes.

STANDARDS FOR NEW DEVELOPMENT ON PUBLIC TRUST LANDS

Proposals for new development projects on patented or unpatented tidelands and submerged lands will be subject to careful scrutiny by the State Lands Commission. The Commission will determine the extent to which the proposed development extends onto public trust lands; the State's interest (i.e. fee or trust) in such lands; and, the consistency of the proposed development with public trust needs and with the objectives of the State Lands Commission for Tomales Bay.

In determining the consistency of a proposed development with public trust needs in Tomales Bay, the Commission has indicated that the development will be evaluated based on the following criteria, included here for information purposes:

Nature of use. Lands in Tomales Bay which are owned in fee by the State and subject to the common law public trust for commerce, navigation, and fisheries, must be used in a manner which is consistent with and furthers the purposes of the trust. New or expanded private uses of patented tidelands which are inconsistent with public trust needs shall not be permitted.

Environmental quality. Environmentally sensitive resource values shall not be threatened by the construction or location of new development. Water quality must be ensured through adequate waste disposal requirements. Removal of riparian vegetation shall be minimized during construction and wildlife habitats shall be preserved to the extent possible. Vegetation restoration schemes shall be required where necessary.

Residential development. Residential development is generally considered to be inconsistent with the purposes *of* the public trust because of the effect such private use has on public needs of State-owned tidelands. Therefore, new residential development shall only be permitted on patented tidelands where the Commission finds that such development will not interfere with trust needs. The goal shall be to protect the resource values of Tomales Bay and maintain the relatively undeveloped quality of the area as much as possible.

Dredging, diking, or filling. Dredging, diking, or filling of tide and submerged lands shall be restricted to instances where such activities serve a public purpose, such as restoration of a bay resource, or where no feasible alternative exists. Dredging, diking, or filling of public trust lands must be consistent with Section 30233 of the Coastal Act.

Protective shoreline structures. The need for protective shoreline structures shall be avoided when siting new development around the Bay. The construction of such structures on public trust lands to protect new development must be consistent with Section 30235 of the Coastal Act.

Visitor-serving development. Visitor-serving development on public trust lands may be acceptable in those areas designated for such use in the LCP. The location and construction of visitor-serving development on public trust lands shall be guided by the following standards:

cc. Public access to and along the shoreline is not inhibited by a project, or if it is, mitigation measures to ensure vertical and lateral access are included in the project plans;
dd. The area to be built upon does not include wetlands, stream buffers, or other environmentally sensitive habitat or resource areas;
ee. Mitigation measures have been incorporated into the project plans to minimize adverse environmental effects; and
ff. The development minimizes the need for dredging, filling, or diking.

CEQA. All projects must meet the requirements of the California Environmental Quality Act (CEQA).

RECONSTRUCTION OF EXISTING STRUCTURES ON PUBLIC TRUST LANDS

Section 30610 of the Coastal Act exempts certain projects from coastal permit requirements. Specifically, Section 30610(g) provides that "the replacement of any structure 4 other than a public works facility, destroyed by natural disaster" does not require a coastal permit. The policy goes on to state that "such replacement structure shall conform to applicable existing zoning requirements, shall be for the same use as the destroyed structure shall not exceed either the floor area, height, or bulk of the destroyed structure by more than 10 percent, and shall be sited in the same location on the affected property as the destroyed structure."

The above exception policy applies to public trust lands as well as all other lands in the coastal zone. Thus, structures along the shoreline of Tomales Bay which are sited on public trust lands may be rebuilt without a coastal permit if the 10% limit is met. The LCP reflects this policy guidance from the Coastal Act by clearly stating that existing structures on public trust lands may be rebuilt if destroyed by natural disaster. The New Development section of the LCP covering the Tomales Bay shoreline incorporates the 10% limitation.

PUBLIC TRUST LANDS

LCP POLICIES ON PUBLIC TRUST LANDS:

1. Notification of public trust interest. The Coastal Commission retains original permit jurisdiction over public trust lands. Applicants should examine the maps delineating the area of original jurisdiction to determine whether they should apply to the County or Coastal Commission. Specific questions should be referred to the State Office, Mapping Section. Applicants whose land is seaward of the line of Coastal Commission original jurisdiction shall apply to the Coastal Commission for coastal development permits. Before issuing a coastal permit, the Commission will refer the application to*the State Lands Commission for a determination whether a State Lands Commission permit or lease is required for the proposed development and whether the State Lands Commission finds it appropriate to exercise the easement over that. property. Applicants whose land is landward, of that line shall apply to Marin County for coastal permits. County designation of land use on public trust lands is advisory, since the Commission retains original permit jurisdiction over such areas.

2. Reconstruction of existing structures. Existing structures on public trust lands along the shoreline of Tomales Bay may continue and shall be permitted to be rebuilt if damaged or destroyed by natural disaster, in conformance with the development standards specified in Section 30610(g) of the Coastal act, applicable LCP policies and County code requirements.

3. New residential construction. The construction of new single-family dwellings on public trust lands is not considered an appropriate use of such lands by the County of Marin.

SHORELINE STRUCTURES

COASTAL ACT POLICIES

Coastal Act policies on the construction of groins, breakwaters, piers, and other shoreline structures are contained in Section 30235. This section limits the purposes for which such structures can be built. In addition, the Secretary for Resources has established more detailed policies for use by departments within the Resources Agency (including the Coastal Commission) when reviewing shoreline protective projects. The full text of Section 30235 is given in Appendix A.

PLANNING ISSUES

There are two categories of shoreline structures: protective works and piers. Protective works, as the term implies, are used to protect a harbor or beach from the force of the waves. Piers can be used for a variety of recreational or commercial purposes.

Both types of shoreline structures, but particularly protective works, can significantly interfere with the movement and supply of sand along the coast. Improperly placed groins, jetties, or seawalls can reduce sand deposition, increase the rate of sand loss and change its distribution, upsetting the equilibrium of the shore. Marine structures can change current patterns and alter the configuration of the sea bottom offshore. In addition, shoreline structures can impair access to and along the coast, damage sensitive habitats, and degrade the visual qualities of the coast.

In contrast to these adverse effects, several benefits may be gained by the construction of piers or other structures which serve coastal dependent uses. Piers offer moorings for recreational boats, serve the commercial fishing industry, and provide access to and over the water for fishing, viewing, and birdwatching. In weighing these benefits against the potential adverse impacts of shoreline structures, the number, location, and purposes of those structures must be evaluated.

Currently, there are approximately 50 piers on Tomales Bay. Some piers serve coastal dependent uses, such as commercial fishing, while the majority are attached to single-family dwellings. Of the 50 piers, 5 provide for public access and 3 allow limited public use, i.e., 16% of the total allow some public use. The remaining 42 piers (84% of the total) are private. The existing piers on Tomales Bay have affected the scenic quality of the shoreline and, in some places, interfere with public access to and along the shoreline. The piers, however, do serve local residents and visitors and contribute to the distinctive fishing village character of the Tomales Bay area.

Recognizing the intent of the Coastal Act, the County recommends limiting the number of new piers constructed and directing further development to existing built-up areas. The purposes for which shoreline protective works are built should be limited and, if possible,

multiple use of piers should occur. These various actions would help to protect the scenic qualities of the Bay, minimize interference with public access along *the* shoreline, and minimize impacts on the marine environment. Marin County has a tidelands ordinance which requires a permit for the construction of any pier or protective work on tidelands. The ordinance specifies that environmental, scenic, public trust, and public safety issues shall be considered in permit review. However, the ordinance does not distinguish among or in any way limit the purposes for which shoreline structures are to be used. Distinctions of this kind need to be added so that the ordinance reflects Coastal Act policies.

SHORELINE STRUCTURES

LCP POLICIES ON SHORELINE STRUCTURES:

1. General policy. The County discourages the proliferation of shoreline structures in the Unit II coastal zone due to their visual impacts, obstruction of public access, interference with natural shoreline processes and water circulation, and effects on marine habitats and water quality. In some cases, however, the County recognizes that the construction of protective works or piers may be necessary or desirable. When' piers are allowed, multiple public and private, commercial and recreational uses shall be accommodated, if feasible, to maximize the use of these structures and minimize the need for further construction. Coastal permits for all shoreline structures will be evaluated based on the criteria listed in the policies below.

2. Shoreline protective works. The construction or reconstruction of revetments, breakwaters, groins, seawalls, or other artificial structures for coastal erosion control shall be allowed only if each of the following criteria is met:

   a. The structure is required to serve a coastal-dependent use, a coastal-related use in a developed area, or to protect existing development or public beaches.

   b. No other non-structural alternative is practical or preferable.

   c. The condition causing the problem is site specific and not attributable to a general erosion trend, or the project reduces the need for a number of individual projects and solves a regional erosion problem.

   d. It can be shown that a structure(s) will successfully mitigate the effects of shoreline erosion and will not adversely affect adjacent or other sections of the shoreline.

   e. The structure will not be located in wetlands or other significant resource or habitat area, and will not cause significant adverse impacts to fish or wildlife.

   f. There will be no reduction in public access, use, and enjoyment of the natural shoreline environment, and construction of a structure will preserve or provide access to related public recreational lands or facilities.

   g. The structure will not restrict navigation, mariculture, or other coastal use and will not create a hazard in the area in which it is built.

   Before approval is given for the construction or reconstruction of any protective shoreline structure, the applicant for the project shall submit a report from a registered geologist, professional civil engineer, or certified engineering geologist verifying that the structure is necessary for coastal erosion control and explaining how it will perform its intended function. Such a report shall not be required for emergency permit applications; however, the application shall specifically establish why the need for protective structures was not foreseen.

3. Piers and similar recreational or commercial structures. These structures shall be limited to sites located within existing developed areas or parks. New piers shall be permitted only if each of the following criteria is met:

   a. The structure will be used to serve a coastal-dependent use or will preserve or provide access to related public recreational lands or facilities.

   b. The structure will not be located in wetlands or other significant resource or habitat area and will not, individually or cumulatively, cause significant adverse impacts on fish or wildlife.

   c. The structure will not interfere with public access, use, and enjoyment of the natural shoreline environment.

   d. The structure will not restrict navigation, mariculture, or other coastal use and will not create a hazard in the area in which it is built.

   e. There is no pier with public access within 1/2 mile, or use of a nearby pier would not be feasible due to its size, location, or configuration.

   The reconstruction of existing piers shall be permitted provided that the pier is of the same size and in the same location as the original pier. Enlargements-or changes in design or location shall be evaluated based on criteria (a) through (e) above.

4. Public access requirement. Public access to new piers or similar. recreational or commercial structures shall be required unless it can be demonstrated that such access would interfere with commercial fishing or similar operations on the pier or be hazardous to public safety. A public access easement from the first public road across the applicant's property to the pier shall be required as a condition of coastal permit approval.

5. Design standards for all shoreline structures. The design and construction of any shoreline structure shall:

   a. Make it as visually unobtrusive as possible;

   b. Respect natural landforms to the greatest degree possible;

   c. Include mitigation measures to offset any impacts on fish and wildlife resources caused by the project;

   d. Minimize the impairment and movement of sand supply and the circulation of coastal waters; and

   e. Address the geologic hazards presented by construction in or near Alquist-Priolo earthquake hazard zones.

DIKING, FILLING, AND DREDGING

COASTAL ACT POLICIES

Section 30233 of the Coastal Act, the full text of which is given in Appendix A, establishes criteria for diking, filling, and dredging. This section specifies the purposes for which diking, filling, and dredging are allowed and the conditions which must be met when these activities are undertaken. Acceptable purposes and required conditions differ somewhat depending on the type of water body involved, i.e. open coastal waters, wetlands, estuaries, or lakes. These water bodies have been defined by the Coastal Commission based on definitions developed by the U.S. Fish and Wildlife Service. The Commission's definitions are incorporated into the LCP (See Appendix B).

PLANNING ISSUES

Dredging, diking, and filling can adversely affect marine habitats and organisms in several ways. Dredging and filling can completely destroy marshes, mudflats, and other biologically productive areas. Dredging stirs bottom sediments, increasing turbidity and reducing photosynthesis in the water. The feeding and movement of fish and other organisms is also affected by dredging, particularly when new channels are created which change water circulation and temperature conditions. Disposal of dredged sediments or filling with other materials smothers benthic (bottom-dwelling) organisms and plant life, adversely affects water quality, and may be visually degrading.

There are limited circumstances when dredging or filling may have beneficial effects on marine resources. For example, dredging can be used to restore diked wetlands or to open stream channels which have silted in. Sandy fill material can be used to replenish eroded beaches.

In the Tomales Bay area, relatively few areas have been dredged or filled. Dredging has occurred for marinas, commercial fishing facilities, and navigation channels. However, the scale of dredging operations has been limited and effects on the Bay have not been considered significant. (Dredging for these purposes in certain areas is supported by the Coastal Act.) Fill has been placed along the shoreline in numerous locations where structures have been built but, as with dredging, the scale of fill operations has been small and the effects have been minimal.

Diking has had the greatest effect on marine resources and habitats in Tomales Bay. Approximately 500 acres of salt marsh have been diked and drained at the southern end of the Bay and converted to agricultural use. Under the Coastal Act, diking wetlands to create new grazing lands is not permitted. Protecting established agricultural operations, however, including those on filled land, is supported by the Act.

The County of Marin has a tidal waterways ordinance which requires a permit for dredging, filling, or construction on tidelands. The

ordinance exempts maintenance work on certain structures as well as unspecified "minor or incidental" projects. The ordinance requires that environmental, public trust, visual, and public safety factors be considered in permit review but, unlike the Coastal Act, does not distinguish. among the purposes for which dredging, filling, or construction is to occur. The ordinance needs revision so that it fully reflects the policies of the Coastal Act.

DIKING, FILLING, AND DREDGING

LCP POLICIES ON DIKING, FILLING, AND DREDGING:

1. General policy. Diking, filling, and dredging of coastal areas can have significant adverse impacts on water quality, marine habitats and organisms, and scenic features. The County of Marin intends to strictly limit the purposes for which these potentially damaging activities can occur in the coastal zone, in accordance with Section 30233 of the Coastal Act. For the purposes of the LCP, open coastal waters, wetlands, and other water bodies to which these policies apply shall be defined according to the criteria established by the U.S. Fish and Wildlife Service for marine and estuarine systems. "Fill" shall be defined as "...earth or any other substance or material, including pilings placed for the purpose of erecting structures thereon, placed in a submerged area," as given in Section 30108.2 of the Coastal Act.

2. Acceptable purposes. The diking, filling, and dredging of open coastal waters, wetlands, and estuaries shall be limited to the following purposes:

   a. New or expanded commercial fishing facilities.

   b. Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.

   c. Incidental public service purposes, including, but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.

   d. Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.

   e. Restoration purposes.

   f. Nature study, aquaculture, or similar resource-dependent activities.

   g. Excluding wetlands, new or expanded boating facilities may be permitted. only entrance channels or connecting walkways for new or expanded boating facilities shall be permitted in wetlands.

   h. In the Esteros Americano and de San Antonio, any alterations shall be limited to those for the purposes of nature study, restoration, or very minor incidental public facilities.

3. Conditions and standards. Diking, filling, or dredging may be permitted for the purposes specified above, provided that the following conditions and standards are met:

   a. There is no feasible less environmentally damaging alternative.

   b. Where feasible, mitigation measures have been provided to minimize adverse environmental effects.

   c. The activities are planned, scheduled, and carried out to avoid significant disruption to marine and wildlife habitats, fish and bird breeding and migrations, and water circulation.

   d. The need for both initial and maintenance dredging shall be minimized by careful design and location of facilities with respect to existing water depths, water circulation, siltation patterns, and by efforts to reduce controllable sedimentation.

   e. In estuaries and wetlands, the diking, filling, or dredging shall maintain or enhance the functional capacity of the wetland or estuary.

   f. Dike and fill projects in wetlands shall include mitigation measures specified in Section 30607.1 of the Coastal Act.

4. Spoils disposal. The disposal of dredged sediments shall conform to the following standards:

   a. The dredge spoils disposal site has been approved by the Department of Fish and Game.

   b. Spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation.

   c. Dredge spoils suitable for beach replenishment should be transported for such purposes to appropriate beaches or into suitable longshore current systems.

   d. The disposal of dredge spoils shall conform to the most recently approved dredging requirements promulgated or adopted by the State or Regional Water Quality Control Board.

IV. PUBLIC SERVICES AND NEW DEVELOPMENT

a. PUBLIC SERVICES
b. NEW DEVELOPMENT AND LAND USE

PUBLIC SERVICES

COASTAL ACT POLICIES/INTRODUCTION

The Coastal Act contains two major policies on public-services, one of which deals with service availability and the other, with service allocation. The first, on service availability, is given in Section 30250(a) and provides that new development shall be located in areas with adequate public services. The second, on service allocation, appears in Section 30254 and provides that where services are limited, coastal dependent and priority coastal uses shall not be precluded by other types of development. This section also states the intent of the legislature that Highway I remain a scenic two-lane road in rural areas of the coastal zone.

Another service related policy is given in Section 30231 which provides that in order to protect the biological productivity and quality of coastal waters, adverse effects of waste water discharges shall be minimized and ground water supplies maintained. "Public Works" are defined in Section 30114 of the Act to include. water, sewers, and other utilities as well as roads, parking, transit, and other public transportation facilities. The full text of Coastal Act policies on public services is given in Appendix A.

In the Unit II coastal zone, the public services of concern are water supply, sewage disposal, and road capacity. Each of these is limiting in one area or another. The purpose of this component of the LCP is to evaluate the existing and potential capacity of these services to determine if they are adequate to handle new development at the density and buildout numbers projected in the countywide and community plans. Services are reviewed for each of the six communities in the Unit II coastal zone: Point Reyes Station, Olema, Inverness Ridge, Marshall, Tomales, and Dillon Beach.

WATER SUPPLY

Two factors need review in assessing the ability of a water system to meet water needs at buildout: the availability of water from the supply source, e.g. streams and wells, and the production capacity of the built system. In areas dependent upon individual on-site wells, information on groundwater yield is necessary. Once the condition of the source and the production capacity of the built system are known, a determination can be made that the supply is adequate, marginal, or inadequate to serve buildout, and an appropriate policy response-can be developed.

Water service to the communities in Unit II is provided by four different water companies and, in certain areas, by individual on-site water sources, primarily wells. The discussion on water which follows is divided into four geographical sections: 1) the Point Reyes Station area, served by North Marin County Water District,

and including Point Reyes Station, Olema, Inverness Park, and Paradise Ranch Estates; 2) the northern Inverness Ridge, served by Inverness Public Utilities District; 3) Dillon Beach and Oceana Marin, served by Coast Springs Water Company and Estero Mutual Water Company; and 4) areas using private individual water sources, including portions of the Inverness Ridge, Marshall and the east side of Tomales Bay, and the town of Tomales. Water supply for the Point Reyes National Seashore and that portion of the Golden Gate National Recreation Area located in Unit II is not discussed since these-parks derive all of their water from sources within their boundaries (with the exception of Bear Valley Headquarters, served by North Marin), and have abundant supply. In addition, because they are federal parks, they technically do not fall within the coastal zone.

Point Reyes Station area

BACKGROUND

Water for the communities of Point Reyes Station, Olema, Inverness Park, and Paradise Ranch Estates is supplied through one interconnected system, the Point Reyes Water System, by the North Marin County Water District (NMCWD), a publicly owned utility. NMCWD also serves the Point Reyes National Seashore Headquarters at Bear Valley, the U. *S.* Coast Guard Housing Facility in Point Reyes Station, and several dairies. The Point Reyes Water System has been undergoing gradual expansion and improvement since the original system, serving Point Reyes Station and Inverness Park, was acquired by NMCWD in 1971. In 1974, the District expanded to include Olema and Bear Valley Headquarters. The latest expansion project, for which all necessary agency approvals have been secured, takes in Paradise Ranch Estates (PRE). The project has been financed and should be operational by late 1980. The description of the NMCWD system given below includes the new facilities that are being added as part of the PRE project. NMCWD also has approved plans to upgrade its storage and distribution facilities (the Point Reyes water project); however, because these improvements have not yet been funded, they are noted below as proposed improvements.

WATER SOURCES

The source of water for the Point Reyes System consists of three wells at two sites adjacent to Lagunitas Creek. The two primary wells are located on U.S. Coast Guard property in Point Reyes Station while a third back-up well is located on water district property approximately one-half mile upstream. The back-up well was developed for use during periods of low streamflow, such as experienced during the 1976-1977 drought, when salt water intrusion from tidal inflow can occur in the two downstream wells.

Water supply to the three wells is primarily dependent on the amount of water flowing in Lagunitas Creek and, to a lesser extent it is believed, on the amount of water available in an underground aquifer. Generally, streamflow in the creek greatly exceeds water withdrawals needed to supply the Point Reyes System. Annual runoff to Tomales Bay from Lagunitas

Creek after upstream diversions averages 63,900 acre-feet per year (AFY) while system withdrawals, based on average daily consumption in 1979, amount to 242 AFY or approximately 0.4% of average annual streamflow. The diversion of 242 AFY is further dwarfed by the input from Olema and Bear Valley Creeks below the diversion point, amounting to 22,000 AFY.

The communities in the Point Reyes area have been appropriating water from Lagunitas Creek and other local streams for over a hundred years. This record of historic use provides grounds for NMCWD's water right on Lagunitas Creek to appropriate water for existing and future reasonable use. Because this historic use pre-dates other appropriative water rights in the area, it is considered a "superior" right which takes precedence over other "junior" rights, principally those held by Marin Municipal Water District and Waldo Giacomini and Sons, Inc. In times or conditions of water shortage, the law provides that deficiencies are borne first by the holder of the most junior right and last by the holder of the most senior right.

Although NMCWD has a superior water right on Lagunitas Creek and the creek in normal years has a high volume of runoff, these two factors in themselves do not guarantee that adequate water will always be flowing in the creek. In fact, the particular streamflow characteristics of Lagunitas Creek are such that periods of extremely low flow do occur, as demonstrated by the California Drought of 1976 and 1977. Analysis of streamflow data by NMCWD has shown that in dry or critical dry years (occurring once every 7 and 25 years on the average, respectively), streamflow at the District's point of diversion can be expected to nearly dry up during the summer and early fall. Estimated deficiencies during a dry year, including Giacomini's irrigation needs, may reach 268 AF. If a second dry year follows, the deficiency may reach 534 AF.

In order to meet municipal water needs during such dry years, the District may pre-empt Giacomini's junior water right. In practice, however, the District utilizes its "trade-water" agreement with Marin Municipal Water District (MMWD). Under the agreement, stored water can be released by MMWD into Lagunitas Creek from Lake Nicasio (or Lake Kent via pipeline to Nicasio) in exchange for an equal amount of water delivered to MMWD from North Marin's Novato water system. North Marin is involved in the trade because, although it has adequate water in east Marin to handle all system needs, it does not have a pipeline to transport the water to West Marin. Therefore, it utilizes MMWD's storage and transport facilities, and receives the necessary water via Lagunitas Creek. NMCWD then "pays back" MMWD with Novato water derived from the Russian River. The long term security of the Russian River source was recently confirmed by voter approval of the Warm Springs dam project.

The existing trade-water agreement between the two districts runs through 1995 and provides for a maximum of 150 AF to be traded annually. This figure represents approximately 0.6% of MMWD's total water production (26,000 AFY). The tradition of trading water and cooperating to most efficiently meet the water needs of both districts has a long history. The recent experience of the drought tested and refined this mutually beneficial network. During the drought, additional trade-water agreements were made so that sufficient water was available also for the

Giacomini irrigation diversion, other dairies, private parties whose wells failed, and fish flows in Lagunitas Creek.

EXISTING WATER SYSTEM: FACILITIES AND CAPACITY

The Point Reyes Water System can be divided into three main components: pumping and treatment facilities, storage tanks, and pipelines for water distribution. The general condition of the built system is good, although some expansion of storage and replacement of pipelines are needed. These improvements will be part of the Point Reyes water project, for which funding is anticipated in late 1980 or 1981.) The capacity of the three components limits the overall water production ability of the water system. At the present time, filtration capacity at the treatment plant, approximately 440 gallons per minute (gpm) or 624,800 gallons per day (gpd), is the controlling factor on system output. This amounts to 700 AF on a yearly basis. In reviewing system capacity, provisions for fire protection are also an important consideration.

The pumping capacity of the Point Reyes Water System was recently expanded to include three well-head pumps, one at each well, with a combined extraction capacity of 580 gpm or 835,200 gpd. Water from the wells is generally of good quality although it contains excessive amounts of dissolved iron and manganese, typical of the West Marin area, and is slightly high in turbidity and color. To remove undesirable elements and bring the water up to public health standards, NMCWD has a treatment plant which filters, chlorinates, and chemically treats the water. Treatment plant capacity, also recently expanded, is limited by the filtration capacity of the two filters to 440 gpm or 624,800 gpd. As noted earlier, filtration capacity is the most limiting factor on the system's water production capacity. However, capacity is considered more than adequate to meet all needs for the next 20 years if historic rates of growth continue.

Storage facilities for the Point Reyes System consist of 12 storage tanks of varying sizes distributed throughout the communities served. Total storage capacity is 467,000 gallons, almost one-half of which is supplied by two 100,000 gallon tanks in Point Reyes Station. This capacity is not considered adequate to meet peak day demands, provide adequate fire protection, and secure supplies in case of emergency. To meet this deficiency, NMCWD plans to add two tanks, one of 300,000 gallons in Point Reyes Station and one of 100,000 gallons in Inverness Park, bringing total storage capacity to 867,000 gallons.

Distribution facilities consist of 120,661 feet of pipeline ranging in size from 1/2" to 8" in diameter. Approximately 75% of the pipelines are new or recently replaced in areas still served by old deteriorated pipelines, color and turbidity continue to be a problem. Interior corrosion has reduced effective flows in these areas by up to 50% and pipelines are inadequate for fire flow needs. Replacement of the remaining deteriorated lines (12,515 feet) and limited expansion of new lines (3735 feet) have been approved and await funding. Such replacement, along with the construction of new storage tanks, will correct the remaining weaknesses in the Point Reyes Water System.

Fire protection capability is presently limited by the lack of adequate storage and corroded undersized pipelines, particularly in the Mesa area of Point Reyes Station and in Inverness Park. In these areas, maximum flows are approximately 100 gpm, far below the 1000 gpm considered necessary for residential fire protection. Improvements on line as part of the PRE and Point Reyes water projects will replace undersized pipelines with 6" and 8" lines capable of supplying 1000 to 1200 gpm. In addition, 16 new fire hydrants will be installed, 5 in Point Reyes Station and 11 in Inverness Park. The pipeline improvements will also create several loops in the system which will allow uninterrupted water deliveries even if a portion of the line is out of service for repairs, thus increasing the security of the fire protection system.

WATER REQUIREMENTS: CURRENT AND FUTURE

The Point Reyes Water System presently serves approximately 1400 people off of 473 connections, 401 of which are residential. The remaining 72 connections include 44 commercial uses, 14 agricultural, 9 governmental, and 5 recreational. Based on historic growth rates, the total number of residential units in the water system's service area is anticipated to reach 755 by the year 2000, or 354 more than now exist. Full buildout of all residential units under existing zoning would bring the total to 1355 units, an increase of approximately 240% over the number of units which now exist, as shown in the table below. It should be noted that this buildout figure is based on the assumption that all other services are available and is thus quite a high and conservative estimate, given the constraints on septic system use which exist in numerous locations throughout the service area.

Table 16. Existing and Potential Residential Units in the Point Reyes Water System Service Area

Location	Active connections	Potential additional units	Total buildout (existing zoning)
Point Reyes Station	186	615	801
Olema	27	103	130
Inverness Park/ Silver Hills	105	85	190
PRE	83	112	195
Inactive services	--	39	39
TOTALS	401	954	1355

The total current water requirements of the 473 connections in the system average 215,749 gpd or 78.7 million gallons per year (242 AF), based on the highest annual use in the years 1974 through 1978. Per unit residential consumption in Point Reyes Station and Olema averages 277 gpd, while in Inverness Park and Paradise Ranch Estates, it averages 177 gpd. Residential use consumes 43% of the system's water while other uses consume 57%. The highest use occurs on peak days and amounts to 394,821 gpd for the system as a whole. Given the capacity of the treatment plant to filter 624,800 gpd, there is clearly adequate capacity to handle all demand. Average daily consumption uses approximately 35% of existing treatment capacity while peak day use is approximately 63% of capacity.

Analysis by NMCWD indicates that the existing system is also capable of supplying all water needs through the 2000. This conclusion is based on the following assumptions: historic rates of growth will continue, buildout in PRE will total 75 units, 39 inactive connections will become active, recreational and commercial uses will increase 65%, agricultural use will increase 20% (unlikely to be this high, according to NMCWD, based on past trends), and government usage will grow in proportion to residential increase. At full buildout, by contrast, projected water consumption levels exceed the production capacity of the built system by 13% for average day peak month, 15% for average day peak week, and 51% for peak day, as shown in Table 17. These projections are based on assumptions similar to those used in projections for the year 2000. Again it should be noted that buildout figures and thus water use estimates are believed to be high and quite conservative. Nonetheless, it seems apparent that some expansion of the water system's capacity will be required after a total of 755 units have been built in the service area if additional water needs are to be met.

SUMMARY AND CONCLUSIONS

Both the availability of the supply source for the Point Reyes Water System, Lagunitas Creek, and the production capacity of the built system appear adequate to handle the addition of the 354 more units anticipated through the year 2000. After that, for buildout, production capacity becomes limiting on water supply.

In terms of the supply source, Lagunitas Creek, there is more than enough water to meet current and all future needs during normal years, including the dry summer and fall months. Current use amounts to 242 AFY or 0.4% of the creek's average annual runoff of 63,900 AFY. At buildout, average consumption will increase from 242 to 575 AFY or 0.9% of average annual runoff. According to the staff of the Department of Fish and Game, this level of withdrawal is so small that is has no significant impacts on the creek or Tomales Bay.

During dry and critical dry years, streamflow deficiencies in Lagunitas Creek are met through trade water exchanges of 150 AFY between NMCWD and MMWD. Larger exchanges could be negotiated in the future, if necessary. NMCWD also has the option, as the holder of a superior water right, to pre-empt water use by junior appropriators (Giacomini alone uses approximately 650 AF between May and October). Diversions

Table 17. Point Reyes Water System: Current and Future Water Requirements in Gallons per Day

	1980				Buildout			
	Average day	Av. day of peak month	Av. day of peak week	Peak day	Average day	Av. day of peak month	Av. day of peak week	Peak day
Existing Production Capacity	616,000	616,000	624,800	624,800	616,000	616,000	624,800	624,800
Current and Future Requirements[1]	215,749	291,261	302,048	394,821	514,238	694,221	719,933	941,056
Residential[2]	92,061	124,282	128,885	168,472	325,376	439,258	455,526	595,438
Non-Residential[3]	88,830	119,921	124,362	162,559	188,862	254,963	264,407	345,618
Misc.[4]	34,858	47,058	48,801	63,790				
Surplus/ (deficit)	400,251	324,739	322,752	229,979	101,762	(78,221) 13%	(95,133) 15%	(316,256) 51%

[1]Peak values are calculated by using the following ratios:
Av. day peak month/average day of year = 1.35
Av. day peak week/average day of year = 1.40
Peak day of year/average day of year = 1.83

[2]Includes Point Reyes Station, Olema, Inverness Park, Paradise Ranch Estates

[3]Includes agriculture, government, recreation, commercial

[4]Includes filter backwash, flushing lines, leaks, etc.

from Lagunitas Creek during such dry years could have adverse effects on Lagunitas Creek, according to Fish and Game staff, if NMCWD's wells were located further upstream. As it is however, they are located at the very end of the creek's fresh water length, just above the outlet to Tomales Bay. Diversions at this point do not harm fresh water or marine resources, Fish and Game states, although if the point of diversion were moved upstream, impacts could be significant. Because the natural flow of the creek has been so greatly reduced under the existing dam regime (some 32%), Fish and Game staff views trader water releases. during dry years as beneficial to the creek. Trade water flows the entire length of the creek from Lake Nicasio to the outlet at Tomales Bay before being withdrawn for municipal use.

In terms of the built system, the Point Reyes Water System is generally in good condition although some improvements in storage and distribution are needed (planned for 1981). These deficiencies are relatively minor and do not affect the overall capacity of the system in terms of source supply or treatment. Analysis shows that overall production capacity of the system is adequate to handle development at historic rates for the next twenty years, with generous provisions for recreation and visitor-serving development. Beyond that, for buildout, filter plant capacity becomes limiting.

The built system has a maximum capacity of 624,800 gpd, as limited by the filtration capacity of the treatment plant. Present use averages 35% of capacity and peak day use, 63% of capacity. The addition of 354 residential units and growth in non-residential use, as anticipated through the year 2000, would increase average daily use to 54% of capacity and peak day use to 98% of capacity. Beyond that point, at buildout, shortages in production capacity would develop. Although average daily use could still be covered by existing production, peak use shortages would range from 13% to 51%. Thus it can be concluded that filter plant capacity will have to be expanded if water needs at buildout are to be met.

In its projections of water use through the next 20 years, NMCWD has assumed a 65% growth in recreational and commercial uses, a 20% growth in agricultural uses, and a growth in government usage in proportion to residential increase. These assumptions appear to adequately provide for visitor-serving and other priority uses under the Coastal Act. Once the 20 year figure of 755 residential units is reached, however, remaining water capacity should be reserved for visitor-serving and other priority uses until system expansions are undertaken, to ensure that such uses are adequately supplied. Only at that time should further residential construction be permitted.

Inverness Ridge

BACKGROUND

Communities on the Inverness Ridge obtain water from several different sources. Inverness Park/Silver Hills and Paradise Ranch

Estates, located at the southern end of the Ridge, are served by North Marin County Water District as part of the Point Reyes Water System, previously discussed. Development upland and west of Inverness, Inverness Park, and the central portion of the Ridge draws water from individual on-site wells. This source is discussed in a subsequent section on individual water sources. Finally, the community of Inverness and adjacent Seahaven area, located at the northern end of the Ridge, use water supplied by the Inverness Public Utilities District (IPUD).In addition, several small private water companies (serving less than 20 customers), provide water service in limited areas on the Ridge. IPUD will be discussed here, with a short section following on the small companies.

IPUD was originally established in 1949 to provide fire protection services and, until recently, did not supply water for domestic use. Rather, water was supplied by a series of private water companies, most notably the Inverness Water Company, formed in 1958. In 1960, stock of the Inverness Water Company was purchased by Citizens Utilities Company which operated and maintained the Inverness water system until January 1980. At that time, after a long period of negotiations, Inverness Water Company was acquired from Citizens Utilities by IPUD, a publicly owned utility.

Because of water shortages during the 1977 drought, the Inverness Water Company requested permission from the State Public Utilities Commission (PUC) to impose a moratorium on new water hookups to the system. Permission was granted and in July 1977, the moratorium went into effect. In January 1979, the moratorium order was modified, at the request of numerous potential customers in the Inverness service area and with the. agreement of the water company, to allow up to 15 additional water hookups on a first come, first serve basis. 11 of these 15 additional connections, the maximum permitted for residential use by the Regional Coastal Commission, have been made. With the acquisition of the private Inverness Water Company by the publicly owned IPUD, the PUC no longer has jurisdiction over the Inverness water system and the moratorium is no longer legally binding. Directors of IPUD voted in February 1980 not to continue the ban on new water hookups after concluding that there was insufficient information to support such a ban. The Regional Coastal Commission, however, has continued its policy against allowing further hookups, stating that it cannot make the finding that adequate water supply exists, as required by the Coastal Act.

Major inadequacies in the Inverness Water Company combined with changes in state law regarding water quality led the California State Department of Health to require the Inverness Water Company to make improvements in its facilities. With the transfer of the company to IPUD, these improvements are now required as a condition of IPUD's new permit from the Health Department (all water companies, public and private, must obtain a water supply permit from the Health Department). IPUD is currently operating under an extension of the Inverness Water Company's old permit. These improvements will correct the three major problems as reported by the State Health Department: inadequate treatment of surface water sources, unreliable chlorination, and undersized

pipelines. The improvements do not, however, in any way modify or expand the sources of water supply for IPUD. An engineering report by consultants Brown and Caldwell on the improvement project has been completed and funding has been secured from the federal Farmers Home Administration (FmHA). Construction is scheduled to begin at the end of July 1980, with completion anticipated sometime in 1981. The discussion of the water system which follows describes the present system, its problems, and planned improvements.

WATER SOURCES

IPUD obtains its water from nine surface diversions and one well. The streams normally provide all of the system's supply, with the well held as a standby or emergency source. The surface sources are located on three perennial streams in the three major valleys in the service area: First Valley, Second Valley, and Third Valley. These valleys are heavily wooded and virtually undeveloped, upstream from the diversion points. Most of the watershed area consists of state and federal parkland, land owned by the Nature Conservancy, or land owned by the District itself. The five surface diversions in First Valley provide 65% to 100% of the system's water supply. Flows in Second and Third Valleys are only tapped in the months when sources in First Valley cannot meet demand. In times of greater water shortage, some additional supply is available from a well. (Two other substandard wells which were formerly used have been closed.) Water from the well is of lower quality than the surface sources, due to a high iron and manganese content, although it is filtered to remove these elements. The well can provide 21.4 gpm or 30,816 gpd.

Water supply to the Inverness water system, coming as it does from small stream and spring flows, is highly variable, depending on the season of the year and rainfall. For example, metered flows for 1978, a relatively wet year, show a range of water availability from a low of 183,000 gpd in October to a high of 512,000 gpd in June. Under such wet conditions, source flows substantially exceed domestic water demands, including the month of October, the month of lowest flows. However, during the two drought years of 1976 and 1977, available supplies dropped to critical levels and for periods of several weeks were at approximately 44,000 gpd, or 24% of minimum flows in October 1978. This value was less than average daily consumption during a normal year. If such a situation were to reoccur, only half the domestic requirement (in a peak summer month) would be available for periods of 3 to 4 weeks. Rationing and conservation would clearly be necessary, as they were in 1976 and 1977.

Although the engineering report by Brown and Caldwell (on pending improvements to the Inverness water system) contains data on streamflows for four years, two' of which are critical drought years, no analysis has been made of the reliable yield of Inverness water sources over a longer period of time, i.e. the level of flows that can be expected to occur in most years. Ideally, as with the Point Reyes Water System, such an analysis would be done with a dozen or more years of streamflow data. In the case of Inverness, however, such data has only been collected very recently and is not adequate to make a reliable estimate. Experience with the water system indicates that water sources are at or beyond their limit in dry years and that adequate water is not available to serve buildout in the service area.

EXISTING WATER SYSTEM: FACILITIES AND CAPACITY

IPUD serves Inverness and the adjoining Seahaven area through two water systems which were recently interconnected, In the words of the State Health Department staff, the Inverness water system is far from a first-class system and, in fact, has a number of serious deficiencies." Treatment, distribution, and fire protection facilities are all in considerable need of expansion and upgrading. IPUD's improvement

project, scheduled to begin at the end of July, 1980, should correct the major problems with the built system.

Surface water flowing into the water system is collected in diversion boxes equipped with baffles and screens to eliminate leaves, twigs, and other debris and the flow is transmitted to the filter plant, distribution system, or storage tanks, The system has one filter plant, located in First Valley, which filters all but one water source in the valley, or 65% to 100% of total supply. (Capacity is 200 gpm or 288,000 gpd.) As now operated, the First Valley plant treats water only while its turbidity is low. As soon as a rain occurs and the surface supplies become more turbid, supply and treatment of this source is discontinued until conditions improve (the rain stops). During this period, the service area is dependent upon water available from the storage system, This interrupted supply during periods of high turbidity is viewed as one of the system's numerous inadequacies. To address this problem, planned improvements will add pretreatment facilities so that filtration of at least one source may continue during heavy rains and provide a continuing supply of filtered water into the system. The improvements will also channel water from the one unfiltered source in First Valley, Barrel Springs, through the treatment plant.

Outside of First Valley, the remaining three water sources are not filtered, although they do receive chlorination. The lack of treatment of surface water sources from Second and Third Valleys is a major weakness in the water system, according to the State Department of Health. In addition, the Health Department has determined that the present procedures for chlorinating water are unreliable. There are no fail-safe features or alarms on the chlorination facilities, nor are chlorine levels always adequately monitored. The lack of such controls has resulted at times in failure to meet bacteriological standards and at other times in excessively high chlorine residuals in the water supplied to users. To ensure proper treatment, IPUD plans to construct two new filter plants, one in Second Valley and one in Third Valley, both equipped with the failsafe features for treatment and chlorination recommended by the Health Department. The First Valley plant will also be equipped with these features.

Storage capacity for the Inverness water system is 210,000 gallons, distributed among three valleys in 9 different tanks. At current maximum consumption rates, 21 days of storage are available if adequate transfer between tanks is possible. Several of the redwood tanks have bands which need maintenance or replacement, and some tanks are leaking. Planned improvements would correct these problems, add four 10,000 gallon storage tanks, and involve some movement of tanks to upgrade fire protection. Storage is considered adequate to meet peaking demands, although for fire protection, more would be desirable.

Distribution facilities consist of 35,136 feet of pipelines, many of which are small diameter, old, deteriorated and leaking. Over 30% of the distribution system consists of 4" lines and smaller, with the majority being 2", The undersized piping has caused low pressures and has limited the amount of water which can be delivered to some of the tanks. Many interties between distribution loops are restricted due to the small diameter of the lines and a large number of dead-end systems exist. The small lines are also too small to supply adequate flow

for fire protection. In addition to the undersized lines, other facilities for fire protection are limited and in many locations inadequate. Many fire hydrants are on undersized lines and are poorly located relative to fire protection requirements. IPUD's planned improvements to correct these problems include extensive replacement of deteriorated and undersized pipelines with new 6" lines and installation of 17 new hydrants at appropriate locations on the existing or new distribution system.

WATER REQUIREMENTS: CURRENT AND FUTURE

In 1979, the Inverness water system had 433 connections, 425 of which were residential and 8 of which were commercial. (The total number of residential units in the service area is actually closer to 500: 30 units have on-site wells and thus have no meter with IPUD and some 30 to 50 units represent double connections). Brown and Caldwell, the engineers designing the system's improvements, have estimated that 80 new residential units can be expected in the service area. over the next 20 years, based on an assumed growth rate of four connections per year. Thus, in 1999, 505 residential connections are anticipated. Beyond that, planning department staff has calculated that at full buildout in the service area under the new zoning adopted in the Inverness Ridge Communities Plan, a total of 151. additional units are possible, an increase of 36%, bringing the total to 576. This buildout figure is a high estimate since it assumes that all services can be provided, including sewage disposal, and that all building requirements can be met on every legal building site. The table below shows existing and potential residential water connections in the service area.

Table 18. Existing and Potential Water Connections in the IPUD Service Area

Location	Active connections	Potential additional units	Total buildout (existing zoning)
Upland	400	151	551
Tideland	33	8	41
Inactive services	--	8	8
TOTALS	433	167	600

*Includes 425 residential and 8 commercial. Actual buildout is closer to 460+ in the service area, accounting for 30 units on wells and numerous double connections.

Currently, the 433 active connections in the system consume an estimated 58,000 gallons on an average day or 21.2 million gallons per year (65 AFY). This is a rough estimate and probably somewhat low since

numerous meters in the system are broken and roughly 10% of the water used per year is lost to leakage. Consumption per connection averages 134 gpd, a relatively low value which reflects the weekend and vacation occupancy of many units. Average day peak month consumption in 1978 was 98,000 gpd, while peak day use, for which only 1976 figures are available, can go as high as 180,000 gpd.

As noted earlier, no calculation of reliable yields has been made of streamflows over time, In the absence of such information, the adequacy of source flows to serve buildout in the service area cannot be determined, although experience with the system indicates that adequate water is not available. A best guess can be made of the number of additional units that could be served using the limited flow data available (1976-1979), although the extreme variability of source flows during these years makes a "reasonable" estimate very difficult. This variability can be illustrated by examining two sample years for which flow data is available, the drought year of 1977 and the wet year of 1978.

In 1977, minimum summer flows were 44,000 gpd. At this level, a water shortage was experienced at all levels of consumption, including the lowest. The water deficit on an average day amounted to 24%, while on an average day of a peak month it came to 55%, and on a peak day, to 76%, as shown in the table below. Although it is true that a drought such as the one which occurred in 1976 and 1977 is rare, the magnitude of the deficiency it created indicates that other less dry years will also cause a water deficiency, especially if additional units are constructed in the service area. In wet years by contrast, using 1978 as an example, when flows in the driest month amounted to 183,000 gpd, there appears to be ample water to serve all current needs.

Table 19. 1977 Water Deficiencies and 1978 Water Surpluses for the Inverness Water System in Gallons per Day

	1977			1978		
Source supply, driest month	44,000	44,000	44,000	183,000	183,000	183,000
Current water consumption Average day Av/day/peak mo. Peak day	58,000	98,800	180,000	58,000	98,000	180,000
Surplus/ (deficit)	(14,000) (24%)	(54,800) (55%)	(136,000) (76%)	125,000 68%	84,200 46%	3,000 2%

Based on drought year flows, it is clear that no additional units could be served in a future drought of equal severity unless consumption were reduced even more drastically than was done 1977. Increasing drought year flows by 25% to account for their infrequency only brings source flows up co a level which is sufficient for current consumption. Thus, it appears that source flows for the Inverness system are not adequate to serve any

further development in the district's service area. Until the district's engineers can document more reliable flows or until source expansions are undertaken, no new construction should be permitted.

SUMMARY AND CONCLUSIONS

The Inverness water system has marginal water sources during dry years and major inadequacies in treatment and distribution facilities. Experience with the system and limited data on streamflows indicate that. additional development in the service area could not be reliably served from available sources. Existing built facilities need to be substantially upgraded and improved before they can be considered adequate.

Source flows are not presently adequate in all years to handle the water needs of existing development. During the 1976-1977 drought, source flows dropped to 44,000 gpd, considerably below the level normally consumed on an average day (58,000 gpd). Allowing a 25% increase in drought year flows to account. for their rare occurrence only brings flows up to the level presently consumed. Buildout in the service area would add 167 units, bringing the total to approximately 600, an increase of one-third over the present number. Staff of IPUD and the State Department of Health concur that the system as it exists is not adequate to serve this level of development.

According to the staff and engineers consulted, there is little opportunity for substantially increasing the supply of water to the Inverness system from local sources. Streams in the area are utilized close to or at their full potential. Staff of the Department of Fish and Game has noted that present levels of consumption during dry years draw down streamflows to intermittent levels. (This has not been considered to have a significant impact on fisheries or in-stream resources by Fish and Game staff because of the small size of Inverness streams and their relatively minor importance as habitat). Wells developed at the base of Inverness Ridge would be likely to demonstrate water quality problems because of the use of septic systems nearby and because of the high iron and manganese content of the water. Another alternative with somewhat more promise is an intertie to NMCWD's Point Reyes Water System, as mentioned in the Inverness Ridge Communities Plan. Given the limited nature of existing sources, it is clear that some alternative sources will have to be tapped if additional development in the service area is to be accommodated.

As far as the built system is concerned, major improvements are needed. The system's inadequate facilities have received the attention of the State Department of Health which has directed IPUD to upgrade its .treatment of surface water sources, improve chlorination, and replace deteriorated and undersized pipelines. IPUD has begun improvements in the distribution system and. anticipates that all system improvements will be completed in 1981.

SMALL MUTUAL WATER COMPANIES

There are several small mutual water companies (less than 20 customers) on the Inverness Ridge, all of which are located south of Willow Point. Hamilton Mutual Water Company serves 11 parcels and is at maximum capacity. The company has no plans to expand its service or provide additional hookups, Water is derived from 3 springs in the upland watershed, stored in a 15,000 gallon concrete reservoir, and distributed by gravity to consumers. The system had no problems with sources during the drought and underwent major improvements about 5 years ago to upgrade built facilities. A second mutual company, Bayside Mutual Water Company, serves 6 customers with water piped over a mile from Inverness Public Utilities District, Bayside has one meter with IPUD and is, essentially, just another customer of IPUD's. There are 5 undeveloped lots within Bayside's service area which could require service in the future. There has been some discussion of connecting Bayside into North Marin County Water District; however, such a connection would require expensive pipeline installation which is not economically feasible for the company. A third mutual water company, located in the Noren Estates subdivision, serves 7 connections using water collected from a spring, Development potential in this area is approximately 6 units.

Water supply to the Hamilton Mutual Water Company is adequate to serve existing needs and no additional requirements are anticipated, Bayside Mutual may require additional water from IPUD. Future development projects in the service area of Bayside mutual should be evaluated under the same policies on water supply as new projects in IPUD's service area, since IPUD is the water source. Development in Noren Estates which is outside the service area of NMCWD may proceed on springs or wells, in conformance with the County's domestic water supply ordinance and LCP policies on wells.

Dillon Beach

Water service to the community within the Dillon Beach community expansion boundary is presently (in 1988) supplied by two private water companies: Coast Springs Water Company and Estero Mutual Water Company. Coast Springs supplies water to a portion of the Oceana Marin subdivision, to the Village and to the 13 dwellings between Cliff Street and Bay Drive. Estero Mutual's service area is limited to properties within Oceana Marin. In addition to providing joint water service to the Oceana Marin subdivision, the two companies share some of the same source areas for water supply. While the systems are individually managed and operated, a one-inch plastic line physically connects the two for emergency purposes.

Estero Mutual. Estero Mutual Water Company presently serves about 60 residences in Oceana Marin. The total number of potential connections in its service area is 170. Estero Mutual's system was originally designed to serve 600 or more units, in large measure from its water rights to the Estero de San Antonio proper. However, the quality of this water was subsequently found to be unacceptable because of agricultural runoff, and a small diversion of surface water was established from an unnamed tributary.

Estero Mutual has two wells which together supply approximately 10,000 gallons per day (gpd). In addition to the two wells, the company has the facilities and necessary permits to divert water form a stream tributary of the Estero de San Antonio. The amount of supply available depends upon rainfall. Estero Mutual's pumps can divert up to 400 gallons per minute (gpm) form the tributary. The water is transported uphill to a reservoir with a storage capacity of 16 million gallons, or 49 acre-feet (AF).

The company reports that it cannot adequately supply its current service area with existing equipment. Several problems are inherent in the operation

of this system.. Water storage is limited because the reservoir leaks and about 25 percent of its capacity is lost to evaporation annually. In low rainfall years, as little as 15 to 20 percent of the surface water diverted from the estero may actually be available supply in the system. Also, there is no electricity at the pump and the cost of pumping water with propane from the point of diversion, some 450-feet downslope at the Estero, has been estimated to be about 15 times the cost for an equivalent amount of well water.

Water quality concerns in the Estero Mutual system relate to the proximity of Oceana Marin sewage ponds to its two wells and water storage reservoir. No evidence of public health impacts exists, however, the situation poses risks that should normally be avoided.

Estero Mutual has two treatment plants. One filters and chlorinates water from one of its wells (water from the second well does not require filtering). The second treats water stored in the reservoir and can filter 72,000 gpd or 50 gpm. Filtered water is stored in two tanks which have a combined capacity of 310,000 gallons. Water supply available to Estero Mutual from the well and stream sources together is a maximum of 82,000 gpd: 10,000 gpd from the wells and 72,000 gpd from the treatment plant filtering the tributary stream water.

While the 1980 discussion of water supply in the LCP estimate water use per unit for Oceana Marin at about 130 gpd, with peak use approaching three times that figure, average daily use in Estero Mutual's service area in May and June 1982 was found to be only 95 gpd. Both of these use figures are low compared to typical single-family homes in an urban area, due to the seasonal occupancy (weekends and summer) of most of the units in Oceana Marin. Full-time occupancy rates of the subdivision have been estimated at 15 to 38 percent; average annual occupancy of all units has been estimated

by the North Marin Water District at 48 percent.

Coast Springs. Coast Springs Water Company presently has 200 service connections in Dillon Beach. Water demand per dwelling unit for average and peak day use in 1985 were recorded at 96 gpd and 170 gpd respectively. These rates are considered typical coastal resort/second home communities that experience low weekday occupancy and high weekend use. Coast Springs obtains its water supply from three principal sources, described below.

Dillon Creek Gulch: The largest source for Coast Springs Water Company is from a shallow well (referred to as the "Lower Well" or Well #4) located in the channel of Dillon Creek Gulch, immediately south of the Village, in Lawson's Dillon Beach Resort. The yield from this well has declined from an average of 25,000 to 18,000 gpd, but fluctuates according to the creek flow.

Hilltop Wells: Coast Springs maintains six vertical-drill wells located in the hilltop area above Dillon Beach and Oceana Marin. Three of these wells were constructed in 1964 to serve Oceana Marin.

Infiltration Tunnel: The oldest feature of the system is a hand-dug tunnel that extends some 100-feet into the hillside above Dillon Beach Road to the east of the Village. The tunnel collects groundwater and seepage from the sandstone formation. A network of perforated pipes outside the tunnel also collect shallow hillside seepage and percolated runoff.

These sources have been estimated to be capable of providing a sustained yield of 33 gallons per minute (gpm). However, the owner of the Coast Springs Water Company has indicated that actual yield fluctuates depending upon rainfall and the extent of pumping. A study by JDR Utility Consulting, Inc. in 1986 concluded that Coast Springs would be capable of supplying the average day demand of 290 customers from its present sources and peak day use for approximately six days.

Additionally, Coast Springs owns land in a spring area immediately east of its infiltration tunnel, and has identified this as the logical site to explore for additional water supply. Measurements of the spring flow from the area in November 1987 indicated a flow of 2 gpm. Coast Springs has suggested that this flow can be representative of the minimum expected yield from the spring area. A higher flow might be obtained through the use of horizontal wells.

Water storage for the Coast Springs system is provided by a 125,000 gallon steel tank located in the ravine that roughly divides Oceana Marin and the Village. This tank is slated for replacement in order to meet State safe drinking water standards. Additionally, pre-treatment storage is provided by a 25,000 concrete tank, although because of the tank's construction, only one-third of this capacity is usable at any one time. Another 7,500-gallon concrete tank stores a small amount of backwash water. These concrete tanks are located above Dillon Beach Road east of the Village.

There are currently 217 connections in the Coast Springs service area and another 30 units in the service area. At an average daily demand of 100 gpd, total water demand would be 24,700 gpd. Peak demand, at 182 gpd would be 45,000 gpd. The State Health Department has indicated that Coast Springs must demonstrate adequate capacity and treatment facilities to expand beyond 220 connections.

Water treatment is essential to the Coast Springs system as the water supply locations are subject to a variety of pollution sources and natural water quality problems, including high bacteriological levels and turbidity from surface water infiltration; high natural mineral content; and possible contamination from septic systems serving the Village. In addition, several of Coast Springs' wells on the hilltop are close to the unlined sewage ponds that are part of the Oceana Marin wastewater system.

Presently there are three separate water treatment units in the Coast Springs system. Coast Springs is developing a new water treatment system which will consolidate its water treatment operations into a single plant, using a mixed-media filtration unit, iron manganese removal and chlorination. This new system is currently in partial use, but will not become fully operational until the new water storage tank is in place.

Lawson's Dillon Beach Resort. In 1986, a hydrologic study of the Lawson's_Landing area was conducted for Lawson's Dillon Beach Resort, Inc. by Aqua Resources, Inc. to determine the availability of potential groundwater supplies to serve new development on property lying between the town of Dillon Beach and Lawson' Landing. The study concluded that substantial groundwater reserves appear to exist in the vicinity of the Lawson's Landing wells. The aquifer from which the Lawson's Landing wells draw water has an estimated potential annual yield of 620 AF or 550,000 gpd. The study also estimated the recharge for a somewhat larger area of the dunes to be in the neighborhood of 950 acre-feet per year. This supply represents a potential yield of nearly 850,000 gpd. The study also concluded that additional groundwater extraction in the vicinity of the present Lawson Landing wells could be accomplished free of contamination hazards form a dune wastewater disposal system if properly managed.

The study by Aqua Resources found that further development of groundwater in the upland areas or the stream alluvium along Dillon Creek is

probably not possible due to the limited storage and recharge capabilities of these aquifers and the existing level of water extraction by the Coast Springs and Estero Mutual Water Companies. Additional hydrologic studies are currently underway to identify the boundaries of the water supply within the Lawson's Dillon Beach Resort property and secondly to assess the capacity.

Development of potential additional groundwater supplies in interdune aquifer will need to address access provisions from adjoining property owners; factors influencing ultimate well yield and appropriate well locations; effects of groundwater withdrawal on seasonal wetlands; and potential water quality problems from seawater intrusion, nitrate loadings from upslope agricultural operations and sewage effluent from possible wastewater disposal in the dune area.

Lawson's Landing. Three wells with a combined capacity of 53.3 gpm currently serve the Lawson's Landing area. Sustained yield has not been established for any of the wells. The wells are pumped for a short time each day to supply the estimated 20,000 gpd maximum water demands from the approximately 200 connections at Lawson's Landing.

Summary. Residential water demands are highly variable in the Dillon Beach community. Records indicate a slight increasing trend in water use rates that may be attributable to increasing full-time occupancy and/or larger and more modern new houses. A recent study found newer houses to have water use rates about 16 percent higher than older homes in Dillon Beach (JDR 1986).

Each of the existing water systems are considered to be at, or very near, capacity. The Coast Springs and Estero Mutual systems have very limited capacity, but are able to serve a relatively large number of connections mainly as a result of low demand in this community of high part-time occupancy. Additional water supply will need to be identified and developed for any additional significant development in the community. Several options may exist for doing so, however additional field testing will be necessary to verify the extent and quality of water available.

[The entire "Dillon Beach" section above was amended pursuant to BOS Resolution No. 88-333 (Attachment 1, pp. 8-15) [12/20/88], approved by CCC with suggested modifications 4/12/89, 2nd BOS Resolution No. 89-216 [8/8/89], CCC ED Checkoff 4/13/90]

Areas using private individual water sources

BACKGROUND

There are several communities in the Unit II coastal zone which use private on-site water sources, including wells, springs, or streams, for water supply. These communities are located outside the service area of any water company and include portions of the Inverness Ridge, Marshall and other areas on the east side of Tomales Bay, and the town of Tomales. These areas are described below, following a brief explanation of agency policies on the development of private water sources.

Both the County and the Coastal Commission have adopted ordinances or policies on the development of private water sources. The County's domestic water ordinance, Section 7.28, requires a permit to construct and operate a domestic water supply derived from springs, wells, or surface sources. Because the intent of the ordinance is to protect public health, a permit is only required when the water source is connected to a dwelling for domestic use, not necessarily when the well or other source is first developed. The ordinance establishes minimum flow rates and also provides that, within the service area of a water company from which water is normally available, no permits shall be issued for domestic systems intended to serve more than one residential unit. The County is currently revising Section 7.28 to strengthen and clarify its design and testing standards.

The Coastal Commission's policies on private water sources differ from those of the County in two major ways. First, the Commission requires a permit for the physical development of any water source, whether or not it is connected for domestic supply. Such development falls within the general definition of "development" given in the Coastal Act and thus requires a coastal permit. The Commission regulates water source development in order to protect streams and prevent the depletion of groundwater supplies. A second difference between County and Coastal Commission policies is that the Commission prohibits the development of individual water sources on sites located within the service area of a water company (with a few limited exceptions), whether or not the company can provide water at a given time and whether or not only one residential unit would be served. Permitting individual water sources within a water company's service area is viewed as contrary to sound water resource planning and to the wise management of groundwater supplies, and a possible threat to community supplies. These Commission policies-have been incorporated into the County's Unit I LCP.

INVERNESS RIDGE

Parcels on the Inverness Ridge using on-site water sources, primarily wells, generally are located upland and west of the established communities of Inverness and Inverness Park, and are 2 acres or larger in size. Currently, there are an estimated 100 units on wells, spread over an area of approximately 500 acres, for an overall density of 1 unit per 5 acres. In addition, a limited number of units on wells may be located within the boundaries of water service areas, e.g. a few wells were drilled in Paradise Ranch Estates during the drought. At full buildout under existing zoning (which ranges from 1 unit per 2 acres to 1 unit per 10 acres), roughly 200 total units could be built in the "well" area, an increase of 100%. The resulting

overall density in this area at full buildout would be approximately 1 unit per 2.5 acres.

The development of private water sources on the Inverness Ridge raises three coastal issues: 1) is adequate water available in well areas to supply all units at buildout? 2) will development of individual wells deplete groundwater resources? and 3) can individual wells be developed without being contaminated by septic systems? Information to answer these questions was gathered in two studies on the Inverness Ridge, completed as background studies for the LCP, one on groundwater availability and the other on the cumulative impacts of septic systems.

The report on groundwater, Geology of the Inverness Ridge Study Area, 1978, written by staff of the State Department of Water Resources (DWR), analyzed the availability of potable groundwater as a water supply for development on the Ridge. Although the report concluded that the non-water bearing granitic rocks on the Ridge itself had no potential for development of significant municipal supplies, it did determine that small domestic wells, tapping water storage "pockets", could continue to be successfully developed. The recharge ability of these sources, however, is uncertain. The report went on to state that in the water bearing alluvial deposits along the base of the Ridge, by streams, and in the Olema Valley, substantial supplies of potable groundwater could be developed from wells.

Based on the results of this study, it would appear that adequate water for additional individual dwellings could be found in small water pockets located in the upland portions of the Ridge. (This is the only area where private wells are possible, according to Coastal Commission policies since it is the only area outside the service area of any water company.) The conclusion that adequate water is available also seems reasonable in light of the relatively low unit count and low density which could occur in the well area at buildout: 200 total units, 1 unit per 2.5 acres overall density. The availability of water supply, however, would have to be determined by on-site well tests before construction could be permitted. These low figures also lead to the conclusion that depletion of groundwater supplies by private wells is not likely. And, since the areas served by North Marin County Water District at the southern end of the Ridge (Inverness Park and Paradise Ranch Estates) use imported water and rely on septic systems for sewage disposal, there is a net addition to groundwater in these areas which could help to counterbalance any depletion that might occur.

A second study on cumulative impacts of septic systems, Cumulative Impact Study of Septic Tank Disposal Systems in the Inverness Area of Marin County, 1978, by Cooper Clark and Associates, J. Warren Nute, Inc. and Peter Warshall, investigated the cumulative impacts associated with long term septic tank use at buildout of the entire Ridge. One of the possible impacts discussed was that groundwater contamination might occur where wells and septic tank systems are used in the same area. This could occur in two ways. One is that fissures in the granite bedrock of the Ridge could allow inadequately purified septic tank effluent to travel to water supply wells. The second is that where the groundwater table is high (in alluvium areas near streams and adjacent to, Tomales Bay) or where inadequate setbacks

exist between wells and septic systems, unpurified effluent from septic systems in the area could enter nearby wells. To avoid these problems, the study recommended that wholesome community water supplies be developed and extended to all homes in the Inverness area so that the dependence on individual wells could be eliminated. The study also concluded that in order to prevent groundwater contamination by septic effluent in areas where the same groundwater is being used for domestic supply, the overall density should be limited to one unit per 2.8 acres.

The information in this study, when considered in light of the physical characteristics of the well areas on the Inverness Ridge, does not support the conclusion that contamination of domestic water supplies from septic system effluent is likely, for several reasons. First of all, approximately two-thirds of all parcels served by wells are 2 acres or larger in size and of the 15 or so which are smaller, most are 1 to 2 acres. Existing zoning would permit the creation of only one additional lot of 2 acres. All the-rest would be 3 acres or larger, The prevailing large size of lots would greatly reduce the chances of contaminating domestic supplies. In addition, the overall density of existing units in well areas is approximately 1 unit per 5 acres while at full buildout, it would be roughly 1 unit per 2.5 acres. Thus, at buildout, the overall density of development in well areas would essentially meet the standard of 1 unit per 2.8 acres suggested in the cumulative impact study. At this density, sufficient lot area can most likely be found to allow adequate purification of septic effluent and to accommodate necessary setbacks between wells and septic systems.

A second reason why contamination of domestic water supplies is unlikely is that well areas are located upland and west of the densely developed communities of Inverness and Inverness Park, and are surrounded by undeveloped park and watershed lands. Because groundwater flows downhill, the septic effluent generated by the densely developed communities will not contaminate the upland well areas. The water supplies for these communities, in turn, are not susceptible to contamination because, in the case of Inverness Park, water supplies are imported and, in the case of Inverness, water supplies are derived from upland creeks and springs which flow through undeveloped park and watershed lands. The only situation in which contamination of water supplies is-likely to occur is if groundwater in the alluvium along Tomales Bay, a potentially significant community water source according to the DWR report, is developed in the future. The groundwater recharging this alluvium is partially composed of effluent from septic systems which requires purification before reaching the groundwater table if contamination is to be avoided. As buildout using septic systems proceeds on the Ridge, the likelihood increases that groundwater contamination will occur. However, the chance that this alluvium source will, in fact, be developed seems very slim. There would be little to justify the expense of piping this source uphill to serve the well areas when water is available there. Also, wells in alluvium would probably demonstrate poor water quality, both in terms of high iron and manganese content and in terms of coliform contamination, as did the wells in the lower Inverness area which were abandoned. Filtering of the supply would definitely be necessary.

In summary, adequate water does appear to be available to supply buildout in the well areas of Inverness Ridge. Because water availability may be spotty, however, on-site well tests to demonstrate adequate flow are necessary before construction is permitted. Due to the relatively low buildout potential of the well areas and the low density of development anticipated there, groundwater depletion is not considered a significant impact. Similarly, contamination of domestic water supplies by septic tank effluent is not a potentially serious problem in well areas because they are upslope and relatively distant from the densely developed communities on the Ridge and because parcels in well areas are sufficiently large to allow proper septic system functioning. For these reasons, eliminating all use of individual wells on the Ridge does not seem justified. As far as fire protection is concerned, building permits should be reviewed by the County Fire Chief so that necessary provision for fire protection, such as on-site water storage, can be made.

MARSHALL AND THE EAST SIDE OF TOMALES BAY

Water for existing development on the east side of Tomales Bay is obtained from wells, springs, or surface streams. Currently, there are 70 residential units on the shoreline as well as several commercial uses and boat works or marinas. At full buildout, an additional 60 residential units could be built, 56 on existing lots and 4 by subdivision, bringing the total to 130, an increase of 86%. Additionally, some commercial expansion is possible. Most shoreline parcels are less than one acre in size and of this area, usually two-thirds or more is under water. Because of the many constraints on development which exist on the shoreline, particularly lack of space for septic systems, and recent federal legislation authorizing purchase of undeveloped shoreline lots, it is extremely unlikely that full buildout will ever occur.

Except for a few locations, such as the canyon behind Marconi Cove marina, most of the east side of Tomales Bay has little known potential for development of additional water supplies. The ability of surface sources to provide supply is limited by the fact that many east side streams are intermittent and thus cannot be used year-round. Some of these streams are already used for agriculture, a use which has priority over private residential development in the Coastal Act. The potential for obtaining water from groundwater supplies also appears quite limited. Studies of water supply undertaken in the late 1960's by the North Marin County Water District determined that there are no dependable supplies of groundwater in any quantity in the geologic formations on the east side of the Bay and that groundwater supplies along Walker Creek are severely limited. It is also unlikely that the small shoreline lots have adequate on-site water resources to support individual domestic wells or, if they do, that such wells could supply wholesome water supplies with septic systems installed on the same lots. Contamination by septic effluent would, in fact, be likely, given the high water tables on the east side of the Bay which have been found to exist through geologic and soil investigations. Importation of water from outside sources is unlikely due to the high cost involved.

In summary, there appears to be very little potential for developing additional water supplies on the east side of Tomales Bay. Available information strongly suggests that there is not adequate water to serve buildout. In addition, the potential for contamination of on-site wells from septic effluent is high. Concerning fire protection, water supplies must be imported by truck, or, if the tide is in, can be drawn directly from Tomales Bay. On-site storage tanks may be required by the County Fire Chief for new construction.

TOMALES

Potable water for Tomales is provided by private, individual wells tapped into local groundwater sources. As discussed in the sewage disposal section for Tomales, past pollution problems related to the leaching of sewage into groundwater sources appears to have been significantly reduced with the opening of the sewer collection and treatment system in 1977 by the North Marin Water District.

There are no area-wide estimates of groundwater availability. At the present time, on-site water sources are required to be proved before new development can take place, but there is little knowledge of the area's groundwater characteristics or the long-range capacity for population growth depending on local water sources. Ideally, a groundwater supply study could be conducted to determine whether the yield of the groundwater basin can support buildout of the community. Such a study, however, would be an expensive and time-consuming undertaking. Regardless, buildout of the community does not appear large enough to exhaust groundwater supplies or cause overdraft of the groundwater basin. Since water availability may be uncertain in some locations, however, on-site well test to demonstrate adequate flow must continue to be required prior to development.

There are three potential other sources of water: (1) deep wells and springs, (2) Walker Creek, and (3) Stemple Creek. Walker Creek is approximately one mile south of Tomales, while Stemple Creek is approximately one mile north. Importing water form these two distant sources would be economically infeasible for a community as small as Tomales. General estimates of water potential from these sources would require a study of moderate scale, while a comprehensive study would be a larger undertaking. In the absence of such information, long-range plans for development in Tomales are based on the historical precedent that there was apparently sufficient local water available to serve larger populations in the past (about 300 people in the late 1800's), but it should be noted that this is not really an adequate information base because per capita water use may be higher today and historical data is not very specific.

Tomales is served by the Marin County Fire Department. The existing fire station on Dillon Beach Road has a crew of two to five firefighters, depending on the season, and three fire engines, including a 1,250-gallon per minute pumper, a 500-gallon per minute pumper, and a 1,500-gallon water tender with a 500-gallon per minute pumper. In addition, there is an active volunteer force in Tomales of eight or nine individuals. Therefore, the most important issue is not one of response time from the station, equipment, and firefighters, but rather of available water supply.

Emergency water supplies are available and accessible at various locations around the village, including two storage tanks with a total capacity of 13,000 gallons, a 60,000-gallon tank at the high school, and numerous private tanks ranging in size from 3,000 to 7,000 gallons. The Marin County Fire Department is currently implementing plans for another storage tank in Tomales with a capacity of 67,000 gallons. When this new tank and its related water distribution facilities (water lines, fire hydrants, etc.) are constructed, emergency water supply shortage capacity and distribution should be adequate to handle a fire for most structures in Tomales.

[The entire "Tomales" section above was amended pursuant to BOS Resolution No. 96-140 (Attachment 3, pp. 4-5) [10/1/96], approved by CCC as submitted 2/5/97, 2nd BOS Resolution No. 97-22 [3/11/97], CCC ED Checkoff 5/16/97]

SEWAGE DISPOSAL

In reviewing the capacity of a sewer system to meet waste disposal needs at buildout, the system's ability to treat and dispose of the waste load generated needs to be assessed. In areas where on-site sewage disposal is used, several factors are important: the likelihood of cumulative impacts at buildout, potential contamination of domestic water supplies from sewage effluent, and adverse effects on the quality and biological productivity of coastal waters.

There are only two sewer systems in the Unit II coastal zone, both very small: one serves the central core of Tomales while the other serves the Oceana Marin subdivision. In other areas, sewage is disposed of on site, primarily by septic systems. All of Point Reyes Station (with the exception of the U.S. Coast Guard Facility), Olema, Inverness Ridge, and the shoreline of Tomales Bay rely upon on-site disposal. In addition, old Dillon Beach and lands on the periphery of the town of Tomales also utilize on-site disposal.

Marin County regulates the design and construction of septic tanks and leachfields through its septic system code, Section 18.06. The code establishes setback requirements, minimum lot sizes for new systems, and design standards for septic tanks and leachfields. Although the code is comprehensive and provides sound criteria for septic system evaluation, the Regional Water Quality Control Board has expressed concern about its implementation; specifically, that waivers can be granted to any of the code provisions and frequently are. Such waivers allow systems to be constructed which do not meet the Regional Board's own Minimum Guidelines for the Control of Individual Wastewater Treatment and Disposal Systems. The County is currently revising Section 18.06 to bring it into conformance with the standards of the Regional Board. The two most important code changes will involve defining when waivers may or may not be permitted and relating the size of a drainfield to site specific percolation rates.

Neither the existing or the proposed new septic system code include provisions for alternative on-site sewage disposal systems. While both the County and the Regional Board support the idea of alternative systems in concept, the Regional Board will not permit alternative systems unless the County establishes a comprehensive septic system maintenance and monitoring program, similar to the one which exists in Stinson Beach. Because such a program has not yet been approved, alternative systems are not permitted by code. The LCP recommends that provisions be included in the County code to allow such systems.

Point Reyes Station

The community of Point Reyes Station relies upon on-site sewage disposal in the form of septic systems, cesspools, and other methods which discharge into the ground. Because of limited space in the downtown area, a number of combined systems have been established with three or more buildings connected to one septic system. In several cases, especially in residential areas, adjacent contiguously owned lots are used for leach-fields since the developed lot is too small to support a septic system itself.

Outside of the downtown commercial area, development is served by individual septic systems. Sewage disposal for the U.S. Coast Guard Housing Facility in Point Reyes Station, housing approximately 150 people, consists of a gravity-fed collection system feeding into two holding tanks with a total capacity of 8500 gallons. Twice a day, sewage is pumped out of the tanks and hauled to the Coast Guard's treatment facility at Two Rock in Sonoma County, at a cost of some $90,000 per year. This unorthodox and very expensive method of sewage disposal is one of the main reasons that the installation of a community sewer was first considered in the mid-1970's.

In the town itself, other conditions led to a further consideration of the community sewer option. Downtown, small lots ranging in size down to 5,000 square feet are typical with one commercial lot as small as 800 square feet. Many of the lots are too small to support an individual sewage disposal system, or the lot is almost totally occupied with a building, necessitating double usage of existing septic systems. Because the town is located very close to the Point Reyes National Seashore, visitors to the Seashore generally come to Point Reyes Station for services. With annual park visitation approaching the 2 million mark, existing sewage disposal systems downtown are threatened with overloading. As far as Coast Guard operations are concerned, numerous small spills of sewage effluent have occurred in the process of transfer and hauling.

The characteristics of underlying soils in the Point Reyes area also pose physical limitations on septic system use, as described in the EIR on the Point Reyes sewer project, written by the North Marin County Water District in 1976. A geologic investigation completed for the EIR noted that the downtown area is underlain by a layer of coarse gravel material which can percolate sewage from individual systems quite well, provided the systems are properly designed and have adequate leachfield area. However, because of small lot sizes, many substandard systems have been constructed. In addition, the coarseness of the gravel material is thought to provide little removal of nutrients from the septic effluent. Because of this situation and the fact that the groundwater table has been found within 10 to 15 feet of the ground surface in this area, groundwater contamination is suspected. In other areas, notably north of the center of town and the West Marin School, soils consist of about one foot of topsoil underlain by Franciscan graywackes, shales, basalts, and ultra basic rocks. These soils are considered generally insufficient to provide for sewage disposal from standard septic systems. The geologic report noted that there appears to be a flow of nutrients and possibly pathogens to streams tributary to Tomales Bay from these areas underlain by Franciscan bedrock. Future degradation of water quality in Lagunitas Creek, the water source for the town, is considered to be a very real possibility as the area continues to build out.

The construction of a community sewer system to serve both Point Reyes Station and the U.S. Coast Guard Housing Facility could solve a number of existing and potential problems. The sewer would eliminate the potential public health hazard associated with continued infilling and development in the downtown, reduce nutrient inputs to groundwater and tributaries to Tomales Bay, protect the community's Lagunitas Creek water supply from degradation, and eliminate any existing problems with septic systems together with the threat of spills from U.S. Coast Guard hauling operations. The community approved funding for a sewer facilities plan and EIR which was completed by the North Marin

County Water District in 1976, Financing for 85% of the total project cost was obtained from the Coast Guard and state and federal clean water grants. However, the community did not approve funding for the remaining 15% of the project cost and it was never built. The staff at North Marin feels that it is unlikely that such an advantageous financial package can be formulated again.

The community plan for Point Reyes Station recognizes the town's wastewater disposal problems in• its Goal 5.01 on public services: "Resolve community wastewater disposal problems through construction of collection and treatment systems for joint village and Coast Guard housing use." One of the plan's policies is to endorse North Marin's proposals to construct a sewer system. The plan also notes the land use limitations posed by septic system use and the benefits which would occur if the sewer were installed: new opportunities for commercial infilling within the downtown area would be fostered, land area now devoted to septic tank and leachline disposal could be converted to off-street parking, and more intense housing types such as apartments could be developed.

The community plan does not, however, take into account sewage disposal constraints in its zoning designations. The plan's adopted zoning implies the existence of a sewer system by permitting densities and buildout numbers which appear to exceed the ability of soils in the area to absorb and treat sewage effluent. Specifically, in the downtown commercial area, the existing VCR zoning (Village Commercial Residential) permits land divisions down to 7500 square feet. North of West Marin School, in the area cited by North Marin's EIR as problematical for sewage disposal, existing A-2:B-2 zoning permits the creation of 10,000 square foot lots. Development at these densities utilizing on-site sewage disposal systems would be very likely to cause a significant cumulative impact problem in the Point Reyes area, especially in light of the fact that the community plan would permit a 330% increase in the number of residential units which now exist: the current 186 units could increase to 801 at buildout. North Marin's EIR on the sewer system notes that although there is no immediate health hazard in Point Reyes Station due to septic systems, a potential public health hazard does exist given the general lack of space downtown and the potential for added loading due to tourist traffic and growth.

Recognizing the potential for sewage disposal problems in Point Reyes Station, the Regional Coastal Commission adopted Interpretive Permit Guidelines for the community which limit development densities. Specifically, the Commission's policy states that "... land divisions utilizing septic systems within the community expansion boundary shall generally maintain a one acre minimum lot size average." The Commission has applied this policy throughout Point Reyes Station, including areas zoned for planned districts in which the County permits clustering and variable lot sizes. The LCP recognizes the potential cumulative impact problem in Point Reyes Station that could result from development on small lots utilizing septic systems. However, in the absence of specific information on cumulative impacts and on adequate minimum lot sizes, and in light of concerns to provide adequate housing opportunities at reasonable cost, the 1-acre minimum appears to be somewhat arbitrary and excessive. Therefore, the LCP recommends downzoning to 10,000 square feet in the VCR area and 20.,000 square feet in the outlying residential areas, If and when a community sewer is constructed, higher densities should be reconsidered.

Olema

The town of Olema utilizes on-site sewage disposal methods, as does Point Reyes Station. Individual homes and shops rely upon septic systems while the Olema Ranch Campground has a small package treatment facility. Few problems have been experienced with sewage disposal in the area due to the very few number of residential units which have been built - 27 total - and the few commercial developments. However, the potential for significant cumulative impacts exists as buildout on septic systems proceeds. Existing zoning, including 29 acres of A-20-2 permitting 10,000 square foot lots, would permit the addition of 103 residential units for a total at buildout of 130, an increase of 380% over current numbers. In addition, 110 acres are zoned RCR (Resort Commercial Recreation), allowing extensive commercial resort uses. (Roughly 50% of the RCR area is in the process of being acquired by the federal government for inclusion in the GGNRA.) Most of the western portion of town borders Olema Creek where development at densities of 1 unit per 10,000 square feet utilizing septic systems would be likely to adversely affect water quality and stream resources. Most of the eastern portion of town is situated on slopes of 10% or more, where septic systems on small lots would also be likely to create cumulative impact problems. In summary, as with Point Reyes Station, existing zoning in Olema does not accurately reflect the constraints on development posed by septic system use.

Inverness Ridge

Development on the Inverness Ridge utilizes septic systems for sewage disposal. Currently, there are 740 residential units on the Ridge, spread over an area of approximately 2200 acres for an overall density of 1 unit per 3 acres. In addition, there are a number of commercial developments located along Sir Francis Drake Boulevard at the base of the Ridge in the communities of Inverness and Inverness. Park. There are approximately 320 vacant lots which, if subdivided to their maximum potential under existing zoning, would bring the total number of residential units at buildout to 1160 not counting the tidelands, an increase of 55%.

Both the Coastal Commission-and the Regional Water Quality Control Board have held a long-standing concern about the cumulative effects of development in the Inverness area utilizing septic systems, on the water quality of Tomales Bay and groundwater resources. Concern has also been expressed that some existing subdivided lots are unsuitable for conventional septic systems, due to small size, soil characteristics, or excessive slope. To investigate these questions., the Coastal Commission funded a background study for the LCP by consultants Cooper Clark and Associates, J. Warren Nute, Inc., and Peter Warshall. The purpose of the study, Cumulative Impact Study of Septic Tank Disposal Systems in the Inverness Area of Marin County, was to investigate the possible cumulative impacts

associated with long-term septic tank use at full buildout and "to recommend design criteria which will minimize any cumulative impacts and reduce the probability of septic tank drainfield failure."

The study noted that in terms of adequate percolation rates and preventing the surfacing of effluent, the experience with septic systems in the Inverness area is generally regarded as good. Septic tank failures are rarely reported. However, the study also noted that due to the topographical, soil, and geological characteristics of the area, three major cumulative impacts are possible: 1) failure of septic tank drainfields and surfacing of effluent; 2) contamination of domestic water supplies by septic tank effluent; and 3) adverse effects on coastal water resources by the addition of nutrients, especially nitrites, derived from septic systems. Although the study explained the way in which these adverse impacts could occur and how they could be avoided, it did not show that such impacts are in fact occurring or that the use of septic systems on the Inverness Ridge is a serious problem or will be at buildout. In short, the study mentioned many possibilities, none of which were conclusively demonstrated, as explained below.

The first impact which the study discusses is that septic tank drainfields may fail, causing a surfacing of effluent on steep slopes, where groundwater is high, or in tideland areas underlain by impermeable bay mud. In terms of slope, the study notes that almost one-half of the Ridge, 44%, has slopes greater than or equal to 30%. In spite of this constraint however, the study indicates that conditions are generally favorable for septic system use. The soils are well drained, have deep root zones allowing for good plant uptake of nutrients, have relatively good percolation rates, offer a good aerobic environment for effluent purification and disposal, and generally provide good treatment abilities for septic tank effluents. In short, soil conditions on the Ridge for septic system use appear to be nearly ideal. Widespread failures or effluent surfacing have not be experienced, and if drainfields are properly designed, very few problems should develop.

The second impact discussed is that septic tank effluent may contaminate domestic water supplies. The could occur because the granite bedrock underlying the Inverness Ridge is known to be highly fractured with fissures and joints that can rapidly transmit water. The bedrock could allow septic tank effluent to reach a water supply without passing through sufficient soil for purification. In addition, high groundwater in alluvium and tideland areas could allow effluent to enter nearby wells. Although such contamination is possible, the study indicates that in fact there is little evidence that groundwater is affected by septic tank discharges: "To date, there is little evidence to support or deny the possibility that effluent which may find its way to these fissures in the rock is insufficiently purified and would constitute a health hazard." (p. 3-28) Also, because water supplies in the IPUD service area are derived from streams in the undeveloped upland -watershed, and supplies in the NMCWD service area are imported, there is little likelihood that domestic water supplies will be contaminated by septic discharges. Neither would areas on wells be likely to experience contamination since they are generally upland of densely developed communities and have lot sizes in excess of 2 acres.

The third impact described in the study is that nitrites derived from septic systems may adversely affect coastal resources or , groundwater supplies. This would occur if nitrites were not removed from the soil but instead infiltrated to groundwater, raised nitrite concentration levels, and stimulated productivity. Although. septic system discharges do add nutrients to the environment, the study indicated that in the Inverness area, such additions could not be distinguished from other sources and, if they were occurring, were very likely insignificant. Nitrogen inputs to Tomales Bay and other coastal waters come from many different sources, including rainfall, decayed plants and animals, soil disturbances, cattle and horse manure, car exhaust, septic systems, etc. Nitrogen is also lost through uptake by plants, storage in the soil, transformation to a gaseous form, etc. In this complicated cycle of nitrogen through the environment, it is virtually impossible to separate out the contribution from septic tanks. The study did estimate though, that if buildout of 3000 homes occurred on the Ridge (almost three times the actual buildout figure of 1160), the total contribution of nitrogen to the area would be 6,000 lbs., which would amount to less than 25% of the contribution from rainfall alone.

The study also noted that at least one-third of the nitrogen compounds in household wastewater are removed by bacterial action and gas formation within a septic tank itself. Drainfield bacteria and growing plants in the surrounding area would remove most of the rest. Thus, only a fraction of the nitrogen emitted by the human population as waste material will enter the groundwater or Tomales Bay. A sampling of creeks in the old Inverness area, the most densely developed area on the Ridge, yielded nitrite levels which were only 5% of predicted values, indicating that there is a much greater nitrogen loss from septic tank effluents than assumed. The study concluded its analysis of possible nitrite contamination by stating, "In summary, given the purifying abilities of the soils in the area; the storage capacity of the soils; the nitrogen reductions occurring within the septic tanks and drainfields; the nitrogen deficiency of the soils in the study area; and the low concentrations of nitrite/nitrates reported for wells and streams, organic pollution is a remote possibility." (p. 4-48)

After reviewing the possible cumulative impacts which could occur because of long-term septic system use, the study recommended design criteria for septic systems which would minimize cumulative impacts in the future and reduce the possibility of failures. These criteria, dealing with setbacks, percolation rates, drainfield layouts, and other specifics on septic system construction, are very similar to those proposed in the County's revised septic system code which the Regional Water Quality Control Board is now reviewing. Unfortunately, the study does not give clear guidance on when waivers should or should not be granted, although the County's revised code will include such guidelines.

In addition to recommending design criteria, the study also drew several conclusions on lot sizes and density: in the Inverness area, lots of one-half to two-thirds of an acre will most likely be required for septic system use; and, to prevent degradation of groundwater as a water supply, lot sizes should be limited to 1.4 acres per unit on an overall density where no groundwater is being used, and 2.8 acres per unit where the. same groundwater is being used as a domestic supply.

Comparing these recommendations to the existing zoning for the Inverness area, it can be concluded that the zoning does. meet the recommended minimum lot size standards. The zoning adopted as part of the Inverness Ridge Communities Plan in 1979 established densities which range from a minimum of 1 unit per acre up to 1 unit per 10 acres.˜ Thus, all newly created lots must be at least 1 acre and will meet the recommended size of one-half to two-thirds of an acre.. Overall density of 1160. units at buildout on 2200 acres as calculated for the entire Ridge, will be approximately 1 unit per 1.9 acres, well within the study recommendation for 1 unit per 1.4 acres where groundwater is not used for water supply. In areas which rely upon wells, overall densities will be maintained at 1 unit per 2.5 acres, very close to the recommended 1 unit per 2.8 acres. The new zoning does not affect existing legally subdivided lots which are less than 1 acre, the most problematical for sewage disposal. To deal with this problem, the LCP recommends that construction be allowed only if conformance to the Regional Board's septic system standards, or the County's revised septic system code as approved by the Regional Board, can be demonstrated.

Marshall and the shoreline of Tomales Bay

Developments along the shoreline of Tomales Bay rely exclusively upon septic systems, holding tanks, and other methods of on-site sewage disposal. In general, due to the age of existing systems, the physical characteristics of shoreline lots, and the lack of a septic tank maintenance agency, the condition of most existing systems is very marginal. Many are old, failing, and have lost a significant portion of their leachfields to erosion. In some instances, raw sewage may be-.discharged directly-into Tomales Bay. Altogether, there are 70 existing residential units on the east side of the Bay and 48 units on the west side from Tomales Bay State Park to Inverness Park, for a total of 118. In addition, several commercial uses and boat works are situated on the water. Full buildout of undeveloped, subdivided lots on both sides of the Bay would permit an estimated 120 additional residential units, for a total of 238, an increase of 102%. However, due to the many limitations on further construction, such as lack of water supply, it is extremely doubtful that full buildout will ever occur.

Providing for adequate sewage disposal is a major constraint on _new shoreline development, primarily due to the lack of adequate land area on which to fit a septic system. Most lots on the shoreline are less than 1 acre in size and of this area, often two-thirds or more is under water. The remaining land area is often barely large enough for a building, leaving little or no room for a septic tank and successfully functioning leachfield. In this situation, few lots can meet the 100 foot setback between a leachfield and the Bay, as required by the County's septic system code.

The soil and slope characteristics of shoreline lots also restrict septic system use. Geological and soil investigations have shown that areas of both sides of Tomales Bay have muddy soils of low permeability and areas of high water tables. Given these characteristics, it would be difficult for shoreline lots to demonstrate a soil percolation rate and separation distance to groundwater which meet County code requirements, and the risks of surfacing effluent and groundwater contamination would be high. Steep slopes would likewise create problems for septic systems on many shoreline lots.

In summary, the ability of shoreline lots to support on-site septic systems is very doubtful due to land area, soil, and slope constraints. The use of alternative disposal methods or other engineering advances could alleviate some of the technical problems associated with septic systems and should be pursued. However, as noted earlier, the County has no provisions in its code for permitting such alternative methods.

Tomales

The town of Tomales utilizes two forms of sewage disposal: the densely developed village core receives sewer service from the North Marin Water District ("NMWD"), while the outlying low density residential areas rely upon on-site sewage disposal. Prior to 1977, Tomales had a problem of polluted groundwater resulting from the leaching of sewage into groundwater sources. This pollution problem slowed or halted residential and commercial development in the community. However, the opening of the sewer collection and treatment system in 1977 by the NMWD appears to have significantly reduced this pollution problem.

The sewer system is designed to handle wastewater from existing residences, commercial establishments, and school facilities. Based on 1993 data, NMWD reports that there were a total of 88 service connections to the sewer system generating an average daily wastewater flow of 19,842 gallons per day. Requirements for operation of the system established by the California Regional Water Quality Control Board limit the system capacity to 38,000 per day. When consideration is given to the additional wastewater generated by the connected commercial enterprises and school facilities, 88 connections translate into approximately 149 "equivalent" residential units that generate approximately 121 gallons of wastewater per unit per day. Based on the remaining capacity of the system, NMWD estimates that the system can serve an additional 152 equivalent units for a total of 301 equivalent units at buildout. In other words, the system is currently operating at about one-half its capacity.

The design of the collection system, although far in excess of the existing treatment plant capacity, employs minimum diameter sewer lines as needed for cleaning and maintenance equipment. The treatment plant is located northwest of the intersection of Tomales-Petaluma Road and Irvin Road. The treated wastewater is piped from the treatment plant and reused for irrigation of landscaping and playing fields on the adjacent school campuses, with the surplus carried to ponds located south of the hills on the south side of Tomales-Petaluma Road. Surplus pond water is used to irrigate adjacent pasture lands.

Smaller lot residential and/or commercial areas in the village all lie either within the existing sewer service area or immediately adjacent to it. The sewer service area is presently developed with 83 residential units. Based on policies of the Community Plan, it is estimated that the total number of residential units within the ultimate sewer service area could approximately double to 172 at buildout, which is an extremely high estimate that assumes an adequate supply of potable water would be available. Including future non-residential sewer connections, 172 units translate into approximately 290 to 300 equivalent units at buildout. Therefore, with a buildout sewer system capacity of 301 equivalent units estimated by NMWD, it appears that the sewer system may have adequate capacity to accommodate buildout sewage flows.

Peripheral areas zoned for low-density residential and agricultural development would continue to utilize private septic systems for on-site wastewater disposal. The peripheral areas outside the sewer service area are presently developed with 8 residential units. Based on policies of the Community Plan, it is estimated that the total number of residential units in the peripheral areas could increase to 21 at buildout, assuming that an adequate supply of potable water and on-site sewage disposal capacity would be available.

The NMWD has expressed the desirability of extending sewer service to these

low-density peripheral areas for protection against groundwater pollution. Such extension, however, would also increase pressure for higher residential density zoning, with related problems of water supply and alteration of the existing village environment. Further, it anticipated that buildout of septic systems in the peripheral areas can proceed without cumulative groundwater impact problems if wells and septic systems are installed to conform with current domestic water supply and septic code regulations.

[The entire "Tomales" section above was amended pursuant to BOS Resolution No. 96-140 (Attachment 3, pp. 5-8) [10/1/96], approved by CCC as submitted 2/5/97, 2nd BOS Resolution No. 97-22 [3/11/97], CCC ED Checkoff 5/16/97]

Dillon Beach

Sewage treatment and disposal in most of Oceana Marin is provided by a centralized sewer system. Treatment and disposal in the Village, Lawson's Dillon Beach Resort, and Lawson's Landing is handled by individual on-site septic systems. Additional treatment and disposal capacity will be needed for additional development in Oceana Marin, Lawson's Dillon Beach Resort, and Lawson's Landing. Several alternatives have been considered for expanding the current system serving Oceana Marin. These alternatives include expanding capacity on the hilltop east of Oceana Marin, and constructing a treatment facility in the southwest corner of the subdivision that would then discharge treated effluent to a leachfield in the sand dunes on Lawson's Landing. Neither alternative is clearly preferable at this time, nor have they been evaluated considering potential communitywide needs. The background text below describes the current systems and studies conducted to date.

Oceana Marin Sewage Disposal. Individual septic systems were allowed initially in the first unit of Oceana Marin, but fear of exposure to sewage effluent on the beach below the houses instigated construction of a communitywide sewer system which serves all homes (with the exception of residences on the lower side of Oceana Drive). Sewer service to the Oceana Marin subdivision is now provided by the North Marin Water District (NMWD). The gravity system flows to a lift station (located west of Oceana Drive) which has a pumping capacity of 100 grm. Flows from the sewerage lift station are discharged into two 3-million gallon ponds located on the ridge top east of the subdivision. The ponds provide two-stage facultative treatment. Treated wastewater is pumped from the second pond to a 9-acre subsurface irrigation field located north of the ponds. Seepage occurring on the southerly perimeter of the ponds caused NMWD to install an interceptor trench. The small amount of water accumulated in this trench is also pumped to the 9-acre subsurface irrigation disposal site. A small amount of water escapes the ponds through subsurface percolation. Over time, however, the ponds have developed a seal and the amount of the water percolating by this mechanism is estimated to be relatively small.

This system was designed to be built in stages, with the original segment designed to serve 112 residences. The system currently serves 129 dwellings and, as currently configured, is capable of serving 164 dwelling units. Construction of additional phases is necessary to serve the buildout requirements of the Oceana Marin subdivision. NMWD owns the necessary land to expand the hilltop system to accomplish the purpose.

Capacity is based upon assumptions of an average daily flow of wastewater of 75 gallons per person per day, an average 48 percent occupancy rate for residents and one in 25-year seasonal precipitation total of 34 inches. Based on annual flow records of NMWD, average flow per dwelling unit in Oceana Marin is 90 gpd, including infiltration and inflow. Peak summer occupancy assumes 30 percent full time residents at 2.5 persons per household; 60 percent vacationing residents at 4.5 persons per household; and 10 percent major holiday users at 8 per persons per household. Peak winter occupancy assumes the same full-time residency percentage and household size as summer; 7 percent vacationing residents at 3 persons per household; and 35 percent major holiday users at 3.5 persons per household. Although NMWD had indicated that 60 gallons per capita per day (gpcd) rates are achievable with the institution of reasonable water conservation measures (including ultra-low flush toilets), reductions in wastewater flows below this rate would be increasingly more difficult to achieve and probably not a reliable basis for wastewater facility planning.

The present disposal system consists of a network of perforated pipes. In order to provide the 252-unit capacity, this system will need to be extended (approximately 50 percent). Other currently planned expansion to the system includes lining the sewage ponds and activating an aeration system in the treatment ponds to accommodate treatment of increased waste loading as the project builds out. The Oceana Marin gravity sewer system currently experiences an increase in wet weather flows of approximately 40,000 gallons per day, or 8,140 gallons per mile of sewer collection system, due to infiltration. This is well within the acceptable range of sewer collection system performance as defined by Environmental Protection Agency standards for infiltration/inflow (NMWD 1988).

Capacity Expansion Alternatives. While the gravity sewage collection system and lift station have adequate capacity to carry flows for build-out of the 252 single-family lots in the Oceana Marin subdivision, the treatment and disposal system would need expansion. Currently, no additional storage for wastewater in the wet weather season is needed. The State Water Quality Control Board can be expected to require safeguards, such as lining the ponds, to minimize potential contamination of groundwater if the existing hilltop pond facility is expanded.

State regulations require land disposal for any sewage treatment system in the area. NMWD presently owns 17.27 acres of land to the north and east of Oceana Marin for sewage ponding and irrigation disposal purposes. This is sufficient to treat and dispose of the wastes generated by the full development of Oceana Marin's 252 single family lots. Additional development on multi-family parcels (which are currently not within the service area of North Marin Water District and would have to be annexed will need to provide additional pond storage as well as subsurface irrigation disposal. Additional land would have to be acquired for the additional irrigation disposal area.

Several alternatives have been studies by NMWD to increase the system capacity to serve all of the 252 residential lots in the present service area. These are:

- Ponds with spray irrigation, involving lining the existing ponds, constructing an additional pond, and developing a spray irrigation system at the 8-acre disposal field.
- Ponds with subsurface disposal, involving the same pond improvements as described above, along with expansion of the network of shallow sub-surface leaching trenches to meet ultimate summer disposal needs estimated at about 85,000 gpd.
- A conventional leachfield system involving corrosion of the current pond system to a back-up role and the transfer of wastewater disposal to the dune area south of the former University of the Pacific Marine Laboratory site. Treatment would occur in a series of septic tanks followed by conventional leachfield disposal over a long stretch of the dunes.
- Secondary treatment of wastewater by an extended aeration package plant with disposal of the treated and chlorinated effluent to a seepage bed located in the dune are immediately south of the old University of the Pacific Marine Laboratory site. The subsurface disposal area required would be much less than the size of a conventional leachfield system.
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Dune Disposal. Initially, a NMWD study of coast comparisons and concerns about contamination of the groundwater supply for Lawson's Landing relative to a dunes disposal system favored upgrading and expanding the existing hilltop facilities. subsequent study has satisfied the District that a subsurface seaward gradient in the dunes would protect groundwater supplies from both contamination and seawater intrusion. However, the District does not favor expansion of its hilltop facility beyond currently defined capacity because of pumping costs. A 1985 study by Bracewell Engineering for a proposed 88-unit multiple-family development in Oceana Marin concluded that secondary treatment and dune disposal was feasible and the least expensive alternative to accommodate the proposed project.

A leachfield site for a dunes disposal system has been proposed by the foredunes immediately southwest of the former University of pacific Marine Station. The disposal system in the dunes would consist of two parallel disposal beds constructed approximately 200 feet apart and each being 300 feet long. The area is generally bounded by the beach to the west and the Lawson's Landing Road to the east. Current land uses are recreational and limited cattle grazing.

The shape and location of the shoreline south of Dillon Beach has changed considerably since 1960. Sand accretion has gradually moved the shoreline westward 400 to 700 feet, while seasonal erosion and deposition of sand have also recurringly changed the shape and location of the shoreline on an annual basis. Moreover, the dunes which constitute the site of the proposed leachfield did not occur naturally, but were created by plantings of European beach grass in order to stabilize the area behind them for grazing purposes. Therefore, location of a sewerage treatment and disposal system in this area will need to carefully consider the dynamic nature of the site.

Possible impacts associated with a dunes disposal system include significant wind erosion of dunes

during winter storms resulting from loss of protective dune vegetation from leachfield construction; seismic hazards from the San Andreas Fault which lies just offshore; buff erosion from the necessity for a trunkline from Oceana Marin along the cliff to the site; and major dune erosion which would expose portions of the leachfield system in the infrequent event (once in fifty years) of a tsunami large enough to breach the 20-foot foredunes. In extreme cases, major dune erosion could also result in significant changes to the physical character of the dunes, lowland flooding and potential danger to the Lawson Landing entrance road and recreational facilities.

A study by Questa Engineering Corporation to explore groundwater conditions in the proposed dune disposal area found that due to groundwater elevations, and a seaward gradient in this area, there is little likelihood of seawater intrusion into a series of wells in the area. (This conclusion assumed a static state, i.e., that water was not being drawn from these wells.) Because the nature of dune sands would not provide sufficient disinfection of effluent, especially during winter storm periods if the erosion of beach sands exposes the water table above the mean tide level, secondary treatment and disinfection of effluent prior to dune disposal would most likely be required by the Marin County Environmental Health Services and the San Francisco Bay Regional Water Quality Control Board.

Additionally, two basic sewage disposal options have been proposed for the Lawson's Dillon Beach Resort area. One involves on-site leachfield systems (either individual or community); the other involves off-site community disposal in the dune area to the southwest of the project site (in approximately the same area proposed for the Oceana Marin hilltop treatment and disposal system for possible future development of the Lawson property is generally considered infeasible due to capacity limits. However, NMWD has indicated that annexation of the Lawson property to the District is a possibility.

An onsite leachfield system could use either individual septic systems or community systems. Individual systems would require containment of septic tanks, piping and trenches on separate parcels or easements specifically dedicated to individual residences, creating a complex situation if solid and other siting characteristics require concentration of disposal in areas which are not immediately contiguous to housing. If community systems (e.g., for five or more units) are used, joint septic tank piping and leachfield facilities would allow for a more efficient design; however, ownership and operation of such facilities by an appropriate public agency (e.g., NMWD a County service area or a new utility district) would be required.

[missing text, one line from Res. No. 88-333, Attachment #1, top of p. 20] ... site would be the hydraulic effects on groundwater levels, affecting existing septic systems in the area and seasonal wetlands in the southwestern portion of the area; water quality consideration for Dillon Creek, the water supply well of the Coast Springs Water Company in the Dillon Creek channel alluvium and the existing and proposed well fields on the Lawson's Landing property to the south; substantial increases in nitrates in groundwater causing unpredictable vegetation enrichment; and disturbance of existing dune vegetation leading to possible erosion.

Onsite septic tank leachfield systems are regulated by the Marin County Environmental Health Services Department and the San Francisco Bay Regional Water Quality Control Board. These agencies have standards for siting and design of septic systems which address such factors as soil depth, percolation rates, groundwater separation, slopes and setbacks from streams and wells. (Most of the existing septic systems in Dillon Beach were developed before current regulations were in effect and probably do not conform with the requirements which would be applied to new development.) Based on the presumed coarse, sandy texture of the dune deposits, vertical separation distances of 10 to 20 feet between leachfields and groundwater would likely be required for this area.

Due, however, to the lack of fine soil particles (silt and clay) in sand dunes, these areas offer minimal protection against bacteriological contamination of surface and groundwater supplies. Therefore, investigation of the subsurface nature of the dunes would be needed to clarify the capabilities and constraints for leachfield disposal systems. If subsurface investigations showed insufficient treatment capabilities in the dunes, additional wastewater treatment, such as sand filtration or extended aeration

followed by a disinfection process could be considered.

An alternative to onsite sewage disposal for the Lawson's Dillon Beach Resort property would be development of a subsurface disposal field in the long shore dune area which has been studies as a possible expansion area for the Oceana Marin wastewater disposal system, as previously discussed.

An extended aeration batch system which would provide sufficient treatment for effluent is the most simple to expand as it does not require a large land area and provisions for an additional unit can be made during construction. Expandability of sewage treatment facilities is relevant with regard to build-out of Oceana Marin as well as any other future development plans for the area south of the town of Dillon Beach. NMWD has estimated a required leachfield size of 4.8 acres for the 252 single-family Oceana Marin lots. However, extrapolation of the Bracewell Engineering study would indicate that considerably smaller leachfield site, of approximately only 0.9 acres, would be needed for the same number of units. This is due to differing assumptions regarding effluent treatment, dune filtration and percolation capabilities.

The Marin County Zoning Code states that "No development shall be permitted in the sensitive coastal dune habitats in order to preserve dune formations, vegetation and wildlife habitats." Additionally, the LCP states that "A transfer of Oceana Marin's sewage treatment ponds to an area south of Dillon Beach ... could be consistent with LCP policies provided that the ponds are sited out of environmentally sensitive habitat area, screened from public view, and sited so as not to interfere with recreational or agricultural uses in the area."

ON-SITE SEWAGE DISPOSAL

On-site sewage disposal in various forms is used in the Village, Lawson's Dillon Beach Resort, and Lawson's Landing. Most septic systems consist of a redwood box which functions both as a holding tank and seepage pit. Very few systems have any form of leachfield to service the tank. The relatively few system failures which have occurred in the past have primarily been the result of the redwood tanks deteriorating and collapsing from age - most systems are 40 years old or older. A very few number of other systems have failed because of overuse. Widespread failures or problems have not, however, been experienced in Dillon Beach.

Further development in Dillon Beach utilizing on-site sewage disposal raises the issue of cumulative impacts on groundwater resources and water quality. The community is immediately inland and upslope of a private recreation area, Dillon Beach, which is managed for public use. Most lots in old Dillon Beach measure less than 3,000 square feet and all houses are on cesspools, seepage pits, or septic tanks. As noted earlier, most systems are 40 years old or older. In spite of the dense development, there have been no indications of pollution from existing on-site disposal systems in the community and no widespread system failures. The community is situated on deep sandy soils which provide very rapid percolation. Depth to groundwater is unknown but tests for individual systems did not find groundwater at 16 feet during wet weather. Also, most of the homes are utilized on an infrequent basis as weekend or summer homes. There is no risk of contaminating community water supplies from the development since the community obtains its water from the Coast Springs Water Company which draws water from upland wells.

Buildout of the remaining 19 lots in the Village can occur on septic systems without a threat to community water supplies or significant adverse impacts on groundwater quality. However, all lots should be considered "problem" lots which require engineer-designed septic systems in order to meet County code. Additional development in Lawson's Dillon Beach Resort should consider the potential for additional water development from the Resort and adjacent portions of Lawson's Landing, in order to avoid potential groundwater contamination.

In the Lawson's Landing area, existing sewage disposal for trailers, rest rooms, and shower facilities is provided by septic systems. -Sandy soils and a high water table in the area indicate that conditions are unsuitable for conventional subsurface sewage disposal. Indeed, water quality tests performed as part of

an EIR on expansions to the resort in 1977 showed that activity in the area is contributing pollutants to Tomales Bay. The Regional Water Quality Control Board has indicated that it will not approve any further development which would add contaminants to Tomales Bay, and that future development would require substantial upgrading of existing systems and/or an approved waste treatment system operated and maintained by a recognized public agency. The County has concurred with the Regional Board's position.

SUMMARY

The sewerage treatment and disposal system operated by NMWD has the capacity, with certain improvements, to serve 164 single-family units of the Oceana Marin subdivision. Additional development in this area and any development beyond the small number of individual lots in the Village will require development of additional sewerage treatment and disposal facilities.

The possible location and design of additional facilities have been investigated by NMWD and others. Estero Mutual Water Company has recommended that a long-term solution to water supply and wastewater treatment and disposal in Dillon Beach should involve use of the “coastal side of the hilltop drainage area” for water supply and the “back side” for disposition of sewage effluent from treatment systems. This is consistent with the existing mode of operation practiced by NMWD. However NMWD does not favor expansion of its hilltop facilities. NMWD prefers an alternative that would dispose treated sewage in a leachfield in sand dunes in Lawson’s Landing. This alternative, however, has not been evaluated considering potential communitywide needs and may pose significant environmental concerns. Additional study will be necessary before specific recommendations regarding additional sewage treatment disposal and capacity can be made. In such studies it will be necessary to consider communitywide needs, and to examine potential trends toward more fulltime occupancy. Additional development at Lawson’s Landing, or a trend to a greater intensity of use, will likewise require system improvements and likely expansion.

[The entire “Dillon Beach” section above was amended pursuant to BOS Resolution No. 88-333 (Attachment 1, pp. 15-22) [12/20/88], approved by CCC with suggested modifications 4/12/89, 2nd BOS Resolution No. 89-216 [8/8/89], CCC ED Checkoff 4/13/90]

TRANSPORTATION AND ROAD CAPACITY

Following water supply and sewage disposal, the third and final public service capacity *which* needs review in Unit II is road capacity and transportation. Very briefly, the capacity of a road is a measure of its ability to accommodate moving traffic, both that generated by local development and that generated by visitors from outside the coastal zone. In contrast to water and sewer service which do not in themselves inhibit visitor travel to or use of the coast, the capacity of the road network and its congestion level have a direct effect on the visitor's ability to get to the coast. and on his experience once he arrives. A second contrast with other services is that the capacity of Highway 1, the major coastal access link, is limited and, except for minor improvements, cannot be expanded. In the Coastal Act, the Legislature specifically required that Highway 1 be maintained as a scenic two-lane road in rural areas of the coastal zone. Thus, its present and future capacity is limited to the traffic which it can handle in its present configuration, or with minor improvements.

Besides Highway 1, the second main access link in Unit II is Sir Francis Drake Boulevard. Three other roads provide access to the coast from eastern Marin - the Tomales-Petaluma, Marshall-Petaluma, and Pt.Reyes-Petaluma Roads - but since these roads are relatively lightly traveled, they do not *have* capacity problems. Only Highway 1 and Sir Francis Drake are reviewed here. The information on Highway 1 is taken from a study by consultants DeLeuw Cather and Company, the Highway 1 Capacity Study, completed in 1979 as an LCP background report for northern coastal counties under the direction of the Coastal Commission. The capacity review for Sir Francis Drake is based on data and estimates by County planning and traffic engineering staff.

Highway 1

The capacity study of Highway 1 analyzes the physical characteristics of the roadway to determine the level of service (travel speed and flow) that it can provide. The study then examines the two sources of traffic on the road which utilize this capacity, externally and locally generated travel. Information on these sources is used to project future traffic volumes and their effect on capacity. The net result is a determination of the number of residential, motel/hotel, and campsite units which can be developed in various areas of the coastal zone before maximum road capacity is reached during summer Sundays, the periods of highest or peak flow conditions on which the study's conclusions are based.\

In terms of overall capacity, the study found that Highway l's ability to carry traffic is relatively low. The highway is two-lane and has restricted opportunities for passing over much of its length, maximum design speeds in Marin County of 45 mph, relatively narrow lanes and shoulders, variable grades, and mixed traffic with a fair share of recreational vehicles and trucks. All of these factors reduce the road's capacity to , carry large volumes of traffic.

Concerning the sources of traffic on Highway 1, the study found that the majority of travel on Highway 1 is recreation or sightseeing related. Most summer weekend travelers reside in the Bay Area, Marin, Sonoma, or

Mendocino counties. The large total population of these areas is drawn to the coast because of its natural attractiveness and its close proximity to home. Increasing numbers of visitors from these areas are expected, paralleling a statewide and nationwide trend of increasing recreational traffic due to growth in population. In the past 10 years, traffic volumes on Highway 1 in the vicinity of Point Reyes Station have grown an average of 3% per year. This rate of increase is projected to continue, in spite of fuel shortages and rising costs. Traffic volumes on Highway 1 will also increase because of new local development along the coast, both recreational and non-recreational.

To project traffic volumes in the future and their effect on capacity, the study separates Highway 1 traffic volumes into two components: externally generated recreational travel and locally generated travel. Externally generated recreational travel is related to travel times from residence areas outside the coast, and the population of those areas. Because it is considered to be independent of development along Highway 1, as defined in the study, it cannot, according to the study, be controlled by LCP policies on land use. The other source of travel, however, travel generated locally by coastal development, can be affected through the LCP.

Land uses in the coastal zone which generate traffic include residential units, motel/hotel rooms, and campsites. According to the Highway 1 study, these different types of overnight accommodations have essentially equal daily and peak period trip generation rates for summer Sundays, i.e. they generate the same amount of traffic. The study estimated that a total of 1624 units of all kinds exist in Unit II, with buildout projections in a range of 1655 to 2230 units. These figures are fairly close to figures calculated by planning staff, though they are somewhat high for existing units and somewhat low for maximum buildout. The capacity study points out that as build-out proceeds, new development will further reduce the already limited capacity of Highway 1 and will restrict opportunities for the recreating public to visit the coast.

The study calculates the number of additional dwelling and other units, which could be built in various segments of Highway 1 before maximum capacity, described as traffic with unstable flow moving about 30 mph, would be reached. North of the Tomales-Petaluma Road,. capacity is adequate to handle over 1000 new dwelling units through the year 1995. Since buildout projections for the Tomales area are much lower than this, no capacity problems are anticipated. In the Point Reyes-Olema area by contrast, maximum capacity is expected to be reached by 1985 after the construction of 100 to 350 residential units, considerably less than maximum buildout estimates.

Several qualifications need to be kept in mind regarding these results. One is that the estimates are quite conservative since they utilize the 5th highest hourly traffic volume in a year to determine capacity. The second is that the number of existing units in Unit II used in the study is approximately 150 units too high, based on calculations by the planning staff, affecting the determination of acceptable new units. Also, the buildout projections are theoretical maximums which, due to water and sewage disposal constraints, high costs, and local sentiments, are unlikely to be reached. Staff at North Marin County Water District and the County have estimated that no more than 350 units are likely to be built in the next 20 years

throughout the point Reyes-Olema-Inverness Park area, far below buildout maximums. If sewage disposal constraints are considered for this area, the number will probably not go much higher. Thus, excessive traffic volumes are not expected to become a serious problem, for at least this time period. Only downtown Point Reyes Station may need further attention.

The capacity study points out that there are numerous minor physical improvements in Highway 1 which could significantly ease traffic flow and add to capacity. For example, widening lanes and shoulders alone is estimated to result in 25% to 54% improvement in capacity through the Unit II coastal zone. Parking restrictions and limits on recreational travel could also substantially improve capacity. In Point Reyes Station, the study recommends that off-street parking be considered to reduce the roadside parking during peak hours which restricts flow. The Point Reyes Community Plan also recognizes the traffic congestion through the downtown and recommends that further study be given to the establishment of a one-way street pattern through this area. In summary, numerous alternatives are available for improving capacity now and in the future, many of which could *be* implemented on a relatively small scale and at limited expense. The County is very concerned, however, that any such improvements maintain the rural scenic character of Highway 1.

The entire analysis of the Highway 1 study is based on existing and past trends in private auto use. Although these are unlikely to change dramatically in the next few years, alternative methods of transportation, especially transit service, may be implemented which would reduce traffic volumes and conceivably improve the capacity situation. This would be in keeping with Section 30252 of the Coastal Act which encourages transit and other forms of public transportation. In Marin County, Golden Gate Transit currently runs three lines to the coast on weekends. The County endorsed a "Take a Bus to the Park" program for the summer of 1980 to expand transit service and distribute information on transit programs, although only part of this program was implemented. The federal government's General Management Plan , for Golden Gate National Recreation Area and the Point Reyes Seashore recommends several strategies for addressing transportation problems including improved and expanded transit to the parks from San Francisco and east Marin, provision of transit within the Point Reyes-Olema area by park shuttles, development of an information system to publicize transit opportunities, and in Marin County, development of most parking areas on a non-permanent basis so that they may be reduced or relocated as the availability of transit is improved. These transportation alternatives rely heavily on transit and related services to meet the increased use of coastal access and recreation areas anticipated in the future. This approach is strongly supported in the LCP.

Sir Francis Drake Boulevard through Inverness

Sir Francis Drake Boulevard through Inverness serves as a major access road to the Point Reyes National Seashore and Tomales Bay State Park and is a scenic roadway for coastal visitors. The road is also the sole access way for residents of Inverness Ridge. It parallels the Tomales Bay shoreline and passes through the communities of Inverness and Inverness Park where small commercial establishments, restaurants, and parking facilities are sited

adjacent to the road, Both the volume and pattern of recreational traffic impacts these uses and has raised concern in the community about safety and road capacity.

Based on planning and engineering estimates of road capacity, existing and future traffic volumes, and visitor use of nearby state and federal parks, Sir Francis Drake has adequate capacity to handle existing traffic volumes and all projected increases. This conclusion is based on an estimated road capacity of 10,000 average daily trips (ADT) and actual peak use counts of 3300 ADT, taken near Bear Valley Road in the summer of 1976. Projected increases in traffic volumes, assuming full buildout on Inverness Ridge and a doubling of recreational traffic, are not anticipated to utilize all of the remaining 6700 ADT capacity.

These numerical estimates of road capacity represent an engineering approach to capacity but do not take into account the perception of traffic conditions made by local residents, or their daily experience of the road and its travelers. According to locals, traffic on Sir Francis Drake through Inverness is already near or at maximum tolerable levels and creates dangerous travel conditions. Some residents report that they even leave the area on weekends to escape the influx of coastal visitors.

The Inverness Ridge Communities Plan reflects the safety concerns of local residents in its review of road conditions. According to the plan, the principal problem occurs in the old Inverness shopping area where frequent pedestrian movements occur across Sir Francis Drake. The plan points out several possible options to deal with this problem: an enforced speed zone with stop signs at the more dangerous intersections, installation of a pedestrian operated stoplight in the shopping area of Inverness, or construction of a pedestrian overpass. The plan also generally discourages excessive use of the private automobile and recommends that alternative forms of transportation be explored. Improved summer and weekend recreational bus service is proposed along with a small local shuttle bus system using one or two small passenger vans. The construction of pedestrian and bicycle paths is also supported. The LCP recommends that all of these options be pursued further.

PUBLIC SERVICES

LCP POLICIES ON PUBLIC SERVICES:

1. General policy. Prior to the issuance of a coastal development permit, the County shall make the finding, based on information provided by environmental documents, staff analysis, and the applicant, that adequate public services and resources (i.e. water supply, sewage disposal, and road access and capacity) are available to serve the proposed development. Lack of available services or resources shall be grounds for denial of the project or for a reduction in the density otherwise indicated in the land use plan.

2. Water supply.
   a. Type of service. Except as provided herein, new development, including land divisions, outside the service area of a community or mutual water system may utilize individual wells or other private on-site water sources. Within the Inverness Planning Area, individual wells should not be allowed on parcels less than 2.8 acres in size. Exceptions to the 2.8 acre lot size limitation may be granted pursuant to the issuance of a Coastal Permit. In addition to the findings of Chapters 22.56 and 22.86, the applicant must demonstrate to the satisfaction of the Health Officer that a well can be developed on the substandard size parcel in a completely safe and sanitary manner. Within the service area of a community or mutual water system, the use of individual domestic water wells for new development shall be permitted provided: a) the community or mutual water system is unable or unwilling to provide service; or, b) the physical distribution improvements are economically or physically infeasible to extend to the proposed project site. Additionally, wells or water sources shall be at least 100 feet from property lines, or a finding shall be made that no development constraints are placed on neighboring properties. Within the Inverness Public Utility District (IPUD), individual wells for domestic use should not be permitted in the same watershed, at an elevation higher than the IPUD surface water sources existing as of June 14, 1983. All new development shall be required to incorporate low flow water fixtures and other water-saving devices.

   b. Point Reyes Station area. Water for the Point Reyes Water System, including Point Reyes Station, Olema, Inverness Park, and Paradise Ranch Estates, is provided by North Marin County Water District (NMCWD). The water system is presently adequate to serve a total 'of 755 residential units in the service area, 354 more than now exist, with generous provisions for current demand and growth in recreational, commercial, agricultural, and governmental uses. The system is not, however, presently capable of supplying the 1355 units possible at maximum buildout. To ensure that adequate water will be available for this development and that visitor-serving and other priority coastal uses will be supplied, the County shall notify NMCWD after 300 additional units have been built in the service area so that water system expansions may be planned. After 354 more units have been built or 755 total, the County shall cease issuing residential building permits unless NMCWD certifies that capacity is available.

   c. Northern Inverness Ridge. Inverness and Seahaven receive water from the Inverness Public Utilities District (IPUD). The Inverness water system has marginal water supplies in *dry* years and major inadequacies in treatment and distribution facilities. IPUD is in the process of making improvements in its built system, anticipated for completion in 1981, to bring it up to public health standards. No expansion of existing water sources is planned at the present

time.

Experience with the water system and available streamflow data indicate that additional development could not reliably be served from IPUD's existing sources. During the 1976-77 drought, water supplies were considerably below the minimum level of consumption,-for the system. Although drought year conditions were extreme, the magnitude of the deficiency created indicates that other less dry years will also cause a water shortage, especially if additional units are constructed in the service area. Increasing drought year flows by 25% to account for their infrequency only brings source flows up to a level which is sufficient for current consumption.

Therefore, until IPUD demonstrates reliable flow levels from its present sources or expands those sources, no new development shall be permitted in its service area except in accordance with the other policies in this section. (The water service area is defined as being congruent with that of the fire district). When additional water supply is determined to exist, the County and IPUD should develop procedures to assure that adequate water will be available for visitor-serving and other priority coastal uses.
Development proposals in the service area of Bayside Mutual Water Company shall be evaluated under the same policies as new projects in IPUD's service area.

In the review of a coastal development permit application for expansion of the service facilities or service capacity for the Inverness Public Utilities District,. a-system should be designed and instituted to reserve a portion of such added capacity for visitor-serving uses. Such reservation should be sufficient to serve the same percentage of the maximum possible expansion of such uses as allowed by the Plan as the portion of total possible residential growth within the service area that would be' served by the capacity expansion. At each five year review of the Local Coastal Plan, buildout rates will be reviewed, and any requests for revisions in the capacity reserve will be processed as an amendment of the Local Coastal Program.

d. Dillon Beach**.** Due to the lack of recent field testing and uncertainty regarding occupancy trends in Dillon Beach, the availability of water for additional development in residential planned districts that are in the coastal zone in the Dillon Beach Planning Area, which is described in the Dillon Beach Community Plan, must demonstrate that water is available before densities greater than 1 unit per parcel are permitted. Similarly, proposed commercial development in commercial planned districts (C-RMPC and C-RCR) must demonstrate that water is available before additional development is permitted.

[Amended pursuant to BOS Resolution No. 88-333 (Attachment 1, p.23) [12/20/88], approved by CCC with suggested modifications 4/12/89, 2nd BOS Resolution No. 89-216 [8/8/89], CCC ED Checkoff 4/13/90]

e. Development standards for wells and other sources.

(1) Permit required. A coastal permit shall be required to drill any well, including individual and community wells, and exploratory wells. A permit shall also be required to tap other water sources, such as springs or streams.

(2) Individual sources. In areas where individual water wells or other individual domestic water sources are permitted, the applicant shall demonstrate from on-site tests that a sustained water yield of at least 1.5 gpm per residential unit is available prior to the issuance of a building permit or tentative map. Higher yields may be required for fire protection purposes, as recommended by the appropriate fire protection agency.

(3) Community sources. New community or mutual water wells or other sources serving 5 or more parcels shall demonstrate by professional engineering studies, including as necessary, long-term monitoring programs, that such groundwater or stream withdrawals will not adversely affect coastal* resources, including groundwater basins, aquifers, and streams. Such engineering studies shall provide the basis for establishing safe sustained yields from these sources.

f. Fire protection. All proposed building permits and land divisions shall be reviewed by the County Fire Chief or other appropriate fire protection agency prior to the issuance of a coastal development permit so that additional requirements for fire protection, including water storage facilities, sprinkler systems, or fire hydrants, may be added as necessary.

3. Sewage disposal.

a. On-site sewage disposal. All on-site sewage disposal systems in the coastal zone shall be evaluated as follows:

(1) Septic systems. All septic systems shall meet the standards contained in either the Minimum Guidelines for the Control of Individual Wastewater Treatment and Disposal System adopted by the Regional Water Quality Control Board on April 17, 1979 or the County's revised septic system code, when approved by the Regional Board. No waivers shall be granted unless a public entity has formally assumed responsibility for inspecting, monitoring, and enforcing the maintenance of the system in accordance with criteria adopted by the Regional Board, or such waivers have otherwise been reviewed and approved by the Regional Board. (See Appendix C)

(2) Expansions or alterations. Where a coastal development permit is necessary for an enlargement or change in the type or intensity of use of an existing structure, the existing or enlarged septic system must meet the Minimum Guidelines of the Regional Water Quality Control Board, or the County's revised septic system code as approved by the Regional Board, before a permit for such enlargement or change can be granted.

(3) Reconstruction of existing systems. A septic system or other sewage disposal facility which serves a residential dwelling damaged or destroyed by natural disaster may be rebuilt along with the reconstruction of the dwelling. If the septic system or other facility is substandard, every effort shall be made to bring it into conformance with County Code.

(4) Alternative systems. The County recommends that provisions be included in the County code to allow alternative sewage disposal systems to be utilized. Until such provisions are incorporated into the code and approved by the Regional Water Quality Control Board however, alternative systems shall only be permitted where a public entity has formally assumed responsibility for inspecting, monitoring, and enforcing the maintenance of the systems in accordance with criteria adopted by the Regional Board.

(5) Maintenance. The County supports the establishment of a septic tank maintenance district (s) in the coastal zone for the purpose of monitoring and inspecting septic systems there. To provide for inspection of existing systems. not now subject to periodic review under County code, the County shall investigate the possibility of adopting a Countywide ordinance requiring the inspection of a septic system upon resale of the associated single-family dwelling.

b. Point Reyes Station and Olema. Due to the potential for cumulative impacts which exists in these communities from buildout on small lots utilizing septic' systems, the County shall revise zoning densities to reflect sewage disposal constraints. In Point Reyes Station, a minimum lot size of 10,000 square feet shall be maintained in the area zoned VCR, and a minimum of 20,000 sq ft in the area zoned A-2:B-2. In Olema, minimum lot sizes of 20,000 sq ft shall be maintained east of Highway 1, while 1 acre minimums shall be maintained for all lots bordering Olema Creek.

A study to identify and quantify possible sewage disposal problems and cumulative impacts in Point Reyes Station is recommended. if and when a community sewer is constructed, higher zoning densities may be reconsidered to accommodate housing needs.

c. Inverness Ridge and the shoreline of Tomales Bay. These areas have numerous lots which are less than one acre in size and which, because of soil, slope, and/or groundwater characteristics are problematical for sewage disposal. Development on these lots may proceed only if the standards contained in the Minimum Guidelines of the Regional Board, mentioned in (a) above, or the County's revised septic system code as approved by the Regional Board, are met.

(2) Tomales. The town of Tomales is served by a community sewer system in the downtown village core and by onsite sewage disposal systems in the outlying areas. Buildout in the outlying areas can apparently proceed without cumulative impacts if County codes on wells and septic systems and the standards of the Regional Water Quality Control Board are met. Sewer capacity in the downtown is adequate to handle all

residential, commercial, and other uses anticipated at buildout. No reservation for visitor-serving and other priority uses is necessary due to the large excess capacity.

e. **Dillon Beach.** The single-family lots in Oceana Marin are served by a community sewer system operated by North Marin Water District (NMWD). The multi-family parcels are not in NMWD's service area and would have to be annexed to NMWD to receive service. Based on current information, there is remaining system capacity for approximately 30 more units than are built today. Construction of additional phases will be necessary to serve all 252 single-family lots in the present service area. To ensure that sewage will be disposed of adequately as buildout proceeds, the County shall continue to require certification of adequate capacity from NMWD prior to issuing building permits for new units.

Several system expansion alternatives exist, including expanding the existing system on the hilltop above Oceana Marin and constructing a new system in the dunes south of the Village. Neither alternative is considered superior at this time. There are considerable trade-offs between the energy costs associated with pumping uphill and potential environmental impacts of constructing a pipeline from Oceana Marin to the dunes and the leachfield itself. The system expansion must be sited out of environmentally sensitive habitat areas, screened from public view, and sited so as not to interfere with recreational or agricultural uses in the area. The potential growth-inducing impacts would also have to be evaluated.

The village, Lawson's Dillon Beach Resort, Lawson's Landing, and the surrounding agricultural areas rely on individual, onsite septic systems. The combination of sandy soils and seasonal occupancy has so far allowed most septic systems to function effectively.

The methods of sewage disposal at Lawson's Landing, however, have caused problems in the past. As part of any expansion or redevelopment plan for Lawson's Landing, improvements in sewage disposal facilities shall be required, in accordance with the recommendations of the Regional Water Quality Control Board.

due to the potential for substantially greater development on the multi-family parcels in Oceana Marin and at Lawson's Dillon Beach Resort, proposed development in all planned districts in these areas (C-RMP, C-RMPC, and C-RCR) shall demonstrate prior to approval that safe and environmentally-sound sewage disposal is available.

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4. Transportation and road capacity.

a. Highway 1. Highway 1 provides an important and limited access route to the coastal zone. As required by the Coastal Act, Highway 1 shall remain a scenic two-lane roadway. Improvements shall not, either individually or cumulatively, detract from the rural scenic characteristics of the highway and, beyond repair and maintenance, shall be limited to the following minor projects: slope stabilization, drainage control, and minor safety improvements such as guardrail placement, signing etc; expansion of shoulder paving to accommodate bicycle or pedestrian traffic; creation of slow traffic and vista turn-outs, as a safety and convenience improvement; and other minor improvements necessary to adequately accommodate public transit consistent with the goals of this

policy, provided that no filling of streams or wetlands occurs.

b. Sir Francis Drake Boulevard. Sir Francis Drake Boulevard provides a scenic driving experience for coastal visitors and an important access road for local residents. In order to protect its scenic rural character, the road shall be maintained as a two-lane roadway. Sir Francis Drake has adequate capacity to handle increased recreational and local traffic, although traffic patterns do occasionally create hazardous conditions for pedestrians and bicyclists in the area of Inverness and Inverness Park. Improvements to address these problems, such as traffic control devices, shall be investigated.

c. Alternative methods of transportation. The County discourages the excessive use of private automobiles and strongly supports the development of expanded public transit and other alternative methods of transportation in the coastal zone, such as bicycles. Bicycle and pedestrian paths, separated from roads where possible, are especially encouraged. The development of new transit service routes and associated loading and turning areas is also encouraged, consistent with the goal of utilizing public transit to meet current and increased use of coastal access and recreational areas.

NEW DEVELOPMENT AND LAND USE

COASTAL ACT POLICIES

All of the policies in Chapter 3 of the Coastal Act apply to the issue of new development and land use. Those policies on public access and recreation, water and marine resources, agriculture, and public services have been discussed in earlier sections of this plan. The remaining policies, covered below, include those on historical and archaeological resources (Sections 30244 and 30253 of the Coastal Act), visual resources (Section 30251), housing (Section 30213), hazards (Section 30253), watershed and water quality protection, grading (Section 30231), energy and industrial development (Sections 30260 through 30264), and the location of new development (Section 30250). The full text of these policies can be found in Appendix A.

HISTORICAL AND ARCHEOLOGICAL RESOURCES

The Coastal Act contains two policies on historical and archeological resources. Section 30244 provides that "where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer., reasonable mitigation measures shall be required." Section 30253 provides in part that new development shall protect special communities and neighborhoods. The intent of these policies is to protect resources which contribute to the unique cultural and visual character of the coastal zone.

The Unit II coastal zone has numerous structures and sites of historical and archaeological significance, some of which have been identified in community plans or by local agencies. The Countywide Plan-includes a general protection policy on historical structures in the West Marin villages: "Historic structures should be preserved and the long-established character of village centers should be enhanced" (p 3-26). The community plans for Point Reyes Station, Inverness, and Tomales also encourage the retention and restoration of historically significant structures through the preservation of existing buildings and design review of new structures. Currently, the County has no established commission or review board with responsibility for protecting historical resources, although the Tomales Community Plan recommends that the County explore the possibility of creating such a board.

The Unit II coastal communities are historically important and aesthetically unique. The LCP provides that all structures in the coastal zone built prior to 1930 should be reviewed through the coastal permit process, before being altered or demolished. Additionally, the LCP designates specific areas within the Unit II coastal zone as "historic areas". New construction, and additions to or demolition of existing structures, will require a coastal permit.

Boundaries for historic areas were selected to include groups of unique and architecturally significant structures that are visually accessible to both local residents and visitors. Community input and additional historic survey are encouraged as part of the coastal plan. After survey, historic area boundaries could be revised through the public review process.

All pre-1930's structures in the coastal zone are eligible for utilization of the State Historic Building Code, an alternative to the Uniform Building Code. This alternative code can aid property owners in the retention of historic character of buildings that undergo restoration and rehabilitation, and can result in cost savings.

As far as archaeological resources are concerned, the Unit I LCP directs the County to maintain a file containing information on known and suspected archaeological sites in the coastal zone, in cooperation with the State Historic Preservation Officer. In areas of known or suspected archaeological significance, field surveys are required prior to development in order to determine the extent of archaeological resources. Where development would adversely affect such. resources, mitigation measures or special construction techniques may be required. Unit II policies on archaeological resources are essentially the same as Unit I, except that the area clearinghouse is utilized instead of the State Historic Preservation Officer. The County currently maintains only limited information on archaeological sites. The major resource on such sites is located at Sonoma State, the designated clearinghouse for archaeological resources in Marin County. (The clearinghouse may soon be moved to San Francisco State.) All known sites in Marin, as well as those newly discovered through the EIR process or by other means, are listed with the clearinghouse and from there, are conveyed to the State Historic Preservation-Officer. The Unit II LCP recommends that this procedure be continued.

VISUAL RESOURCES

Coastal Act policies on visual quality, found in Section 30251, require the protection of scenic and visual resources of coastal areas, Visual resources, including beaches, wetlands, and other natural as well as manmade features, are vulnerable to degradation through improper location of development, blockage of coastal views, alteration of natural land forms by poor cutting, grading, and filling practices, and by poor design or placement of roadside signs and utility lines. The primary concern of the Coastal Act is to protect views to scenic resources from public roads, beaches, trails, and vista points.

Tomales Bay and adjacent lands in the Unit II coastal zone form a scenic panorama of unusual beauty and contrast. The magnificent visual character of Unit II lands is a major attraction to the many tourists who visit the area, as well as to the people who live there. New development in sensitive visual areas, such as along the shoreline of Tomales Bay and on the open rolling grasslands east of the Bay, has the potential for significant adverse visual impacts unless very carefully sited and designed.

The County has a design review ordinance for the purposes of protecting visual quality and stimulating creative design. The ordinance establishes design standards for new developments in planned districts. In standard zoning districts, single family dwellings and some agricultural developments are exempt from review. Both the shoreline of Tomales Bay and agricultural lands in Unit II are rezoned in the LCP from standard to planned districts in order to bring them under master plan and design review standards and to allow design flexibility in these sensitive areas. The LCP also provides general policy guidelines on the protection of visual quality.

HOUSING

The housing policies of the Coastal Act, contained in Section 30213, focus on the needs of persons of low and moderate income. The Act's policies

require that existing low and moderate income housing opportunities be protected and that new low and moderate income housing be provided where feasible, in conformity with the goals and policies of the local housing element. The State Coastal Commission has adopted Statewide Interpretive Guidelines on housing which elaborate upon the Act's policies and which define low and moderate income households in accordance with the regulations of the California Housing Finance Agency. These definitions, the same as those used by Marin County, are as follows:

A "very low income household" is a household whose income does not exceed 50 percent of the median income for the area, as determined by HUD (U.S. Department of Housing and Urban Development), with adjustments for smaller and larger households.

A "low income household" is a household whose income does not exceed 80 per cent of the median income for the area, as determined by HUD with adjustments for smaller or larger households.

A "moderate income household" is a household whose income does not exceed 120 percent of the median income for the area, as determined by HUD with adjustments for smaller or larger households.

The County recently adopted an expanded and refined Housing Element to comply with the state housing element guidelines. The Element describes the numerous on-going programs in the County to increase housing opportunities for persons of low and moderate income. These programs include various rental subsidy plans, establishment of a housing development financing corporation to assist lower-income projects, an inclusionary zoning ordinance requiring 10 percent of units in new developments of 15 or more units to be made available to low or moderate income households, land acquisition for - housing sites, housing rehabilitation loans, and a condominium conversion ordinance limiting the conversion of rental units to condominiums.

Most of these existing Countywide programs to encourage low and moderate housing are not applicable in the coastal zone, and major obstacles stand in the way of developing additional coastal housing which is affordable to lower income groups. The prevailing zoning in the coastal zone permits only low-density development in order to protect West Marin's rural character and because of the absence of community sewer systems. These low densities, the small scale of housing development, and very high land and construction costs effectively preclude high density projects which would be eligible for housing subsidies and which could be made available to lower income groups. A real housing need is experienced, however, by those seeking to live and work in West Marin who cannot afford to buy or build their own single-family dwelling.

To address low and moderate income housing needs in the coastal zone, the LCP retains zoning for small 6,000 to 20,000 sq ft lots in Tomales, Point Reyes Station, Olema, and Dillon Beach. If and when a sewer is constructed in Point Reyes Station, higher densities may be reconsidered. The County is also investigating the adoption of a second-unit ordinance as a means of expanding the low-moderate income housing stock. To protect existing lower income units, the LCP strictly limits the conditions in which such units can be demolished. This policy is substantially the same as that adopted in the Unit I LCP, although minor language changes have been made to permit the demolition of hazardous structures even though no replacement housing is built.

HAZARDS

Section 30253 of the Coastal Act provides in part that new development be sited and designed to minimize risks in geologic, flood, or fire hazard areas or in areas where the danger of cliff or bluff erosion exists. The Act also prohibits the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

The major geologic hazard in the Unit II coastal zone is a potential earthquake along the San Andreas fault. This fault runs northwest to southeast through the center of Tomales Bay, north to within 1/2 mile of Dillon Beach and south through the Olema Valley. The epicenter of the great 1906 earthquake was located along the fault, very near the town of Olema. Geologists have estimated that earthquakes of magnitude 7 or greater, with horizontal displacements on the order of 10 feet, can be expected to occur on the Tomales. Bay section of the fault every 75 to 300 years. Such earthquakes can be expected to cause extensive ground shaking, ground breaking, lurching, landslides, and faulting in the upland areas of Unit 11, and severe liquefaction along the shoreline of Tomales Bay.

The California Division of Mines and Geology has mapped earthquake hazard zones throughout the State, pursuant to the Alquist-Priolo Special Studies Zones Act of 1972. The earthquake hazard zone in Unit II includes most of the water area of Tomales Bay, Tom's and Sand Points to the north, and parts of Millerton and Tomasini Points to the south. South of Inverness, the earthquake zone extends onto the shore and includes areas on both sides of Sir Francis Drake Boulevard, small parts of Inverness Park, and all lands between Inverness Park and Point Reyes Station, as well as the town of Olema. The State Mining and Geology Board has adopted policies on earthquake hazard zones which prohibit new structures for human occupancy on or within 50 feet of an active fault trace, recommend more stringent guidelines for critical community structures such as hospitals, and require a geologic report to accompany an application for a development permit within a special studies zone. The County has adopted special procedures for reviewing development projects within earthquake zones, in keeping with the policies of the State Mining and Geology Board and the requirements of the Alquist-Priolo Act.

Erosion of beaches and bluffs constitutes the second major hazard in the Unit II coastal zone. Seawalls and riprap have been placed in some locations around Tomales Bay to prevent beach erosion, such as in the Marshall area, and at least one application has been made to the Coastal Commission for a permit to construct a groin. The Coastal Act policy on hazards provides that new development avoid the need for such protective structures, especially if the development is not coastal-dependent. LCP policies on shoreline protective works are given on page 132.

Bluff erosion is a significant hazard in the area north of Dillon Beach to the Estero de San Antonio, including the Oceana Marin subdivision. This area has been described by Clyde Wahrhaftig in his Report on the Geology of the Coast Between Dillon Beach and Estero San Antonio, Marin County, California, 1970, as follows:

> The coast of Marin County north of Dillon Beach is underlain largely by unstable masses of relatively impermeable crushed sandstone and shale, and is subject to very active landsliding. Retreat of the bluff top at the head of the landslides may average a foot or more a year, and cannot practically be controlled by riprapping at the base of the bluff. Soils formed from this material have a high content of swelling clays and will present serious foundation problems aside from the landslides. A perennially high water table in this impermeable material is suggested by numerous seeps, springs, and patches of tules on the upland above the bluff, and would seriously interfere with underground sewage disposal such as by septic tanks and drain fields. In addition, the effluent water from such sewage-disposal procedures would probably intensify landslide activity.

The coast north of Dillon Beach has also been identified by the State as an area *where* existing homes are endangered by bluff erosion and future development would be, seriously threatened: A report issued by the State department of Navigation and ocean Development in 1977, Assessment and Atlas of Shoreline Erosion Along the California Coast, categorized this section of coast as "critical" for erosion and bluff hazards. Erosion hazards in Oceana Marin have also been recognized by the Regional Coastal Commission in its development standards for the subdivision. Site-specific recommendations by a soils engineer have been required in the past for new single-family homes, in order to address the hazards of building on steep slopes, landslides, slumping, bluff and wave erosion hazards.

Based on Coastal Act policies, bluff and cliff developments must be sited and designed to ensure stability and structural integrity for their expected economic lifespans while minimizing the alteration of natural landforms. The County Building Department presently reviews foundation plans and the Land Development Department reviews drainage, grading, and site plans. Both reviews are made on a case-by-case basis. LCP policies on hazards for Unit II support this procedure and establish general standards for development on bluffs and in other hazardous areas. The LCP also rezones the undeveloped land between the Oceana Marin subdivision and Estero de San Antonio from A-2 to APZ-60, in recognition of its development constraints due to eroding coastal bluffs in the area, visual impacts, water quality impacts on the Estero de San Antonio, and agricultural character.

WATERSHED AND WATER QUALITY PROTECTION/GRADING

In addition to Section 30253 which requires that new development neither create nor contribute significantly to erosion, Sections 30231 and 30251 of the Coastal Act require that the biological productivity and quality of coastal waters, streams, and wetlands be maintained and that development be sited to minimize the alteration of natural land forms.

Development can have several impacts on the quality of coastal waters and on the visual appearance of natural landforms. Land disturbances can result in the loss of soil and slope stability as well as increased erosion. The removal of vegetation eliminates stabilizing roots, increases erosion, and thus lowers downstream water quality as a result of siltation. Heavy rains on unstable slopes can cause landslides and slumping. Development also increases the rate and volume of runoff by increasing the amount of impermeable surfaces, causing increased erosion and flood hazards, and reduced groundwater recharge. Finally, runoff from developed land surfaces is often contaminated with a wide variety of commercial, agricultural, or domestic residues which can adversely effect marine organisms and habitats. All of these development impacts can result in high costs to property owners and local communities, either for repairs or for protective measures to prevent further damage. In addition, the loss of scenic values and reduced biological productivity of streams and wetlands can have other public costs.

In order to minimize adverse impacts from development in a manner consistent with the Coastal Act policies cited above, additional grading standards are proposed in the Unit II LCP, similar to those adopted in Unit I.

ENERGY AND INDUSTRIAL DEVELOPMENT

The Coastal Act, while stressing the protection of coastal resources, recognizes that some development of energy facilities and resources is necessary for the social and economic well-being of the State and Nation. In Sections 30260 through 30264, the Act contains provisions for several types of energy development, including oil and gas development, thermal power plants, liquefied natural gas, and other related facilities. The coastal zone of Marin County currently has no energy or industrial facilities, although the possibility of two types of energy development has been considered: power plants and offshore oil development.

The Coastal Act requires the Coastal Commission to designate specific areas of the coastal zone that are not suitable for siting new power plants or related facilities. In September 1978, the State Commission adopted "negative designations" for the coastal zone (subsequently revised in January 1980). In Marin County's Unit 11, all lands were negatively designated (or excluded) for potential power plant development except those agricultural lands located north of Walker Creek, in spite of a recommendation from the Regional Commission supporting total exclusion of all Unit II lands. Thus, these agricultural areas are still open for potential development of power plants as far as the State Coastal Commission is concerned.

The second major potential energy development in Unit II (considerably more likely than power plants) is oil and gas drilling offshore or outer continental shelf (OCS) development. The federal government's Department of Interior has proposed a five-year lease plan calling for three OCS lease sales off the northern coast of California by 1984. Lease Sale #53, the first of these sales which is now in the environmental review stages, includes eight tracts off the Marin/Sonoma Coast covering 72 square miles in waters up to 600 feet deep.

In June 1980, the Marin County Board of Supervisors formerly testified to the Department of Interior in opposition to any federal leasing of OCS lands off the Marin Coast for oil and gas exploration and development. Marin County's position is based on low petroleum yield estimates in the offshore tracts, probable risks to the fragile coastline environment and economy, and inadequate environmental data upon which to base long-term policy decisions on resource exploitation. The County has supported the State of California's official position which calls for deletion of all offshore tracts between Monterey and Mendocino counties from the five-year plan.

LOCATION AND DENSITY OF NEW DEVELOPMENT

The location and density. of new development is a major policy concern of the Coastal Act. This issue is addressed in Section 30250(a) of the Act which provides in part that new development shall be located within, contiguous with, or in close proximity to existing developed areas or in areas with adequate public services and where it will not have significant adverse affects on coastal resources.

In the Unit II coastal zone, current county and community plan policies direct most new development to existing villages, The plans also establish community expansion areas for the villages and set development densities. (An evaluation of these expansion boundaries in light. of Coastal Act policies has been included in the agriculture section of the LCP, under the issue of Urban/rural boundaries on page M 7 As shown in Table 24, there are approximately 130.0 existing residential units in the coastal villages, with the potential for an additional 1700 units, an increase of 130 Thus at buildout under existing zoning, a total of 3000+ residential units are possible in Unit IT. The LCP reduces this number by approximately 400.

The land use recommendations in the LCP are largely based on the County's existing plans. Selected modifications are proposed, however, to bring the plans into conformance with the requirements of the Coastal Act. The land use proposals in this section of the LCP consider all previous sections of the plan and the policies developed to implement those sections. Thus, development recommendations take into account policies on public access, natural resource protection, agricultural lands preservation, public trust lands, shoreline hazards and dredging/filling, public service constraints, and visitor-serving facilities. For each of the coastal villages discussed below, the various coastal issues presented by new development are summarized, along with the land use changes proposed in the LCP. A brief description of development densities, public services, and commercial zoning for each community is given as background.

Olema

The small village of Olema is completely surrounded by federal parklands, which form its expansion boundary. Existing land uses in the community consist of limited residential, commercial, and recreational developments. Current zoning, much of which is considerably outdated, would allow a four-fold increase in the number. of residential units, primarily on lots of 10,000 square feet. All new development would utilize on-site septic systems. Current zoning would also permit extensive strip commercial development and allow the creation of small 10,000 square foot lots along Olema Creek, a major blue-line stream.

Table 20. Residential Buildout Figures for the Unit II Coastal Zone Under Existing County and Community Plan Zoning, and the LCP

Community	Existing Units	Vacant Lots	Additional Lots by Subdivision	Total Additional	Full Buildout	LCP Zoning (estimate)
Olema	27	--	--	103	130	60
Point Reyes Station	186	--	--	615	801	600
Inverness Ridge:						
Inverness Park/ Silver	155	65	18	83	198	188
Hills	85	109	3	112	197	197
PRE	460[1]	105	46	151	611	611
IPUD	70	40	32	72	142	142
Well areas	10	1	1	2	12	12
Hamilton Mutual	740	320	100	420	1160	1150
SUBTOTAL						
Marshall/ east Tomales Bay	70	56	4	60	130	128
Tomales	91	--	--	102	193	193
Dillon Beach:						
Village	151	19	0	19	170	170
Lawson's Dillon	13	6	0	44	57	57
Beach Resort	133	138	0	172	305	305
Oceana Marin	297	163	0	235	532	532
SUBTOTAL						
TOTALS:	1392 1,411	--	--	1521 1,535	2913 2,946	2630 2,663

[1] Includes some units on wells
[2] From Dillon Beach Community Plan, Appendix I, Table I-7. Each planned district is counted as a single lot for the purposes of this LCP table.

[Dillon Beach figures were amended pursuant to BOS Resolution No. 88-333 (Attachment 1, p.25) [12/20/88], approved by CCC with suggested modifications 4/12/89, 2nd BOS Resolution No. 89-216 [8/8/89], CCC ED Checkoff 4/13/90]

[Tomales figures and final "Totals" were amended pursuant to BOS Resolution No. 96-140 (Attachment 3, p. 9) [10/1/96], approved by CCC as submitted 2/5/97, 2nd BOS Resolution No. 97-22 [3/11/97], CCC ED Checkoff 5/16/97]

The development pattern permitted under existing zoning would not provide adequate protection for the resources and water quality of Olema Creek, ensure adequate sewage disposal in the long-term, concentrate development in the village center, preserve agricultural lands, and protect the visual and historical character of the community, as required by Coastal Act policies. In order to bring land use designations into conformance with the Act, the LCP makes zoning and density changes which eliminate strip commercial zoning, increase minimum lot sizes to 20,000 square feet, or 1 acre, and allow mixed commercial and residential uses in the village center.

Point Reyes Station

The community of Point Reyes Station has 186 residential units with a potential for 801 total, an increase of 330%. Community expansion boundaries have been defined by the 1976 community plan to include a village core zoned VCR, residential areas zoned for 10,000 square foot lots, and low-density planned residential districts. Water is supplied to the community by the North Marin County Water District which derives its supply from Lagunitas Creek. Sewage disposal is by on-site septic systems. Point Reyes Station has been targeted for expanded commercial and visitor-serving development by the community plan and other county plans.

The major coastal issues with new development in Point Reyes Station involve the density of development in relation to sewage disposal constraints, the location of community expansion boundaries, the lack of adequate parking in the downtown, and the limited room for commercial expansion. Existing zoning permits lots of 7500 and 10,000 square feet which create the potential for cumulative impacts as the community builds out. The community expansion boundary includes Martinelli Farms, an area which was excluded from the community by the Regional Coastal Commission. The parking situation downtown causes congestion on Highway 1 and could limit commercial development in the future. Expanded commercial development is also somewhat limited by the tightly drawn boundary of the VCR zone,

To address these issues, the LCP increases minimum lot sizes to 10,000 and 20,000 square feet, reducing the potential for cumulative impacts from buildout on septic systems. The LCP also expands the VCR zone by three blocks and identifies numerous sites for visitor-serving facilities. Martinelli Farms has been included within the community expansion boundary for development with visitor-serving uses, as encouraged by the Coastal Act.

Inverness Ridge

Development on the Inverness Ridge is limited by Tomales Bay to the east and public parklands to the west, north, and south. These features serve as the expansion boundary for growth on the Ridge. Currently, there are 740 residential units distributed from Inverness Park to Seahaven. Existing zoning, recently amended through the community plan, would permit an additional 420 units, for a total of 1160. Water supply for development is provided by North Mann County Water District, Inverness Public Utilities District, small mutual water companies, and on-site wells. Use of on-site septic systems is the method of sewage disposal. Commercial development is fairly limited, although most of the existing overnight accommodations in the Unit II coastal zone are found on the Inverness Ridge.

Major coastal issues surrounding new development on the Ridge include the lack of adequate community water supplies, potential cumulative impacts of buildout utilizing septic systems, impacts from erosion and sedimentation on the water quality of Tomales Bay, and limited fire protection and road capacities. These issues have been especially problematical in the Paradise Ranch Estates subdivision, where the Coastal Commission has had an informal moratorium on development since 1977.

Local, state, and federal agencies have recognized the significant adverse impacts which could result from additional development on the Ridge and have taken steps to mitigate those impacts. The County substantially reduced zoning densities through the Inverness Ridge Communities Plan, adopted in 1979. That plan reduced the total number of potential units and population on the Ridge by two-thirds, from over 3,000 units to approximately 1100. The state government, through the Coastal Conservancy, has funded a study of lot consolidation in Paradise Ranch Estates with the purpose of identifying highly sensitive undeveloped properties and transferring or reducing their development potential. The activities of the federal government have also reduced development potential on the Ridge. Recent federal legislation authorized federal purchase of lands in Haggerty Gulch and properties in and adjacent to Paradise Ranch Estates for inclusion in the Point Reyes National Seashore.

Building on the actions by other government agencies, the LCP proposes policies on water supply and sewage disposal to ensure that adequate services will be available for new development and cumulative impacts will he minimized. Only very limited rezonings are recommended by the LCP: lands purchased by the federal or state governments for public parkland are rezoned to 0-A (open area) and zoning designations of commercially zoned properties are modified to allow master plan review. Development in Paradise Ranch Estates is not allowed until the. results of the Coastal Conservancy study are known.

The Shoreline of Tomales Bay

Most of the shoreline of Tomales Bay was subdivided many years: ago into approximately 240 small lots which form a narrow continuous string of building sites between the Bay and Highway 1 or'' Sir Francis Drake Boulevard. Roughly 120 or 50% of these lots have been developed with single-family homes, commercial establishments, marinas, or boatworks. The remaining 120 lots are undeveloped. There are no defined community expansion boundaries for any developed areas on the shoreline of the Bay although existing development on the east shore is generally clustered in small sheltered pockets. On the west shore, by contrast, development is more evenly distributed along the Bay between Seahaven and Inverness Park. Water supply for the east shore and part of the west shore is provided by onsite wells or springs. The remaining areas on the west shore receive water from North Mann County Water District or Inverness Public Utilities District. Sewage disposal for all shoreline lots is provided by on-site septic systems, holding tanks, or other means. Most areas on the shoreline are zoned A-2, an old zoning designation which bears little relation to the character of existing or potential development.

The shoreline of Tomales Bay is perhaps the most sensitive area with development potential in the Unit II coastal zone. Many shoreline parcels are less than 200 feet in width and are characterized by steep or sloping terrain and sandy or rocky beaches. Much of the legally defined parcel area of these shoreline lots is under water all or part of the time. -Buildout in this area could have many significant adverse environmental impacts, including impacts on the water quality and marine resources of Tomales Bay, blockage of public physical and visual access to the water, adverse impacts on mariculture operations in the Bay and further loss of valuable coastal habitats such as mudflats and beaches. Buildout of existing lots would also be inconsistent with Coastal Act policies requiring the concentration of new development and the protection of coastal lands for coastal-dependent uses. There are major public service constraints on new shoreline development as well. Water is lacking and most lots cannot support on-site sewage disposal systems in a manner consistent with the County's septic systems code and the standards of the Regional Water Quality Control Board. The presence of public trust lands is also an issue for new shoreline development. The State of California holds a public trust easement over tidelands and submerged lands in Tomales Bay which limits the purposes for which these lands can be developed. To date, the State Lands Commission, the agency which administers the trust, has not clearly defined the boundary of public trust lands in Tomales Bay or the specific uses which are or are not appropriate. Thus, the effect of the public trust on shoreline land uses is still unclear.

In recognition of the special resource qualities of the Tomales Bay shoreline and the potential impacts which could occur from further-development, the federal government has approved legislation authorizing purchase of undeveloped lots on both sides of the Bay for inclusion in the Point Reyes National Seashore, or the Golden Gate National Recreation Area. This purchase includes undeveloped lots on the west side of the Bay between Whitehouse Pool and Chicken Ranch Beach, and on the east side, undeveloped lots between the Tomales Bay Ecological Reserve and Miller Park, excluding the town of Marshall. The town of Marshall has since been defined to include the area from the Post Office Building on the north down to and including the Marshall Boat Works to the south. (see Federal Parklands, p.591,

The County's ability to limit development on these sensitive shoreline lots through standard zoning techniques is limited by the fact that the lots have already been subdivided and most are owned by different individuals. Thus, reduced zoning densities have little effect on development potential. In order to address this difficulty to the extent possible, the LCP recommends that shoreline residential parcels, both developed and undeveloped, be rezoned to planned residential (RSP) zones. The RSP zone requires design review of all permits and allows the construction of single-family detached units without the confines of specific yard requirements. In a situation such as exists on the shoreline of Tomales Bay, the RSP zone permits flexibility in siting and design so that maximum protection of sensitive sites can be achieved. Proposed developments are also-subject to height limitations and other standards. In addition to the RSP change, other rezonings proposed for the shoreline of Tomales Bay include limited expansion of commercial zones to allow development of visitor-serving and marina facilities, changes in public parkland designations to O-A (open area), and some agricultural rezonings.

Tomales. As of 1995, there were 91 dwelling units in Tomales. Based on 1990 U.S. Census Bureau data, Tomales has a population of approximately 225 persons. Historically, the rate of residential development within Tomales has been slow with an average of only about one unit per year over the last 20 years. Several factors contribute to the slow rate of residential development, including the remote location of Tomales, water and sewer availability, and real estate market considerations. At buildout, the number of dwelling units in Tomales could increase to 193 units and the population could increase to approximately 440 persons. However, these projections are extremely hypothetical maximums which assume that the maximum residential densities under the various zoning designations would occur and that an adequate supply of water and either public sewer capacity or private on-site sewage disposal capacity would be available. Most future residential development would occur in the village core area where properties are zoned for higher residential densities at one unit per 6,000 square feet and are located either within or immediately adjacent to the sewer system service area.

The LCP supports the community plan policy to rezone all land within Tomales that is zoned C-R-A:B-1 to C-RSP-7.26. The community supports this rezoning for the following three reasons: (1) to ensure design review of new development in these areas, so that development will be subjected to the design criteria and standards of C-RSP zoning districts; (2) to allow greater flexibility and discretionary authority and encourage creative design solutions as opposed to implementation of strict development standards; and (3) to maintain a general consistency of permitted and conditional uses in these areas. As recommended, the overall permitted residential density for these areas would not change.

With exception to the old high school site, no changes in commercial land use and zoning are recommended. The LCP supports policies of the community plan to rezone the old high school site. Thought the community plan recommends the commercial core of the village to remain zoned C-VCR, a minor change is recommended that would lower the maximum permitted residential density on a 2.75-acre portion of the old high school site west of Shoreline Highway. The subject, 2.75 acres, which are identified currently as APN 102-080-05 and -07, are zoned C-VCR with a maximum density of one unit per 30,000 square feet (C-VCR;B-3.5); however, the County is presently in the process of phasing out the “B-3.5” density suffix from the zoning code due to its limited use in the County. Accordingly, it is recommended to rezone these 2.75 acres from C-VCR:B-3.5 to C-VCR:B-4 to slightly lower the maximum permitted residential density from one unit per 30,000 square feet to one unit per acre. These decrease in density on this 2.75-acre portion of the old high school site would be off-set by an increase in density recommended in the community plan on the remaining portion of the old high school site (approximately 3.10 acres

identified currently as APN 102-080-04 and -05) from one unit per acre to 1.6 units per acre. Therefore, the overall permitted residential density for this site would not change.

The LCP supports the community plan policy to rezone two large agricultural properties adjacent to the community expansion boundary in their entirety to C-APZ-60. The subject properties are currently identified as APN 102-100-06 (Cerini) and APN 100-090-17 and -18 (Etemad). Both properties have minor portions that are zoned C-ARP; however, since these portions are located within the Agricultural Preserve which defines the community expansion boundary, are undeveloped, and are used for agriculture, the community plan recommends rezoning these portions to C-APZ-60.

All land within the Tomales community expansion boundary that is zoned C-ARP should remain zoned as such at current maximum densities (one unit per 2, 5, 10 and 20 acres).

[Amended pursuant to BOS Resolution No. 96-140 (Attachment 3, pp. 10-11) [10/1/96], approved by CCC as submitted 2/5/97, 2nd BOS Resolution No. 97-22 [3/11/97], CCC ED Checkoff 5/16/97]

Dillon Beach. The Oceana Marin, Village, and Lawson's Dillon Beach Resort areas of Dillon Beach together contain approximately 300 existing units, with the potential for an increase of nearly 100% to 593 units. This includes 134 new single-family units and 22 to 56 multi-family units in Oceana Marin, 19 new units in the Village, and 39 to 81 new units in Lawson's Dillon Beach Resort. Public services in the community, including water supply and sewage disposal, are limited to serve only a portion of potential buildout. Limited commercial development and zoning exists in Lawson's Dillon Beach Resort (C-RCR and C-RMPC), and south of the community expansion boundary in Lawson's Landing (C-RCR).

The major issues with new development in Dillon Beach include the appropriate density of development on multi-family parcels in Oceana Marin, and the density of residential and commercial development in Lawson's Dillon Beach Resort. Reductions have been made in the density of multi-family parcels in Oceana Marin in order to recognize the environmental characteristics of the sites and public service constraints. The planned district designation (C-RMP) for three of the four multi-family parcels has been retained and the single-family planned district designation (C-RSP) recommended for the fourth parcel (Parcel M). For the first time, residential densities for development in the C-RMPC planned district of Lawson's Dillon Beach Resort have been established. As with Oceana Marin, these densities are based on the environmental characteristics of the site and public service constraints. The Dillon Beach Community Plan also includes commercial density requirements for the C-RCR and C-RMPC districts of Lawson's Dillon Beach Resort.

[Amended pursuant to BOS Resolution No. 88-333 (Attachment 1, p.26) [12/20/88], approved by CCC with suggested modifications 4/12/89, 2nd BOS Resolution No. 89-216 [8/8/89], CCC ED Checkoff 4/13/90]

LCP POLICIES ON NEW DEVELOPMENT AND LAND USE:

1. Historic resources.

a. In order to protect the unique qualities and character of coastal communities in the Unit II coastal zone, historic structures shall be preserved and restored. The following means shall be used to protect and preserve historic structures:

(1) "Historic areas" shall be established in Tomales, Marshall, Point Reyes Station, Olema and Inverness. The boundaries of these areas are described and mapped in Appendix E of the Unit II LCP. Within these historic area boundaries, all new construction shall conform in scale, design, materials and texture with the surrounding community character.

5. Alterations and Additions. Alterations or additions to any structure built prior to 1930 shall require a coastal project permit;-except that, maintenance or repair to restore any pre-1930's structure to its original architectural character shall be exempt from the requirement of a coastal permit. Alterations or additions to any pre-1930 structure shall retain the scale and original architectural features of the structure, especially for the front facade.

(3) Demolitions. Demolition of any structure built prior to 1930 shall require a Coastal Project Permit; except that, demolition of any secondary or agricultural building built prior to 1930, may be exempted from the requirement for a coastal permit upon a finding by the Planning Director or appropriate hearing body that such structure is not a significant historic resource. Issuance of a Coastal Project Permit for the demolition of any pre-1930 structure may be delayed for a period not to exceed six months. During this period, the property owner or local historic group or society may attempt to find a purchaser or alternate location for the structure. This six month period may be waived by the Planning Director or appropriate hearing body upon a finding that the structure is not historically significant or cannot be rehabilitated.

- All coastal project permits for projects located within the boundaries of a historic area, and for projects involving pre-1930 buildings, shall be reviewed in accordance with:

(1) The "Design Guidelines for Construction in Historic Areas and for pre-1930 Structures" and,

(2) The "Historic Review Checklist", both located in Appendix E of the Unit II LCP.

c. All coastal project permits for historic structures shall be reviewed by established local planning or design review groups.

2. Archaeological Resources.

a. The County shall maintain a file on known and suspected archaeological and paleontological sites in the coastal zone, in cooperation with the area clearinghouse. Additional information on such sites that becomes available through the EIR process or by other means shall be added to the file and forwarded to the clearinghouse. The file shall be kept confidential in order to prevent vandalism of sites.

b. Prior to the approval of any development proposed within an area of known or

suspected archaeological or paleontological significance, a field survey by a qualified professional shall be required at the applicant's expense to determine the extent of archaeological or paleontological resources on the site. Where development would adversely impact identified resources, reasonable mitigation measures shall be required, as recommended in the field survey.

3. Visual resources.
   a. The height, scale, and design of new structures shall be compatible with the character of the surrounding natural or built environment. Structures shall be designed to follow the natural contours of the landscape and sited so as not to obstruct significant views as seen from public viewing places.
   b. Development shall be screened with appropriate landscaping; however such landscaping shall not, when mature, interfere with public views to and along the coast. The use of native plant material is encouraged.
   c. Signs shall be of a size, location, and appearance so as not to detract from scenic areas or views from public roads and other viewing points and shall conform to the County's sign ordinance.
   d. Distribution utility lines shall be placed underground in new developments to protect scenic resources except where the cost of undergrounding would be so high as to deny service.

4. Housing. The County of Marin strongly encourages the protection and provision of housing opportunities in its coastal zone for persons of low and moderate income (low and moderate income is defined in the County'˜s Housing Element). In order to protect housing opportunities for these groups, the following policies shall apply:
   a. The demolition of existing low and moderate income housing shall be permitted only when *such* demolition is necessary for health and safety reasons, or the costs of rehabilitation would result in housing costs which would not be affordable to low and moderate income households, or the units to be demolished are replaced˜ on a one-for-one basis with units of comparable rental value.
   b. The County has made a conscious effort to retain small-lot zoning (6000-10,000 sq ft) in Tomales, Point Reyes Station, and Olema for the purpose of providing˜housing opportunities at less expense than available in large-lot zones. In Point Reyes Station, densities above the LCP minimum of 10.000 sq. ft. may be reconsidered if and when a community sewer is installed
   c. The County is currently investigating a second-unit ordinance for the purpose of expanding the low and moderate income housing stock and providing a legitimate alternative to major new construction.
5. Hazards

(2) An applicant for development in an area potentially subject to geologic or other hazards as mapped by the County, including Alquist-Priolo earthquake hazards zones, areas subject to tsunami runup, landslides, liquefaction, beach or bluff erosion, steep slopes averaging greater than 35%, or flood hazard areas, shall be required to demonstrate that the area of construction is stable for development, the development will not create a hazard or diminish the stability of the area, and the development will not require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs. The applicant may be required to file a report by a qualified professional evaluating the geologic conditions of the site and the effect of the development. In addition, as a condition of coastal permit approval, the applicant shall be required to sign a waiver of liability exempting the County from liability for any personal or property damage caused by natural hazards on such properties.

   b. In coastal bluff areas, new structures shall be set back a sufficient distance

from the bluff edge to ensure with reasonable certainty that they are not threatened by bluff retreat within their expected economic lifespans C50 years). The County shall determine the required setback based on information submitted by the applicant, staff investigation, and a geologic report which may_ be required. The setbacks will be of sufficient distance to eliminate the need for shoreline protective works.

c. Development of any kind beyond the required bluff-top setback shall be constructed to ensure that all surface and subsurface drainage shall not contribute to the erosion of the bluff face or the stability of the bluff itself. Surface water shall be directed away from the top of the bluff or handled in a manner which prevents damage to the bluff by surface and percolating water.

d. New development shall be sited and designed so that no protective shoreline structures (e.g. seawalls, groins, breakwaters) are or will be necessary to protect the building from erosion or storm damage during its expected economic lifespan (50 years). The applicant may be required to submit a professional geologic report demonstrating that the project conforms to this policy.

e. The County encourages PG&E to utilize materials for overhead utility lines which minimize fire hazards to surrounding areas.

6. Watershed and water quality protection/grading. In order to ensure the long-term preservation of water quality, protection of visual resources, and the prevention of hazards to life and property, the following policies shall apply to all construction and development, including grading and major vegetation removal, which involve the movement of earth in excess of *150* cubic yards.

a. Development shall be designed to fit a site's topography, soils, geology, hydrology, and any other existing conditions and be oriented so that grading, cut and fill operations, and other site preparation are kept to an absolute minimum. Natural features, landforms, and native vegetation shall be preserved to the maximum extent feasible. Areas of a site which are not suited to development because of known soil, geologic, flood, erosion or other hazards shall be kept in open space.

b. For necessary grading operations, the smallest practicable area of land shall be exposed at any one time during development and the length of exposure shall be kept to the shortest practicable time. The clearing of land shall be avoided during the winter rainy season and all measures for removing sediments and stabilizing slopes shall be in place before the beginning of the rainy season.

c. Sediment basins (including debris basins, desilting basins, or silt traps) shall be installed on the project site in conjunction with initial grading operations and maintained through the development process to remove sediment from runoff waters. All sediment shall be retained on site unless removed to an appropriate dumping location.

d. Temporary vegetation, seeding, mulching, or other suitable stabilization methods shall be used to protect soils which have been exposed during grading or development, Cut and fill slopes shall be stabilized immediately with plantings of native species, appropriate non-native plants, or with accepted landscaping practices.

e. Where topsoil is removed by grading operations, it shall be stockpiled for reuse and shall be protected from compaction and wind or erosion during stockpiling.

f. The extent of impervious surfaces shall be minimized to the greatest degree possible. Provisions shall be made to conduct surface water to storm drains or suitable watercourses to prevent erosion. Drainage devices shall be designed to accommodate increased runoff resulting from modified soil and surface conditions as a result of development. Grassed waterways are preferred to concrete storm drains, where feasible, for runoff conveyance. Water runoff beyond natural levels shall be retained on site whenever possible to facilitate groundwater recharge.

7. Energy and industrial development. The Unit II coastal zone contains unique natural resources and recreational opportunities of nationwide significance. Because of these priceless resources and the very significant adverse impacts which would result if major energy or industrial development were to occur, such development, both on and offshore, is not appropriate and shall not be permitted. The development of alternative energy sources such as solar or wind energy shall be exempted from this policy.

8. Location and density of new development.

a. Olema.

(1) The community expansion boundaries for Olema shall be defined by surrounding federal parklands.
(2) Changes in commercial land use and zoning as specified in LCP Policy 3Q on Recreation and Visitor-Serving Facilities, page 44, shall be adopted.
(3) Additional changes in land use and zoning shall be adopted in order to meet Coastal Act objectives of concentrating new development, protecting visual resources, and ensuring that adequate public services are available. Residential areas permitting 10,000 square foot lots shall be rezoned to 20,000 square feet and agricultural areas shall be rezoned from A-5 to ARP-5, as follows:

A.P. number	Existing Zoning	LCP Zoning
166-182-01	A-20-2	R-A;B-3
166-183-01	A-20-2	R-A:B-3
166-230-04	A-20-2	ARP- 5
166-230-08-10, 12-19	A-5	ARP- 5

b. Point Reyes Station.

Development of the 18.59-acre property consisting of Assessor's Parcels 119-240-45, -46, -57, and -58 and consisting of Areas A, B, C, D, E and F as depicted on Exhibit E, shall be subject to the following land use designations, as defined in the Marin Countywide Plan and further incorporated as Appendix G to the Local Coastal Program: The land use designation for Areas A and B shall be C-MF-2 (Coastal, Multiple-family, one to four units per acre maximum residential density). The land use designation for Area C shall be C-SF-4 (Coastal, Single-family Residential, one to two units per acre). The land use designation for Areas D and E shall be C-RS (Costal, Residential Commercial, one to 20 units per acre maximum residential density, 30% to 50% commercial floor area ratio). The land use designation for Area F shall be C-OS (Coastal, Open Space).

The site shall be subject to an overall single site development plan for the entire 18.59-acre area that consists of Areas A, B, C, D, E and F. The site development plan shall be subject to the review and approval of the California Coastal Commission as an amendment to the LCP. Any coastal development permit or permits for development of any portion of the site shall be consistent with the approved site development plan. The site development plan shall indicate the kinds, locations, and intensities of uses allowable in accordance with the following requirements:

1. The total number of residential units on the entire 18.6-acre area shall not exceed 36.
2. Area A shall be developed with a maximum of seven detached affordable and/or market-rate for-sale units ranging in size from approximately 900 to 1,155 square feet.
3. Area B shall be developed with a maximum of 27 rental affordable units ranging in size from approximately 1,440 to 1,720 square feet, with a manager's unit/community building of approximately 2,180 square feet.
4. No more than two residential dwelling units may be developed within Area C.
5. A minimum of 12 public parking spaces shall be provided within Area D.
6. A minimum of two acres shall be reserved for a future overnight visitor-serving facility, preferably providing lower cost services to the maximum extent feasible, or an alternative commercial use deemed appropriate by the Coastal Commission within Area E.
7. Future use of the approximate 18.59-acre area depicted on Exhibit E, including all wetlands shall be consistent with the Local Coastal Program, including provisions which mandate a 100-foot minimum buffer as measured landward from the edge of the wetlands.

*[Amended pursuant to BOS Resolution No. 2004-121 [11/9/04], CCC approved as submitted 12/9/04. *Note: see pp. 219-220 of this documen for Exhibits "D" and "E" which depict the adopted rezoning and amended land use designations for the Point Reyes Affordable Homes Project]*

c. Inverness Ridge.

(I) The community expansion boundary for development on the Inverness Ridge shall be determined by the location of public parklands to the north, west, and south, and by Tomales Bay to the east.

(2) The boundaries of commercial zones in Inverness and Inverness Park shall be modified to coincide with parcel boundaries and changed to planned commercial zones in order to provide master plan review, as provided in Policy 3(d) on Recreation and Visitor-Serving Facilities, Page 47.

(3) Lands on the Inverness Ridge which have been acquired by the federal or state governments for public parkland shall be rezoned to 0-A (open area). Lands owned by the Nature Conservancy shall also be rezoned to 0-A.

(4) Paradise Ranch Estates.

a) Lot Consolidation Plan. The Paradise Ranch Estates Lot Consolidation Plan, map attached, is hereby incorporated in concept into the Marin County Local Coastal Program. This plan would consolidate 24 lots into 11 new building sites and reduce total build-out in the subdivision to 157 units. It is the intent of the Coastal Conservancy and the County of Marin to implement this plan as soon as funds are available. However, in the meantime, the County will process applications in accordance with other policies and standards of the Local Coastal Program, and will notify the Coastal Conservancy whenever applications affecting these lots have been received.
A part of this lot consolidation plan would be a road way and drainage plan, to address erosion and siltation control and provision of emergency services, as well as detailing needed roadway improvements. The County and the Coastal Conservancy will prepare this plan, in conjunction with local property owners, as soon as funds become available. Applicants for development permits in Paradise Ranch Estates will be informed that they may be required to make roadway and drainage improvements on their property in the future, in accordance with this plan.

b) Additional Park Acquisition. Twenty-eight lots in the subdivision have been authorized by the federal government for inclusion in the Point Reyes National Seashore, but funding for acquisition is not presently available. The County and the Coastal Conservancy will continue to seek sources of funds for acquisition. The County will process applications for development on these lots in accordance with policies of the Local Coastal Program, and will notify the Coastal Conservancy when applications have been received.
It should be noted that the federal government would not allow leasebacks on new development *on* these parcels if acquired.
Refer to Marin County Local Coastal Program Unit II, page 60.

c) Design Review Guidelines. In addition to all other standards for development review in the Coastal Program, the following special Design Review Guidelines shall apply to the processing of all development applications in Paradise Ranch Estates:

1. Predevelopment Geotechnical Engineering Studies. Individual engineering studies will be required for building lots within the Class 3 and Class 4 slope stability zones as mapped in Wagner and Smith, Slope Stability of the Tomales Bay Study Area, 1977, to evaluate slope stability and to engineer foundations and structures to provide for proper grading, siting, structural stability and seismic design. These provisions are required by the LCP and Inverness Ridge Communities Plan, as well.

2. Protection of Visual Resources.
   a. In areas where structures may be seen from the adjacent parklands (primarily the north, south and west sides of the subdivision) structures shall be screened by the existing vegetation to the maximum extent possible. Structures shall not be higher than the tree canopy, even if Section 22.47.024(2)(e) of the Zoning Ordinance would otherwise permit taller buildings. The purpose of this measure is to prevent the presently tree-covered silhouette of the ridgeline from being broken up. In addition, the structures will be better-screened. It is noted that the west side is adjacent to the Park Wilderness area.

   b. In areas where structures may be visible, dark earth-tones shall be used to ensure the least amount of visual intrusion into the landscape.

   c. To minimize grading and visual impacts from the adjacent parkland, future structures along Pine Crest Road shall be located within 150 feet of the front property line.

   d. To minimize visual impacts on the adjacent parkland, structures visible from the park on the northwest (Pine Crest and Upper Roberts) and southwest (Elizabeth Place, ends of Sunnyside and Dover) sides of the subdivision shall be oriented such that the shorter end of the structure faces the park, in order to ensure the maximum opportunity to take advantage of the existing tree cover.

   e. Design Review of structures shall include an analysis of the visual impacts that might result from the siting and construction of the septic system. The septic system shall be designed and sited to minimize tree removal which could have a visual impact.

f. Use of colors and materials consistent with the woodland character of the subdivision and the vernacular building style of the area should be observed to avoid obtrusive visual impact.

3. Public Service Guidelines. On-site-paving and drainage improvements may be required for all-new structures. Off-site improvements may also be required in areas where roadways presently-do not meet County standards. These areas include, but may not be limited to, the following:

   a. Certain segments of Upper Roberts Road.
   b. Douglas Drive adjacent to AP 114-130-34 and 114-130-24.
   c. Dover Drive adjacent to AP 114-130-25.

   If parcels that presently are not part of the Paradise Ranch Estates Permanent Road Division acquire access over the roadways in the subdivision in the future, joining the assessment district shall be made a condition of approval.

4. Watershed Protection.

   a. All policies in the LCP regarding blue line streams and adjacent lands shall be applicable in Paradise Ranch Estates. Streams affected by this policy include Tomlinson Creek, Fish Hatchery Creek, and the Central Drainage Channel.

   b. Silt traps or other necessary erosion control measures shall be required for all new grading and construction. (This measure has been suggested by the Department of Fish and Game). (Also see below).

   c. The policy of no waivers from requirements of the septic tank ordinance will apply in areas proposed for a septic system that exceed 40 percent slope or that are closer than 100 feet to a major drainage channel. This approach will probably prohibit development on some parcels, unless approval for a septic system were obtained from Regional Water Quality Control or a public agency accepted responsibility for monitoring and maintaining the system.

1. Grading and Erosion Control Guidelines. It is essential that grading be minimized in any new building area so that soils which are exposed during the construction process can be adequately revegetated and cuts avoided to minimize erosion. Erosion control practices should address management of surface water run-off to prevent gullying through improper discharge of storm water. from downspouts and paved areas and down-stream transport of eroded sediments. Revegetation practices for erosion control should specify use of indigenous ground covers and seed mixes.

6. Protection of Trees.

a. Structures and roads should be sited to avoid tree removal. However, where it is necessary to clear existing vegetation, ecological principles of natural plant success should be observed. For instance, in some situations, the oak and fir woodland communities have taken over older stands of Bishop Pine, and in some cases, Madrone. The latter may be diseased and dying, naturally giving way to successful change. In these circumstances, removal of the older diseased trees is desirable for siting purposes, thus promoting the succession of the younger, vigorous vegetation. However, dead trees also serve as valuable habitat for some species, so a complete removal should be avoided.

b. Landscaping should make use of indigenous, drought resistant species to the maximum extent possible.

(5) Community Participation.

The community should play a lead role in the establishment and operation, of a local land trust. In addition, the community, through one of its organizations, should serve an advisory role to the Planning Department in reviewing development applications. The local community will be responsible for implementation of the roadway and drainage plan, once it is developed, most logically through continuation of the Permanent Road Division.

(6) County's Regulatory Authority.

Strict application of the County's regulatory authority would include the design review guidelines recommended. In the Design Review section. This approach also assumes strict implementation of LCP policies, including the policy of not allowing waivers from the septic ordinance. Information on development constraints affecting lots in the subdivision is contained in Appendix C of the Paradise Ranch Estates Restoration Plan report, dated April 1981.

d. West side of Tomales Bay.

(1) The Golden Hinde Boatel, Inverness Yacht Club, and Inverness Motel shall be rezoned to. RCR, in accordance with Policy 3(d) on Recreation and Visitor-Serving Facilities, page 47. Also in accordance with this policy, commercial parcels in Inverness and Inverness Park shall be modified-to coincide with parcel boundaries and changed to-planned commercial zones in order to provide for master plan review.

(2) County parklands and private nature preserves and beaches shall be rezoned to 0-A (open area). This policy includes Chicken Ranch Beach, owned by the County, the William Page Shields Salt Marsh and other nature-preserve lands, owned by Audubon Canyon Ranch, and Children's Beach, owned by the Inverness Foundation.

(3) All remaining lots not otherwise mentioned above, both developed and undeveloped, south of-Chicken Ranch Beach up to and including AP #114-012-08 at Willow Point,. shall be rezoned to RSP-1.0. Lots south of AP #114-012-08 which are currently zoned A-2 shall be rezoned to RSP-0.33. Residential lots in Inverness Park, currently zoned R-10-2 and A-20-2, shall be rezoned to RSP-l. 0.

e. East Side of Tomales Bay.

(1) The community expansion boundary for the town of Marshall shall be defined to include the area from the Post Office Building on the north through and including the Marshall Boat Works to the south. On the east side of Highway 1, the expansion boundary shall include the small existing subdivided parcels abutting Highway 1 between Marshall-Petaluma Road and the Marshall Boat Works.

(2) Changes in commercial land use and zoning as specified in LCP Policy 3(e) on Recreation and Visitor-Serving Facilities, page 48, shall be adopted. In addition, North Shore Boats shall be rezoned from A-2 to RCR.

[Amended pursuant to BOS Resolution No. 87-278 [8/4/87], CCC approved as submitted 9/8/87, 2nd BOS Resolution No. 87-360 [10/13/87] passed to implement changes shown, no CCC ED Checkoff required]

(3) Lands on the shoreline which have been acquired by the state government for public parkland or preserve shall be rezoned to 0-A (open area). This policy includes Tomasini and Millerton Points and the Cypress Grove project. Other proper ties owned by the State in the area of Walker Creek and town of Marshall, as well as lands owned by Audubon Canyon Ranch, shall also be rezoned to 0-A.

(4) Agricultural lands in the vicinity of Cypress Grove and the Walker Creek delta, currently zoned A-2, shall be rezoned to APZ-60, with the exception of AP #106-210-57, 60 & 64. Any proposal for the use of this property should be considered in light of the goals of this Plan and the agricultural uses in the vicinity. The small upland lots between the Marshall-Petaluma Road and Marconi Cove Marina which abut Highway 1 and which are currently zoned A-2 shall be rezoned to ARP-2.

(5) All remaining lots bayward of Highway 1, not otherwise mentioned above, both developed and undeveloped, south of Nick's Cove up to the Marshall Boat Works, shall be rezoned RSP-0.5. Lots south of Marshall Boat Works to the state parklands on Tomasini Point, not previously mentioned above, shall be rezoned to RSP-0.33.

f. Standards for development in all zoning districts on the shoreline of Tomales Bay.

(1) Existing dwellings shall be permitted to be rebuilt if damaged or destroyed by natural disaster, provided that the floor area, height and bulk of the new structure shall not exceed that of the destroyed structure by more than 10%. Any proposed improvement to an existing house which results in an increase of internal floor area of more than 10% shall require a coastal permit in order to ensure that such improvement is sited and designed to minimize impacts on Tomales Bay.

(2) New residential construction shall be limited in height to 15 feet, as measured from natural grade on the highest side of the improvement to the highest point of the roof or any projection therefrom. Exceptions to this height limit may be permitted where the topography, vegetation, or character of existing development is such that a higher structure would not create additional interference with coastal views either to, along, or from the water.

(3) A finding shall be made that all new development shall meet all other UP policies, including those on Public Access. Natural Resources and wetland protection, Shoreline Structures, Diking/ Filling/Dredging, Public Services, Hazards, Visual Resources, and New Development, prior to issuance of a coastal permit.

g. Tomales.

(1) The community expansion boundary for Tomales shall be as defined in the community plan of 1996.

(2) With exception to the old high school site, no changes in commercial land use and zoning are recommended. The LCP supports policies of the community plan to rezone the old high school site, as follows:

A.P. Number	Existing Zoning	Proposed Zoning
102-080-04, -06	C-VCR:B-4	C-RSP-1.6
102-080-05, -07	C-VCR:B-3.5	C-VCR:B-4

(3) The LCP supports policies of the community plan to rezone all land within Tomales that is zoned C-R-A:B-1 to C-RSP-7.26

(4) The LCP supports policies of the community plan to rezone two large agricultural properties adjacent to the community expansion boundary, as follows:

A.P. Number	Existing Zoning	Proposed Zoning
102-100-06	C-APZ-60/C-ARP-2	C-APZ-60
100-090-17, -18	C-APZ-60/C-ARP-2	C-APZ-60

(5) In order to promote the concentration of development and encourage greater flexibility in the design of future development in the community, no changes to C-ARP zoning within the community expansion boundary are recommended.

[Amended pursuant to BOS Resolution No. 96-140 (Attachment 3, pp. 12-13) [10/1/96], approved by CCC as submitted 2/5/97, 2nd BOS Resolution No. 97-22 [3/11/97], CCC ED Checkoff 5/16/97]

h. Dillon Beach.

(1) The community expansion boundary for Dillon Beach shall be drawn from the northern boundary of the Oceana Marin subdivision on the north to the southern end of Lawson's Dillon Beach Resort on the south, and from the shoreline on the west to the eastern side of Oceana Marin, the Village, and Lawson's Dillon Beach Resort. Lawson's Dillon Beach Resort parcel AP Number 100-100-47 is included within this area.

(2) Current C-RCR and C-RMPC zoning designations shall be retained, as described in Policy 3g on Recreation and Visitor-Serving Facilities on pages 51 and 52.

(3) Current C-APZ-60 zoning shall be retained on coastal agricultural lands in the planning area.

(4) The four multi-family unit parcels known as Parcels J, K, L, and M in Oceana Marin shall be rezoned to a density in keeping with the characteristics of each site, surrounding development, and public service constraints. The densities are as follows:

A.P. Number	Existing Zoning	New Zoning
Parcel J 100-331-19	C-RMP-4	C-RMP-1.5
Parcel K 100-300-02,07	C-RMP-4	C-RMP-0.85
Parcel L 100-300-03	C-RMP-4	C-RMP-0.8
Parcel M 100-311-27	C-RMP-4	C-RMP-0.4

Before any development or division of these parcels can proceed, adequate water supply and sewage disposal shall be demonstrated.

(5) Densities for C-RMPC parcels in Lawson's Dillon Beach Resort shall be established as follows:

A.P. Number	Existing Zoning	New Zoning
100-141-11	C-RMPC	C-RCR
100-141-13: SW corner only	C-RMPC	C-RCR
100-100-47	C-APZ-60	C-RMPC-1.2
100-141-07,08,10	C-RMPC	C-RMPC-1.2
100-174-03	C-RMPC	C-RMPC-1.2
100-183-02,03	C-RMPC	C-RMPC-1.2
100-184-01	C-RMPC	C-RMPC-1.2
100-185-01	C-RMPC	C-RMPC-1.2
100-186-01	C-RMPC	C-RMPC-1.2
100-187-01	C-RMPC	C-RMPC-1.2
100-188-01	C-RMPC	C-RMPC-1.2
100-192-01	C-RMPC	C-RMPC-1.2
100-194-01	C-RMPC	C-RMPC-1.2
100-205-02	C-RMPC	C-RMPC-1.2
100-207-02	C-RMPC	C-RMPC-1.2
100-220-05	C-RMPC	C-RMPC-1.2
100-191-03	C-RMPC	C-RMPC-0.7

100-193-01,02,03	C-RMPC	C-RMPC-0.7

(6) Current land use policy and zoning designations shall be retained for Lawson's Landing.

(7) The zoning designations for the C-RMP parcels in Oceana Marin and C-RMPC parcels in Lawson's Dillon Beach Resort represent the low end of the residential density ranges specified in the Dillon Beach Community Plan for the respective parcels. Development at higher density ranges may be approved if subsequent studies demonstrate that additional development can be accommodated in accordance with Policies CD-4.6 and CD-10.6 through CD-10.16 of the Community Plan.

[Amended pursuant to BOS Resolution No. 88-333 (Attachment 1: pp. 27-28) [12/20/88], CCC approved w/ suggested modifications 4/12/89, 2nd BOS Resolution No. 89-216 [8/8/89], CCC ED Checkoff 4/13/90]

Exhibit D: COASTAL ZONING PLAN

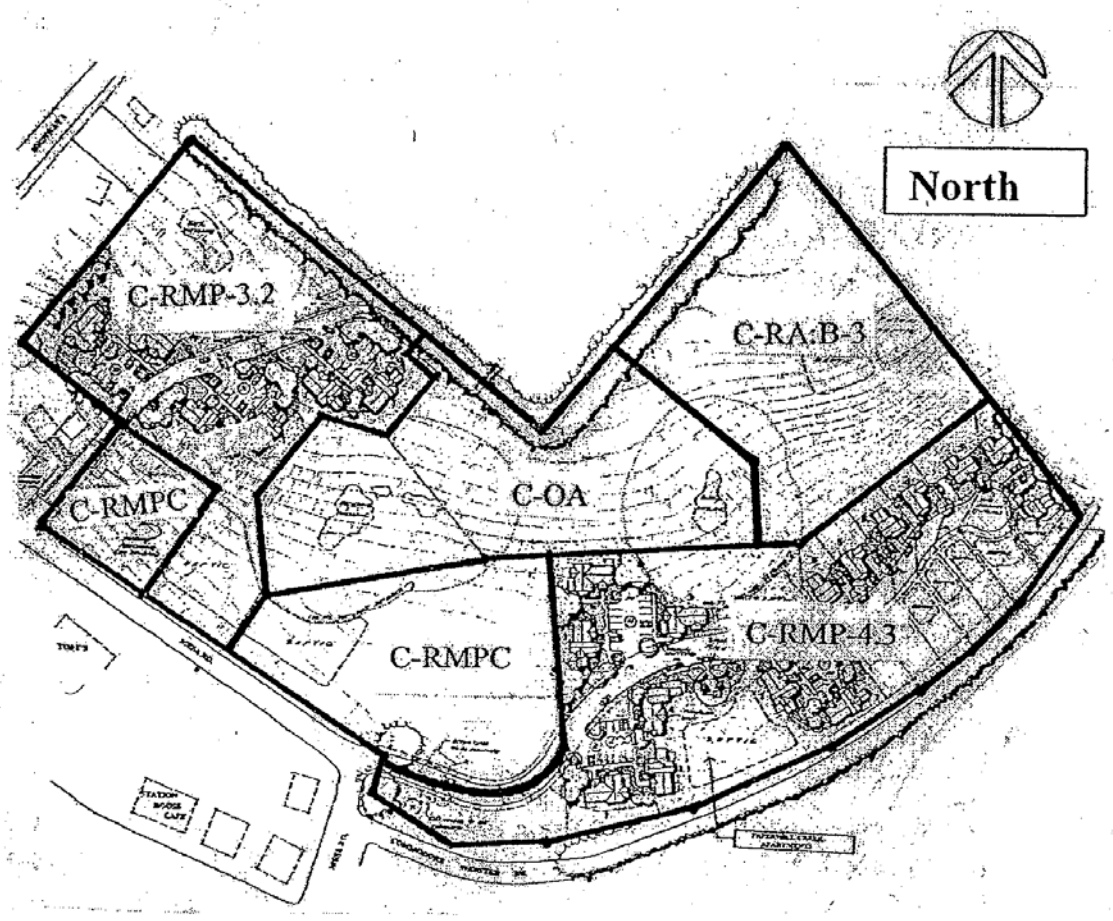

Figure 4. "Exhibit D" - Adopted Rezoning for the Point Reyes Affordable Homes Project
*[Pursuant to **BOS Ordinance No. 3338**, 3/19/02]*

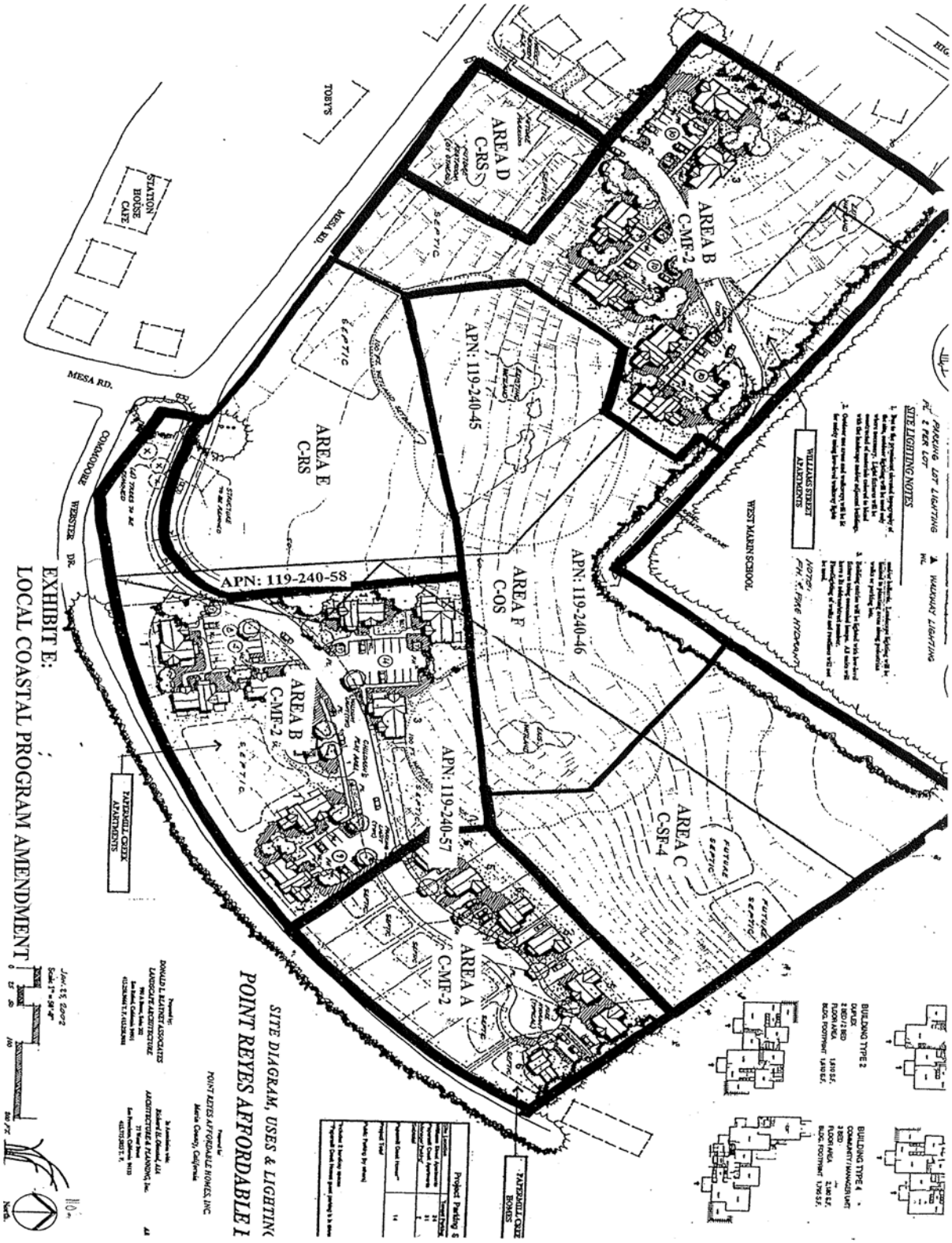

Figure 5. "Exhibit E" - Amended Land Use Designations for the Point Reyes Affordable Homes Project
*[Pursuant to **BOS Resolution No. 2002-27** [3/19/02], approved by CCC as submitted 5/9/02]*

APPENDICES

A - Coastal Act Policies, Chapter 3
B - Definitions
C - Guidelines for Sewage Disposal, RWQCB
D - References
E - Historic Preservation
F - Adopted Resolutions 1982 through 1987
G - Land Use Designations

APPENDIX A

CALIFORNIA COASTAL ACT OF 1976
(As amended to January 1980)

CHAPTER 3

COASTAL RESOURCES PLANNING AND
MANAGEMENT POLICIES

Article Section

(b) General.. 30200
(c) Public Access.....30210
3. Recreation 30220
4. Marine Environment 30230
5. Land Resources.....30240
6. Development 30250
7. Industrial Development 30260

Article 1. General

30200. Consistent with the basic goals set forth in Section 30001.5, and except as may be otherwise specifically provided in this division, the policies of this chapter shall constitute the standards by which the adequacy of local coastal programs, as provided in Chapter 6 (commencing with Section 30500), and, the permissibility of proposed developments subject to the provisions of this division are determined. All public agencies carrying out or supporting activities outside the coastal zone that could have a direct impact on resources within the coastal zone shall consider the effect of such actions on coastal zone resources in order to assure that these policies are achieved.

Article 2. Public Access

30210. In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

30211. Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

30212. (a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) adequate access exists nearby, or (3) agriculture would be adversely affected. Dedicated accessway shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway.

(b) For the purposes of this section, "new development" does not include:

(1) Replacement of any structure pursuant to the provisions of subdivision (g) of Section 30610.

(2) The demolition and reconstruction of a single-family residence; provided, that the reconstructed residence shall not exceed either the floor area, height or bulk of the former structure by more than 10 percent, and that the reconstructed residence shall be sited in the same location on the affected property as the former structure.

(3) improvements to any structure which do not change the intensity of its use, which do not increase either the floor area, height, or bulk of the structure by more than 10 percent, which do not block or impede public access, and which do not result in a seaward encroachment by the structure.

(4) Any repair or maintenance activity for which the commission has determined, pursuant to Section 30610, that a coastal development permit will be required unless the regional commission or the commission determines that such activity will have an adverse impact on lateral public access along the beach.

As used in this subdivision, "bulk" means total interior cubic volume as measured from the exterior surface of the structure.

(c) Nothing in this division shall restrict public access nor shall it excuse. the performance of duties and responsibilities of public agencies which are required by Sections 66478.1 to 66478,14, inclusive, of the Government Code and by Section 4ˆof Article X of the California Constitution.

30212.5. Wherever appropriate and feasible, public facilities, including parking areas or facilities, shall be distributed throughout an area so as to mitigate against the impacts, social and otherwise, of overcrowding or overuse by the public of any single area.

30213. Lower cost visitor and recreational facilities and housing opportunities for persons of low and moderate income shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred. New housing in the coastal zone shall be developed in conformity with the standards, policies, and goals of local housing elements adopted in accordance with the requirements of subdivision (c) of Section 4302 of the Government Code.

30214. (a) The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case including, but not limited to, the following:

(1) Topographic and geologic site characteristics.

(2) The capacity of the site to sustain use and at what level of intensity.

(3) The appropriateness of limiting public access to the right to pass and repass depending on such factors as the fragility of the natural resources in the area and the proximity of the access area to adjacent residential uses.

(4) The need to provide for the management of access areas so as to protect the privacy of adjacent property owners and to protect the aesthetic values of the area by providing for the collection of litter.

(b) It is the intent of the Legislature that the public access policies of this article be carried out in a reasonable manner that considers the equities and that balances the rights of the individual property owner with the public's constitutional right of access pursuant to Section 4 of Article X of the California Constitution. Nothing in this section or any amendment thereto shall be construed as a limitation on the rights guaranteed to the public under Section 4 of Article X of the California Constitution.

(c) in carrying out the public access policies of this article, the commission, regional commissions, and any other responsible public agency shall consider and encourage the utilization of innovative access management techniques, including, but not limited to, agreements with private organizations which would minimize management costs and encourage the use of volunteer programs.

Article 3. Recreation

30220. Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.

30221. Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.

30222. The use of private lands suitable for visitor-serving commercial recreational facilities designed to enhance public opportunities for coastal recreation shall have priority over private residential, general industrial, or general commercial development, but not over agriculture or coastal-dependent industry.

30223. Upland areas necessary to support coastal recreational uses shall be reserved for such uses, where feasible.

30224. Increased recreational boating use of coastal waters shall be encouraged, in accordance with this division, by developing dry storage areas, increasing public launching facilities, providing additional berthing space in existing harbors, limiting non-water-dependent land uses that congest access corridors and preclude boating support facilities, providing harbors of refuge, and by providing for new boating facilities in natural harbors, new protected water areas, and in areas dredged from dry land.

Article 4. Marine Environment

30230. Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

30231. The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

30232. Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do-occur.

30233. (a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

(1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.
(2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.
(3) In wetland areas only, entrance channels for new or expanded boating facilities; and in a degraded wetland, identified by the Department of Fish and Game pursuant to subdivision (b) of Section 30411, for boating facilities if, in conjunction with such boating facilities, a substantial portion of the degraded wetland is restored and maintained as a biologically productive wetland; provided, however, that in no event shall the size of the wetland area used for such boating facility, including berthing space, turning basins, necessary navigation channels, and any necessary support service facilities, be greater than 25 percent of the total wetland area to be restored.
(4) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities.
(5) Incidental public service purposes, including, but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.
(6) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.
(7) Restoration purposes.
(8) Nature study, aquaculture or similar resource-dependent activities

(b) Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment should be transported for such purposes to appropriate beaches or into suitable longshore current systems.

(c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary. Any alteration of coastal wetlands identified by the Department of Fish and Game, including, but not limited to the 19 coastal wetlands identified in its report entitled "Acquisition Priorities for the Coastal Wetlands of California", shall be limited to very minor incidental public facilities, restorative measures, nature study, commercial fishing facilities in Bodega Bay, and development in already developed parts of south San Diego Bay, if otherwise in accordance with this division.

For the purposes of this section, "commercial fishing facilities in Bodega Bay" means that no less than 80 percent of all boating facilities proposed to be developed or improved, where such improvement would create additional berths in Bodega Bay, shall be designed and used for commercial fishing activities.

30234. Facilities serving the commercial fishing and recreational boating industries shall be protected and, where feasible, upgraded. Existing commercial fishing and recreational boating harbor space shall *not* be reduced unless the demand for those facilities no longer exists or adequate substitute space has been provided. Proposed recreational boating facilities shall, where feasible, be designed and located in such a fashion as not to interfere with the needs of the commercial fishing industry.

30235. Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Existing marine structures causing water stagnation contributing to pollution problems and fishkills should be phased out or upgraded where feasible.

30236. Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (1) necessary water supply projects, (2) flood control projects where no other method for protecting existing structures *in* the flood plain is feasible and where such protection is necessary for public safety or to protect existing development, or (3) developments where the primary function is the improvement of fish and wildlife habitat.

Article 5. Land Resources

30240. (a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas,

30241. The maximum amount of prime agricultural land shall be maintained in agricultural production to assure the protection of the areas' agricultural economy, and conflicts shall be minimized between agricultural and urban land uses through all of the following:

(a) By establishing stable boundaries separating urban and rural areas, including, where necessary, clearly defined buffer areas to minimize conflicts between agricultural and urban land uses.

(b) By limiting conversions of agricultural lands around the periphery of urban areas to the lands where the viability of existing agricultural use is already severely limited by conflicts with urban uses and where the conversion of the lands would complete a logical and viable neighborhood and contribute to the establishment of a stable limit to urban development.
(c) By developing available lands not suited for agriculture prior to the conversion of agricultural lands.
(d) By assuring that public service and facility expansions and nonagricultural development do not impair agricultural viability, either through increased assessment costs or degraded air and water quality.
(e) By assuring that all divisions of prime agricultural lands, except those conversions approved pursuant to subdivision (b) of this section, and all development adjacent to prime agricultural lands shall not diminish the productivity of such prime agricultural lands.

30242. All other lands suitable for agricultural use shall not be converted to non-agricultural uses unless (1) continued or renewed agricultural use is not feasible, or (2) such conversion would preserve prime agricultural land or concentrate development consistent with Section 30250 = Any such permitted conversion shall be compatible with continued agricultural use on surrounding lands.

30243. The long-term productivity of soils and timberlands shall be protected, and conversions of coastal commercial timberlands in units of, noncommercial size shall be limited to providing for necessary timber processing and related facilities.

30244. Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.

Article 6. Development

30250. (a) New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources. In addition, land divisions, other than leases for agricultural uses, outside existing developed areas shall be permitted only where 50 percent of the usable parcels in the area have been developed and the created parcels would be no smaller than the average size of surrounding parcels.
(b) Where feasible, new hazardous industrial development shall be located away from existing developed areas.
(c) Visitor-serving facilities that cannot feasibly be located in existing developed areas shall be located in existing isolated developments or at selected points of attraction for visitors.

30251. The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance, Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

30252. The location and amount of new development should maintain and enhance public access to the coast by (1) facilitating the provision or extension of transit service, (2) providing commercial facilities within or adjoining residential development or in other areas that will minimize the use of coastal access roads, (3) providing non-automobile circulation within the development, (4) providing adequate parking facilities or providing substitute means of serving the development with public transportation, (5) assuring the potential for public transit for high intensity uses such as high-rise office buildings, and by (6) assuring that the recreational needs of new residents will not overload nearby coastal recreation areas by correlating the amount of development with local park acquisition and development plans with the provision of onsite recreational facilities to serve the new development.

30253. New development shall:

(1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.
(2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.
(3) Be consistent with requirements imposed by an air pollution control district or the State Air Resources Control Board as to each particular development.
(4) Minimize energy consumption and vehicle miles traveled.
(5) Where appropriate, protect special communities and neighborhoods which, because of their unique characteristics, are popular visitor destination points for recreational uses.

30254. New or expanded public works facilities shall be designed and limited to accommodate needs generated by development or uses permitted consistent with the provisions of this division; provided, however, that it is the intent of the Legislature that State Highway Route 1 in rural areas of the coastal zone remain a scenic two-lane road. Special districts shall not be formed or expanded except where assessment for, and provision of, the service would not induce new development inconsistent with this division. Where existing or planned public works facilities can accommodate only a limited amount of new development, services to coastal dependent land use, essential public services and land use, essential public services and basic industries vital to the economic health of the region, state, or nation, public recreation, commercial recreation, and visitor-serving land uses shall not be precluded by other development.

30255. Coastal-dependent development shall have priority over other developments on or near the shoreline. Except as provided elsewhere in this division, coastal-dependent development shall not be sited in a wetland. When appropriate, coastal-related development should be accommodated within reasonable proximity to the coastal-dependent uses they support.

Article 7. Industrial Development

30260. Coastal-dependent industrial facilities shall be encouraged to locate or expand within existing sites and shall be permitted reasonable long-term growth where consistent with this division. However, where new or expanded coastal-dependent industrial facilities cannot feasibly be accommodated consistent with other policies of this division, they may nonetheless be permitted in accordance with this section and Sections 30261 and 30262 if (1) alternative locations are infeasible or more environmentally damaging; (2) to do otherwise would adversely affect the public welfare; and. (3) adverse environmental effects are mitigated to the maximum extent feasible.

30261. (a) Multicompany use of existing and new tanker facilities shall be encouraged to the maximum extent feasible and legally permissible, except where to do so would result in increased tanker operations and associated onshore development incompatible with the land use and environmental goals for the area. New tanker terminals outside of existing terminal areas shall be situated as to avoid risk to environmentally sensitive areas and shall use a monobuoy system, unless an alternative type of system can be shown to be environmentally preferable for a specific site. Tanker facilities shall be designed to (1) minimize the total volume of oil spilled, (2) minimize the risk of collision from movement of other vessels, (3) have ready access to the most effective feasible containment and recovery equipment for oilspills, and (4) have onshore deballasting facilities to receive any fouled ballast water from tankers where operationally or legally required.

(b) Because of the unique problems involved in the importation, transportation, and handling of liquefied natural gas, the location of terminal facilities therefore shall be determined solely and exclusively as provided in Chapter 10 (commencing with Section 5550) of Division 2 of the Public Utilities Code and the provisions of this division shall not apply unless expressly provided in such Chapter 10.

30262. Oil and gas development shall be permitted in accordance with Section 30260, if the following conditions are met:

(a) The development is performed safely and consistent with the geologic conditions of the well site.

(b) New or expanded facilities related to such development are consolidated, to the maximum extent feasible and legally permissible, unless consolidation will have adverse environmental consequences and will not significantly reduce the number of producing wells, support facilities, or sites required to produce the reservoir economically and with minimal environmental impacts.

(c) Environmentally safe and feasible subsea completions are used when drilling platforms or islands would substantially degrade coastal visual qualities unless use of such structures will result in substantially less environmental risks.
(d) Platforms or islands will not be sited where a substantial hazard to vessel traffic might result from the facility or related operations, determined in consultation with the United States Coast Guard and the Army Corps of Engineers.
(e) Such development will not cause or contribute to subsidence hazards unless it is determined that adequate measures will be undertaken to prevent damage from such subsidence.
(f) With respect to new facilities, all oil field brines are reinjected into oil-producing zones unless the Division of Oil and Gas of the Department of Conservation determines to do so would adversely affect production of the reservoirs and unless injection into other subsurface zones will reduce environmental risks. Exceptions to reinjections will be granted consistent with the Ocean Waters Discharge Plan on the State Water Resources Control Board and where adequate provision is made for the elimination of petroleum odors and water quality problems.
Where appropriate, monitoring programs to record land surface and near-shore ocean floor movements shall be initiated in locations of new large-scale fluid extraction on land or near shore before operations begin and shall continue until surface conditions have stabilized. Costs of monitoring and mitigation programs shall be borne by liquid and gas extraction operators.

30263. (a) New or expanded refineries or petrochemical facilities not otherwise consistent with the provisions of this division shall be permitted if (1) alternative locations are not feasible or are more environmentally damaging; (2) adverse environmental effects are mitigated to the maximum extent feasible; (3) it is found that not permitting such development would adversely affect the public welfare; (4) the facility is not located in a highly scenic or seismically hazardous area, on any of the Channel Islands, or within or contiguous to environmentally sensitive areas; and (5) the facility is sited so as to provide a sufficient buffer area to minimize adverse impacts on surrounding property.
(b) In addition to meeting all applicable air quality standards, new-or expanded refineries or petrochemical facilities shall be permitted in areas designated as air quality maintenance areas by the State Air Resources Board and in areas where coastal resources would be adversely affected only if the negative impacts of the project upon air quality are offset by reductions in gaseous emissions in the area by the users of the fuels, or, in the case of an expansion of an existing site, total site emission levels, and site levels for each emission type for which national or state ambient air quality standards have been established do not increase.
(c) New or expanded refineries or petrochemical facilities shall minimize the need for once-through cooling by using air cooling to the maximum-extent feasible and by using treated waste waters from implant processes where feasible.

30264. Notwithstanding any other provision of this division, except subdivisions (b) and (c) of Section 30413, new or expanded thermal electric generating plants may be constructed in the coastal zone if the proposed coastal site has been determined by the State Energy Resources Conservation and Development Commission to have greater relative merit pursuant to the provisions of Section 25516.1 than available alternative sites and related facilities for an applicant's service area which have been determined to be acceptable pursuant to the provisions of Section 25516.

OTHER COASTAL ACT POLICIES CITED IN THE LCP

30402. All state agencies shall carry out their duties and responsibilities-in conformity with this division.

30411. (c) The Legislature finds and declares that salt water or brackish water aquaculture is a coastal-dependent use which should be encouraged to augment food supplies and to further the policies set forth in Chapter 4 (:commencing with Section 825) of Division 1. The Department of Fish and Game may identify coastal sites it deems appropriate for aquaculture facilities. If the department identifies such sites, it shall do so by October 1, 1980, and shall by the same date transmit information identifying such sites to the commission and the relevant local government agency. The commission, and where appropriate, local governments shall, consistent with the coastal planning requirements of this division, provide for as many coastal sites identified by the Department of Fish and Game for such uses as are consistent with the policies of Chapter 3 (commencing with Section 30200) of this division.

30416. (a) The State Lands Commission, in carrying out its duties and responsibilities as the state agency responsible for the management of all state lands, including tide and submerged lands, in accordance with the provisions of Division 6 (commencing with Section 6001), shall, prior to certification by the commission pursuant to Chapters 6 (commencing with Section 30500) and 8 (commencing with Section 30700) review, and may comment on any proposed local coastal program or port master plan that could affect state lands.

(b) No power granted to any local government, port governing body, or special district, under this division, shall change the authority of the State Lands Commission over granted or ungranted lands within its jurisdiction or change the rights and duties of its lessees or permittees.

(c) Boundary settlements between the State Lands Commission and other parties and any exchanges of land in connection therewith shall not be a development within the meaning of this division.

(d) Nothing in this division shall amend or alter the terms and conditions in any legislative grant of lands, in trust, to any local government, port governing body, or special district; provided, however, that any development on such granted lands shall, in addition to the terms and conditions of such grant, be subject to the regulatory controls provided by Chapters 7 (commencing with Section 30600) and 8 (commencing with Section 30700).

30519. Except for appeals to the commission, as provided in Section 30603, after a local coastal program, or any portion thereof, has been certified and all implementing actions within the area affected have become effective, the development review authority provided for in Chapter 7 (commencing with Section 30600) shall no longer be exercised by the regional commission or by the commission where there is no regional commission over any new development proposed within the area to which such certified local coastal program, or any portion thereof, applies and shall at that time be delegated to the local government that is implementing such local coastal program or any portion thereof,

(b) Subdivision (a) shall not apply to any development proposed or undertaken on any tidelands, submerged lands, or on public trust lands, whether filled or unfilled, lying within the coastal zone, nor shall it apply to any development proposed or undertaken within ports covered by Chapter 8 (commencing with Section 30700) or within any state university or college within the coastal zone; however, this section shall apply to any development proposed or undertaken by a port or harbor district or authority on lands or waters granted by the Legislature to a local government whose certified local coastal program includes the specific development plans for such district or authority.

30603. (a) After certification of its local coastal program, an action taken by a local government on a coastal development permit application may be appealed to the commission for any of the following:

(1) Developments approved by the local government between the sea and the first public road paralleling the sea or within 300 feet of the inland extent of any beach or of the mean high tide line of the sea where there is no beach, whichever is the greater distance.

(2) Developments approved by the local government not included within paragraph (1) of this subdivision located on tidelands, submerged lands, public trust lands, within 100 feet of any wetland, estuary, stream, or within 300 feet of the top of the seaward face of any coastal bluff.

(3) Developments approved by the local government not included within paragraph (1) or (2) of this subdivision located in a sensitive coastal resource area if the allegation on appeal is that the development is not in conformity with the implementing actions of the certified local coastal program.

(4) Any development approved by a coastal county that is not designated as the principal permitted use under the zoning ordinance or zoning district map approved pursuant to Chapter 6 (commencing with Section 30500).

(5) Any development which constitutes a major public works project or a major energy facility.

(b) The grounds for an appeal pursuant to paragraph (1) of subdivision (a) shall be limited to the following;

(1) The development fails to provide adequate physical access or public or private commercial use or interferes with such uses.

(2) The development fails to protect public views from any public road or from a recreational area to, and along, the coast.

(3) The development is not compatible with the established physical scale of the area.

(4) The development may significantly alter existing natural landforms.
(5) The development does not comply with shoreline erosion And geologic setback requirements.

(c) The standard of review for any development reviewed pursuant to subdivision (a) (3) shall be in conformity with the implementing actions of the certified local coastal program. Such action shall become final after the 10th working day, unless an appeal is filed within that time.

30607.1. Where any dike and fill development is permitted in wetlands in conformity with this division, mitigation measures shall include, at a minimum, either acquisition of equivalent areas of equal or greater biological productivity or opening up equivalent areas to tidal action; provided, however, that if no appropriate restoration site is available, an in-lieu fee sufficient to provide an area of equivalent productive value or surface areas shall be dedicated to an appropriate public agency, or such replacement site shall be purchased before the dike or fill development may proceed. Such mitigation measures shall not be required for temporary or short-term fill or diking; provided, that a bond or other evidence of financial responsibility is provided to assure that restoration will be accomplished in the shortest feasible time.

30610. Notwithstanding any provision in this division to the contrary, no coastal development permit shall be required pursuant to this chapter for the following types of development and in the following areas:

(a) improvements to existing single-family residences; provided, however, that the commission shall specify, by regulation, those classes of development which involve a risk of adverse environmental effect and shall require that a coastal development permit be obtained under this chapter.
(b) improvements to any structure other than a single-family residence or a public works facility; provided, however, that the commission shall specify, by regulation, those types of improvements which (1) involve a risk of adverse environmental effect, (2) adversely affect public access, or (0) involve a change in use contrary to any policy of this division. Any improvement so specified by the commission shall require a coastal development permit.
(c) Maintenance dredging of existing navigation channels or moving dredged material from such channels to a disposal area outside the coastal zone, pursuant to a permit from the United States Army Corps of Engineers.
(d) Repair or maintenance activities that do not result in an addition to, or enlargement or expansion of, the object of such repair or maintenance activities; provided, however, that if the commission determines that certain extraordinary methods of repair and maintenance that involve a risk of substantial adverse environmental impact, it shall, by regulation, require that a permit be obtained under this chapter.

(e) Any category of development, or any category of development within a specifically defined geographic area, that the commission, after public hearing, and by two-thirds vote of its appointed members, has described or identified and with respect to which the commission has found that there is no potential for any significant adverse effect, either individually or cumulatively, on coastal resources or on public access to, or along, the coast and that such exclusion will not impair the ability of local government to prepare a local coastal program.

(f) The installation, testing, and placement in service or the replacement of any necessary utility connection between an existing service facility and any development approved pursuant to this division; provided, that the commission may, where necessary, require reasonable conditions to mitigate any adverse impacts on coastal resources, including scenic resources.

(g) The replacement of any structure, other than a public works facility, destroyed by natural disaster. Such replacement structure shall conform to applicable existing zoning requirements, shall be for the same use as the destroyed structure, shall not exceed either the floor area, height, or bulk of the destroyed structure by more than 10 percent, and shall be sited in the same location on the affected property as the destroyed structure.

As used in this subdivision, "natural disaster" means any situation in which the force or forces which destroyed the structure to be replaced were beyond the control of its owner.

As-used in this subdivision, "bulk" means total interior cubic volume as measured from the exterior surface of the structure.

APPENDIX B
Definitions

SOURCE: CALIFORNIA COASTAL ACT

30101

Coastal-dependent development or use means any development or use which requires a site on, or adjacent to, the sea to be able to function at all.

30101.3

Coastal-related development means any use that is dependent on a coastal-dependent development or use.

30106.

Development means, on land, in or under water, the placement or erection of any solid material or structure; discharge or disposal of any dredged material or of, any gaseous, liquid, solid, or thermal waste; grading, removing, dredging, mining, or extraction of any materials; change in the density or intensity of use of land, including, but not limited to, subdivision pursuant to the Subdivision Map Act (commencing with Section 66410 of the Government Code), and any other division of land, including lot splits, except where the land division is brought about in connection with the purchase of such land by a public agency for public recreational use; change in the intensity of use of water, or of access thereto; construction, reconstruction, demolition, or alteration of the size of any structure, including any facility of any private, public, or municipal utility; and the removal or harvesting of major vegetation other than for agricultural purposes, kelp harvesting, and timber operations which are in accordance with a timber harvesting plan submitted pursuant to the provisions of the Z'berg-Nejedly Forest Practice Act of 1973 (commencing with Section 4511).

As used in this section, "structure" includes, but is not limited to, any building, road, pipe, flume, conduit, siphon, aqueduct, telephone line, and electrical power transmission and distribution line.

30107

Energy facility means any public or private processing, producing, generating, storing, transmitting, or recovering facility for electricity, natural gas, petroleum, coal or other source of energy.

30107.5

Environmentally sensitive area means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.

30108.2

Fill means earth or any other substance or material, including pilings-placed for the purposes of erecting structures thereon, placed in a submerged area

30114.

Public works means the following:

(a) All production, storage, transmission, and recovery facilities for water, sewerage, telephone, and other similar utilities owned or operated by any public agency or by any utility subject to the jurisdiction of the Public Utilities Commission, except for energy facilities.

(b) All public transportation facilities, including streets, roads, highways, public parking lots and structures, ports, harbors, airports, railroads, and-mass transit facilities and stations, bridges,_ trolley wires, and other related facilities. For the purposes of this division, neither the Ports of Hueneme, Long Beach, Los Angeles, nor San Diego Unified Port District nor any of the developments within these ports shall be considered public works.

(c) All publicly financed recreational facilities, all projects of the State Coastal Conservancy, and any development by a special district.

(d) All community college facilities.

30121

Wetland means lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens.

SOURCE: DRAFT STATEWIDE INTERPRETIVE GUIDELINES ON WETLANDS AND OTHER WET AREAS, CALIFORNIA COASTAL COMMISSION, UPDATED TO November 17, 1980.

Wetlands.

Usually wetlands can be easily identified but in some cases, due to the highly variable conditions along the California coast, distinguishing wetland boundaries may be difficult. In such cases, the Coastal Commission will rely in part on the presence of hydrophytes (plants typically found in wet habitats) and/or the presence of hydric soils (wet soils). When there is doubt as to whether a particular area can be considered a wetland under the Coastal Act, or when it is not clear where a wetland boundary is located, the permit applicant will be required to submit a map identifying wetland areas within 500 feet of the proposed development using technical criteria supplied by the Commission.

Estuaries.

For the purposes of these guidelines, an "estuary" is a coastal water body usually semi-enclosed by land, but has open, partially obstructed, or intermittent exchange with the ocean and in which ocean water is at least occasionally diluted by fresh water runoff from the land. The salinity may be periodically increased above the open ocean by evaporation. In general, the boundary between "wetland" and "estuary" is the line of extreme low water.

Streams and Rivers.

For the purposes of these guidelines a "stream" or "river" is a perennial or intermittent watercourse mapped by the United States Geological Survey on the most current 7.5 minute quadrangle series, or identified in a local coastal program,

Lakes.

For the purposes of these guidelines, "lakes" are confined, perennial water bodies mapped by the United States Geologic Survey on the most current 7.5 minute quadrangle series, or identified in a local coastal program.

Open Coastal Waters and Coastal Waters.

For the purposes of these guidelines, "open coastal waters" or "coastal waters" refer to the open ocean overlying the continental shelf and its associated coastline. Salinities exceed 30 parts per thousand with little or no dilution except opposite mouths of estuaries.

Furthermore, for the purposes of these guidelines, some portions of open coastal waters, generally areas without especially significant plant or animal life, may not be environmentally sensitive habitat areas. Environmentally sensitive habitat areas within open coastal waters may include Areas of Special Biological Significance as identified by the State Water Resources Control Board, habitats of rare or endangered species, near-shore reefs, and kelp beds.

Riparian Habitats.

For the purposes of these guidelines, a "riparian habitat" is an area of riparian vegetation. This vegetation is an association of plant species which grow adjacent to freshwater watercourses, including perennial and intermittent streams, lakes, and other bodies of fresh water.

NOTE: The technical background material for these guidelines and a more thorough explanation of wet habitats and their definition may be obtained from the California Coastal Commission.

APPENDIX C

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

MINIMUM GUIDELINES FOR THE CONTROL OF INDIVIDUAL WASTEWATER TREATMENT AND DISPOSAL SYSTEMS

April 17, 1979

RECOMMENDED MINIMUM GUIDELINES FOR THE CONTROL OF INDIVIDUAL WASTE TREATMENT AND DISPOSAL SYSTEMS

Introduction

Section 13269 of the California Water Code provides that a Regional Board may waive the filing of reports of waste discharge for certain specific types of discharge where such waiver is not against the public interest. Such waiver shall be conditional and may be terminated at any time by the Board. In the early 1960's the Board adopted waivers for reporting certain septic tank discharges in all Bay Area counties except San Francisco and Marin. The Policy on Discrete Sewerage Facilities states the Board's intent to review the matter of septic tank system discharge waivers.

These guidelines have boon developed to provide recommended minimum uniform regional criteria to protect water quality and to preclude the creation of health hazards and nuisance conditions which could result from the use of individual wastewater treatment and disposal *systems* (mainly septic tank systems). These guidelines will be used by the Regional Board to assist in deciding whether to renew, amend, or rescind existing waivers, or to issue new ones.. Since the waivers must not be against the public interest, the Regional Board will examine many factors in addition to compliance with these guidelines. Some of these factors are:

1. How effectively are septic tank systems being regulated in the area under consideration, i.e. are they causing or threatening to cause water quality problems, nuisance, or health hazards.

2. If septic tank systems arc causing or threatening problems that are unacceptable, what mitigation measures are .required to reduce impacts to acceptable levels and what are the impacts of the mitigation measures.

3. If a waiver wore not adopted in a specific area, what would be the probable effect on septic tank system regulation and on Regional Board workload.

4. Evaluation of the capability of individual systems to achieve continuous safe disposal of wastes requires detailed local knowledge of the area involved. The experience and recommendations of local agencies will, therefore, be an important input to the information upon which the Board will base its decision.

There are great differences in the geology, hydrology, geography, and meteorology of the nine counties which lie partially or wholly within the San Francisco Bay Region. These guidelines represent minimum criteria generally acceptable for the construction and use of new individual wastewater disposal systems for single family residences. Sections of these guidelines may also be used to determine soil suitability for land divisions as well as for the construction and use of individual systems for other types of domestic discharges (i.e. church, motel, etc.). Adherence to these guidelines does not guarantee acceptable operation of a system.

These guidelines do not discourage a local agency from adopting and enforcing comparable or more stringent regulations. Local Agencies arc encouraged to adopt more stringent criteria when warranted by local conditions. Where local standards are more stringent they would take precedent over the minimum guidelines proposed by the Board. The Board does not intend to preempt local authority and will support local authority to the fullest extent possible.

Scope

The provisions of these guidelines apply to the regulation, design, construction, installation, operation & maintenance of septic tank and soil absorption systems. Guidelines arc also provided covering the areas of cumulative impacts and the use of alternative systems.

I. Design:

A. Septic-Tanks

(1) Septic tank design shall he such as to produce a clarified effluent consistent with acceptable standards (Part 1 - Section of a Septic Tank, USPHS manual ref. 6 or the Uniform Plumbing Code ref. 34) and shall provide adequate space for sludge and scum accumulations.

B. Soil Absorption Systems

(1) Dual leachfields shall be required for all new disposal systems.

(2) The dual system shall consist of two, fields each sized separately according to section I-B-5 and constructed according to section II-B (below).

(3) The two fields shall be connected by a diversion valve which allows alternate use of the fields. It is recommended that each field use be alternated on a 6-12 month basis. A post card system may be used to inform the homeowner to turn the valve.

(4) In addition, a reserve area, compatible with the life of the discharge, may be required by the Health officer.

(5) Absorption area, in terms of effective infiltrative surface, can be calculated from the following table.

Maximum Effluent Loading Rates of Soil Absorption Systems	
Percolation Rate min/in (in/hr)	Maximum Leading Rate (gal/ft^2/day)
less than 1	system prohibited
1 (60)	1.58
2 (30)	1.24
3 (20)	1.0
4 (15)	.86
5 (12)	.82
10 (6)	.64
20 (3)	.45
30 (2)	.3
40 (1.5)	.26
60-120 (1-.5)	.22
*effective infiltrative surface includes the bottom area plus all but the upper six inches of gravel for the sidewall area. The minimum depth of gravel in the trench shall be twelve inches.	

(6) When non-standard percolation test holes are used adjustments to the percolation rates must be made using the adjustment factor contained in the following table.

Percolation Rate Adjustment Factors		
Hole diameter	Adjustment factor for (hole diameter)	Adjustment factor for (hole diam. plus pipe & gravel)
4 inches	2.5	3.6[1]
6 inches	1.8	2.3[2]
12 inches	1.1	1.4[3]
14 inches	1.0	1.2[4]
[1] 3 inch O.D. 1/4" perforated pipe [2] 5 inch O.D. 1/4" perforated pipe [3] 10 inch O.D. 1/2" perforated pipe [4] 12 inch O.D. 1/2" perforated pipe		

example calculation

If a 6" augered test hole measures 10 min/inch, this corresponds to a 18 min/inch standardized per rate (10 x 1.8 = 18}

C. Wastewater Generation for Individual Dwellings

- To calculate the required absorption area, the minimum design shall be for 150 gallons per day for a one bedroom dwelling for each additional bedroom or potential bedroom, add 150 gallons per day.

(2) The use of water saving devices is encouraged. Where permanent devices are used, reduction of the 150 gallon per day per bedroom per day per bedroom flow may be granted by the Health

Officer where the Health Officer can enforce the continued use of the permanent water saving device.

II. Construction Techniques

A. Septic Tanks

(1) On-site disposal system construction plans shall be submitted to the Health Officer (as amended [1]) for review and approval.

B. Soil Absorption Systems

(1) Surface smearing of the infiltrative surfaces during construction shall be corrected by scarfying the infiltrative surfaces after excavation is complete.

(2) Surface runoff shall not he permitted into open trenches during construction to limit siltation of the bottom area.

(3) An effective barrier such as untreated building paper shall be provided to limit the entrance of fines from he soil backfill into the drainfield gravel.

(4) Backfill shall he placed so as to maximize surface runoff and not crush drain lines.

(5) Leachfield lines should be arranged in conformance with the USPHS - Manual of Septic Tank Practice (Section - Serial Distribution).

C. Construction Inspection

(1) All systems shall he inspected during construction by the Health Officer before the system is backfilled.

III. Field Observations for Installation

A. Percolation Test

(1) A standardized procedure as discussed below shall be used to measure percolation rate.

(a) Percolation tests: are to he carried out (in-soils in their native state) at the proposed depth of the soil absorption field. Percolation tests nay be conducted at bottom of backhoe or other excavation holes where deeper testing is required by the Health Officer.

[1] Health Officer: means either the county Health Officer, other responsible administrators, or a regulatory agency approved by the regional Board.

(b) Individual tests are to be run in 12" square or 14" diameter holes dug or bored using hand tools. If power based tools are used remove any smeared soil surfaces from the sides of the hole. Although not recommended, whore different diameter holes are used the percolation rate adjustment factors in section I (B) (6) must be used.

(c) Remove loose material from the bottom of the hole and add 2 inches of coarse sand or fine gravel to protect the bottom from scouring.

(d) If soils tend to collapse, place a perforated pipe (at least 12 inches in diameter in the hole and carefully pack gravel around it between the pipe and the hole wall. (The percolation rate adjustment factor in Section 1(B) (6) must be employed when this method is used.)

(e) Presoaking will be required in all tests. The water shall be carefully placed within the hole. Water must be added to at least 8" in depth over the gravel and maintained at this level for at least 4 hours end preferably overnight. If the soil is known to have a low shrink-swell potential (clay content 15% or loss) testing may proceed (Section F) after the 4 hour presoak. Soils with higher shrink-swell potential are to be tested the following day but within 24 hours of presoaking as follows.

(f) Fill the hole with clean water (no chemical additives) exactly 6 inches above the soil bottom (do not consider the gravel). With a float gauge or secure - fixed reference and time piece determine the time for the water to recede exactly one inch or determine the drop of water after exactly 60 minutes whichever takes less time. Refill and repeat the process until subsequent tests indicate a stabilized rate has been obtained (i.e. throe consecutive rates are within 10% of each other). Time lapse between test intervals should be minimal (5-10 min.). Test results should be reported in units of minutes per inch.

(2) At least three percolation tests shall he made in separate test holes spaced over the proposed. absorption field. The average of the three tests shall be used for determining the appropriate loading rate from the table in Section I(B)(5).

B. Septic Tank and Soil Absorption System Setbacks

(1) The minimum distance (feet) between the septic tank - soil absorption system and various physical site features shall be as shown in the following table:

	Septic Tank	Disposal Field
All wells All streams and waterbodies* reservoirs* cuts or embankments** drainageway	50 50 100 10 50	100 100 200*** 4h** 50
* Distances are as measured front the top edge of streambanks or high water mark of lakes & reservoirs. ** Distance in feet equals four times the vertical height of the cut or fill bank. Distance is measured from the top edge of the bank. Where an impermeable layer intersects a cut hank the setback shall ha 100 foot. ***See Section V(A)(1) for watershed protection requirements.		

(2) The minimum distances between the septic tank - soil absorption system and structures or legal sit condition: should be consistent with the USPHS recommendations or other distances as determined by the Health Officer.

C. Depth to Groundwater

(2) Depth to the highest seasonal elevation of the water table, below, the bottom of the leachfield trench, shall be as shown in the following table.

Percolation Test Rate (min/inch)	Minimum depth (ft) to seasonally high water table
greater than 5	3
between 1 and 5	20
less than 1	system prohibited

(2) Demonstration of meeting the depth to water table requirements should he through the use of (at least one) field observation hole (in the area of the proposed field) or through historical records acceptable to the Health Officer.

D. Depth to Impermeable Layer

(1) Depth to an impermeable layer (i.e. clay to solid granite), below the bottom of the leachfield, shall be 3 to 5 feet.

(2) Demonstration of meeting this, depth requirement should be through the use of a field observation hole, historical records acceptable, to the Health Officer or a backhoe hole.

E. Slope

(1) Ground slope of the field shall not exceed 20%.

(2) Variances may be granted by the Health Officer on a case-by-case basis whore it can be demonstrated, through a technical report prepared by a State registered civil engineer (with soils and a geological background) or geologist, that use of a soil absorption system will not surface in the absorption field or reserve area, create water quality problems, jeopardize contiguous properties, and affect soil stability:

F. Trench Spacing and Depth

(1) The minimum spacing between trench walls shall be calculated as twice the of effective depth. (effective depth being the depth of drain rock below the pipe.)

(2) Because of potential construction hazards, design questions and questionable operation, the maximum depth of the disposal trench should not exceed 8 feet.

IV. Operation and maintenance

A. Septic Tank - Soil Absorption System

(1) It is the responsibility.-of the Health Officer to assure. That all systems within the county are maintained and operating satisfactorily.

(2) All new systems shall be inspected at a frequency of_ at least once every two years to determine sludge and scum depths, observe evidence of surfacing effluent, and to assess general system operation. This inspection frequency may be-' waived on a case-by-case basis to a frequency of not less than once every five years where the health officer has determined that adequate operation and maintenance will be assured through other means.

B. Septage Disposal

(1) Continue existing practice of septage disposal at approved class II landfill sites and to wastewater treatment plants which will accept it.

C. Correction of System Failures Utilizing Alternative Systems

(1) Approval to use alternative systems to correct existing septic tank soil absorption system failures may be allowed under the following conditions:

(a) Where the Health Officer has approved the system pursuant to criteria approved by the Regional Board Executive Officer;

(4) Where the Health officer has informed the Regional Board Executive officer of the proposed system correction; and

(5) Where a public entity assumes responsibility for inspecting, monitoring and enforcing the maintenance of the system.

a. Abandoned Individual System

(1) Every individual which has boon abandoned or has been discontinued from further uses or to which no waste or soil pipe from a plumbing fixture is connected shall:

(a) Have the sewage removed from and disposed of in a manner approved by the Health Officer; and

(b) Be either completely filled with material (concrete, etc.) approved by-the Health Officer or be removed and disposed of in a manner approved by the Health Officer.

V. Cumulative Impacts & Alternative Systems

A. Watershed Protection

(1) A cumulative impact assessment approach, shall be considered for watershed areas which are susceptible to development utilizing septic tank - soil absorption systems.

B. Mounding of the Groundwater Table

(1) When considering a single septic tank - soil absorption system, the requirements of Section III-C depth to groundwater, Section III-D depth to impermeable layer, and Section III-F trench spacing are sufficient.

(2) When considering areas where the ultimate density of systems is such that adverse impacts on water quality and/or public health may occur, a cumulative impact assessment approach should be considered.

C. Lot Size (Density of Systems Within a Given Area)

(1) A cumulative impact assessment approach should be utilized in establishing an allowable upper limit on the number of systems.

D. Cesspools & Drainage Walls

(1) Cesspools are prohibited from use.

(2) Drainage wells are prohibited from use by the Regional Boards Resolution No. 81.

E. Holding Tank

(1) Holding tanks are prohibited from use.

(a) Exceptions to this prohibition may be granted by the Health Officer:

1. If it is necessary to use a holding tank in abating a nuisance and health hazard.

2. If an area is within a sewering agency, sewers are under or proposed for early construction, there is capacity at the wastewater treatment plant the sewering agency assures responsibility for maintenance of the tank and contracts have been let.

(b) Where exceptions are granted, the Health Officer must also approve the tank pamper.

F. Alternative Systems (with subsurface disposal),

(1) The Regional Board Executive Officer may authorize the Health Officer to approve alternative systems when all of the following conditions are met:

(a) Where the Health officer has approved the system pursuant to criteria approved by the Regional Board Executive Officers.

(b) Where the Health officer has informed the Regional Board Executive Officer of the proposal to use the alternative system and the finding made in (a) above; and

(c) Where a public entity assumes responsibility for the inspection, monitoring and enforcing the maintenance of the system through:

1. Provision of the commitment and the necessary legal powers to inspect, monitor, and when necessary to abate/repair the system; and

2. Provision of a program for funding to accomplish 1 above.

G. Disclosure of the Wastewater Disposal System

(1) There exists a genuine need to inform the potential or unknowing buyer of the home's wastewater disposal system.

(2) The following program *is* suggested in order to fulfill this need:

(a) Prior to entering into an agreement of sale of any residential building, the owner or, authorized representative should obtain from the City or County a copy of the original and any modifications of the_ septic tank - soil absorption system plans (whore available);

(b) The septic tank - soil absorption system plans should be delivered by the owner, or authorized representative to the buyer or transferee of the residential building prior to the consummation of the sale or exchange.

(3) Implementation of such a program could be through. the adoption of a local ordinance by the septic tank system permitting authority, which imposes such conditions as part of a building permit, septic tank system permit or any renewal of the septic tank system permit.

(4) To further encourage disclosure and to provide long term integrity of the individual wastewater treatment and disposal system, any county or other public entity which approves a subdivision or other division of land should require as a condition of its approval that the proponent of the development provide assurances by w ray of covenants, conditions and restrictions or drainage or other easements hat the septic tank-soil absorption system (including any reserve area) will be available solely for its original intended purpose for the life of the development. Regarding currently existing individual parcels, any county or other public entity which issues a septic tank system permit should include as a condition of the permit or otherwise by ordinance that the property owner provide assurances by way of covenants, conditions and restrictions or drainage or other casements that the septic tank-soil absorption system (including any reserve area) will be available solely for its original intended purpose for the life of the development.

APPENDIX D

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APPENDIX E - HISTORIC PRESERVATION

RECOMMENDED HISTORIC AREA BOUNDARIES

Historic area boundaries were selected for groups of historic structures in areas within coastal communities. Criteria used in defining historic areas were visual access and coherent grouping as well as architectural and historic composition. Groups of non-conforming structures that disrupt the historic quality of an area were excluded. Area boundaries are described in this section, followed by maps of the recommended boundaries.

TOMALES

Parcels bordering Highway 1 from the Rectory and the Church of Our Lady of the Assumption (AP 4102-030-02,03) on the south to the two ranches (AP X102-010-03,04), north of town are included in the historic area of Tomales. John Street is the eastern most boundary and parcels bordering both sides of Church Street, Carrie Street and Railroad Avenue are the western boundary. Parcels on both sides of First Street to Mound Street are also included.

MARSHALL

Historic structures, primarily old homes of the Greek Revival -and Queen Anne styles are scattered along Highway I between Nick's Cove and Point Reyes Station, A cluster of structures, located in Marshall along the shoreline, are designated within an historic area. This area includes Marshall Store (AP #106-010-07) to the north, Jo Shields and Sons Coal and Feed, and Marshall Tavern (AP #106-020-35) to the south,

POINT REYES STATION

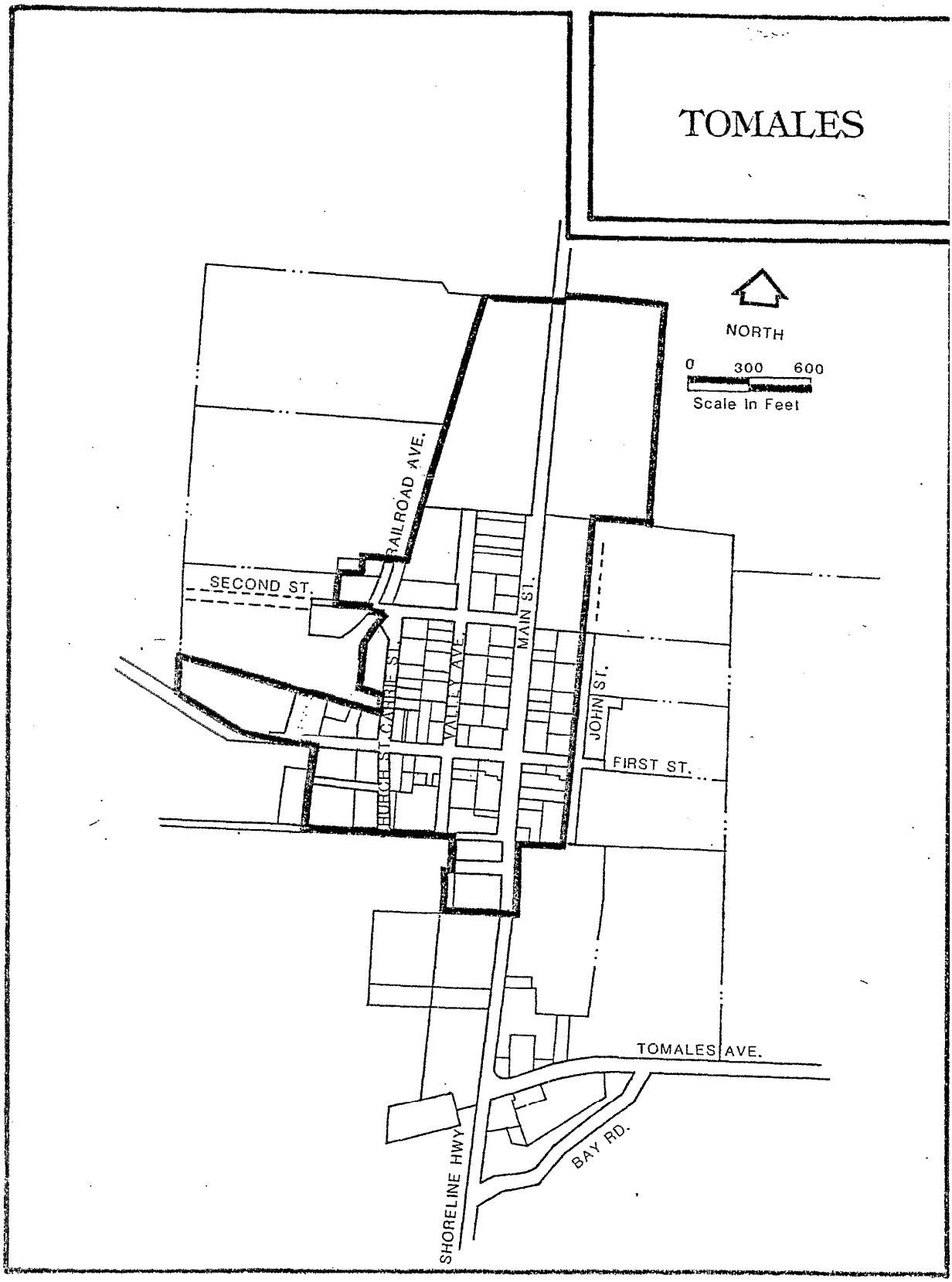
Historic area boundaries in Point Reyes Station encompass the-downtown area and extend to C Street to the west. Parcels east of C Street, south of Sixth, east of B Street up to Eighth, parcels bordering both sides of Mesa Road from Lorraine Avenue to First Street and parcels east of Highway 1 up-to Lagunitas Creek are included

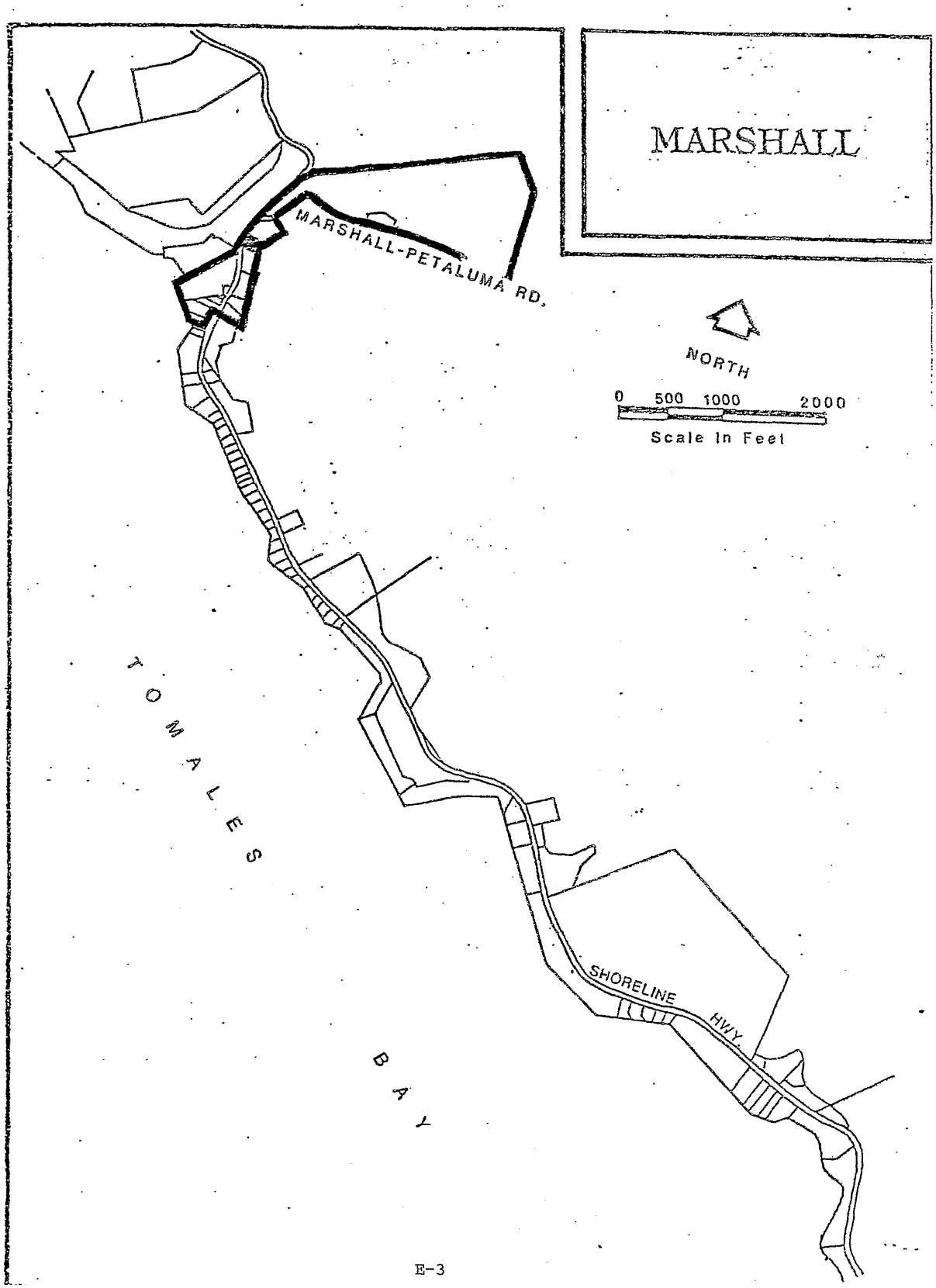
OLEMA

The historic area for Olema includes parcels bordering Highway 1 from Olema Inn (AP #166-202-01) to the former Druid's Hall (AP 1166-213-02) on the east side, and from 10045 State Route 1 (AP #166-191-04) to the apartment house immediately south of Jerry's Farmhouse (AP #166-201-10) on the west side.

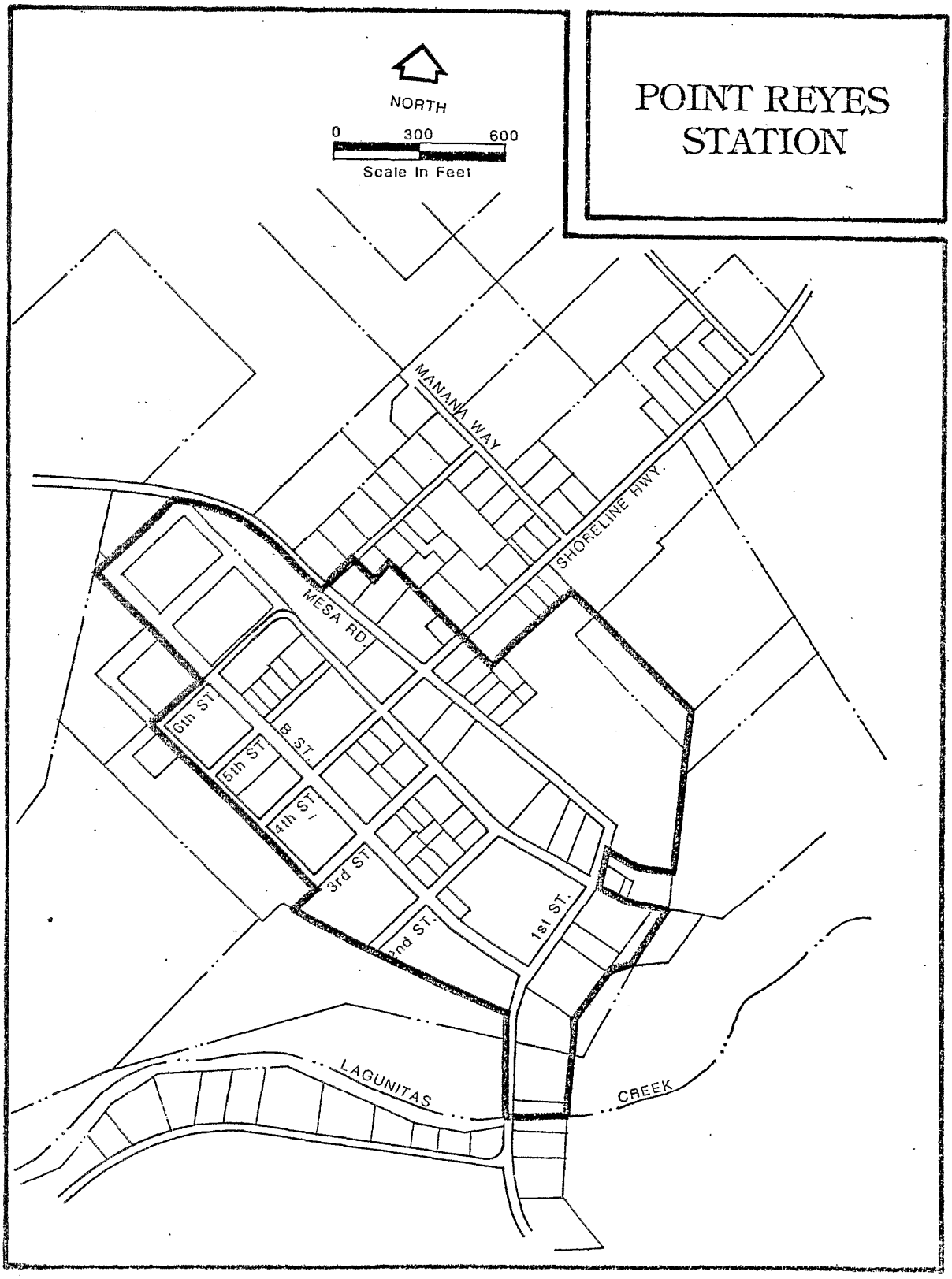
INVERNESS

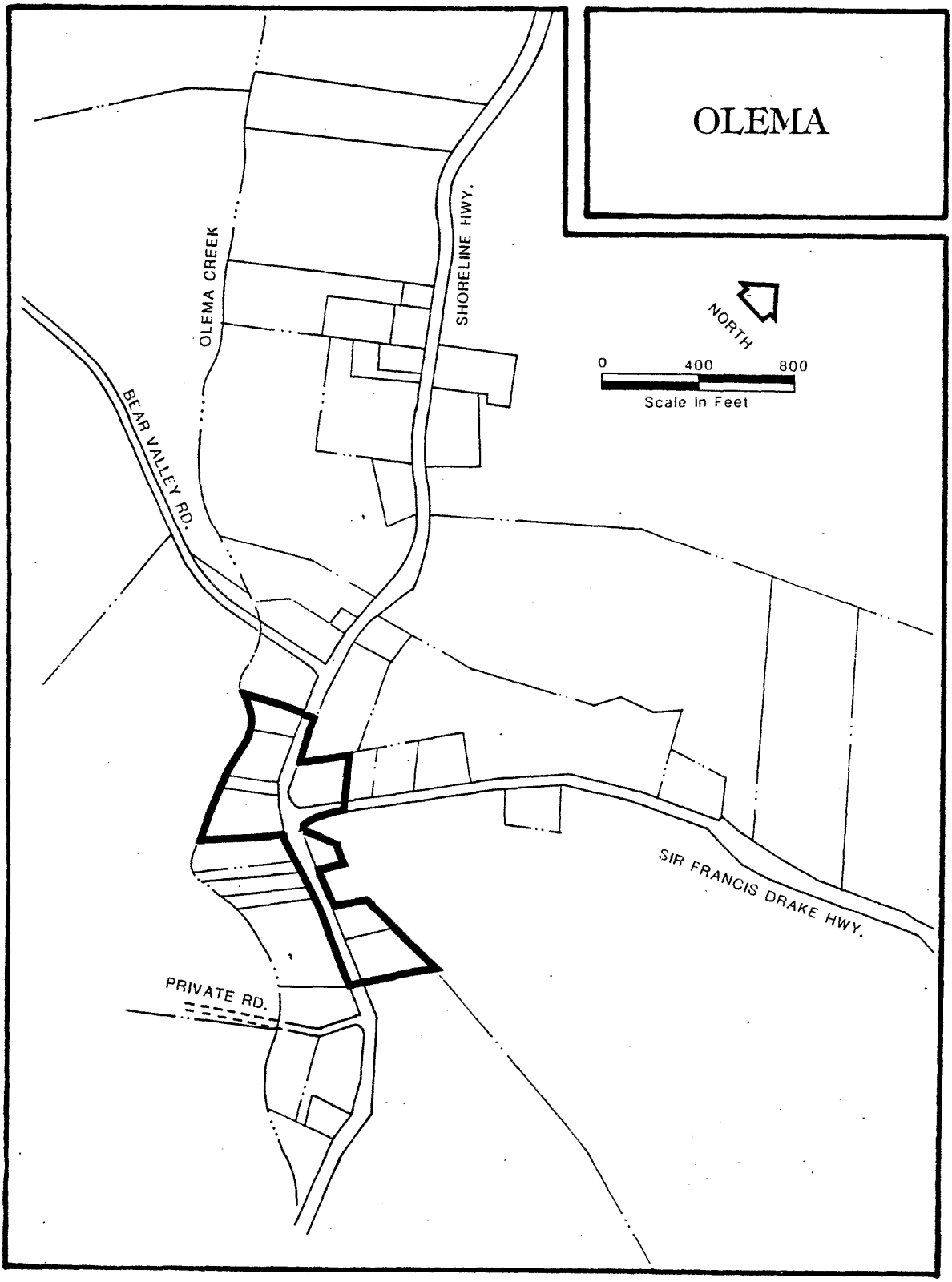
Boundaries of the historic area in Inverness are restricted to cohesive visual units within public view. The historic area in this community encompasses parcels along Sir Francis Drake Boulevard (SFD) in the vicinity of Inverness Store and parcels along Inverness Way from SFD to its junction with Hawthornden Road. Parcels south of Hawthornden to Park Avenue are included.

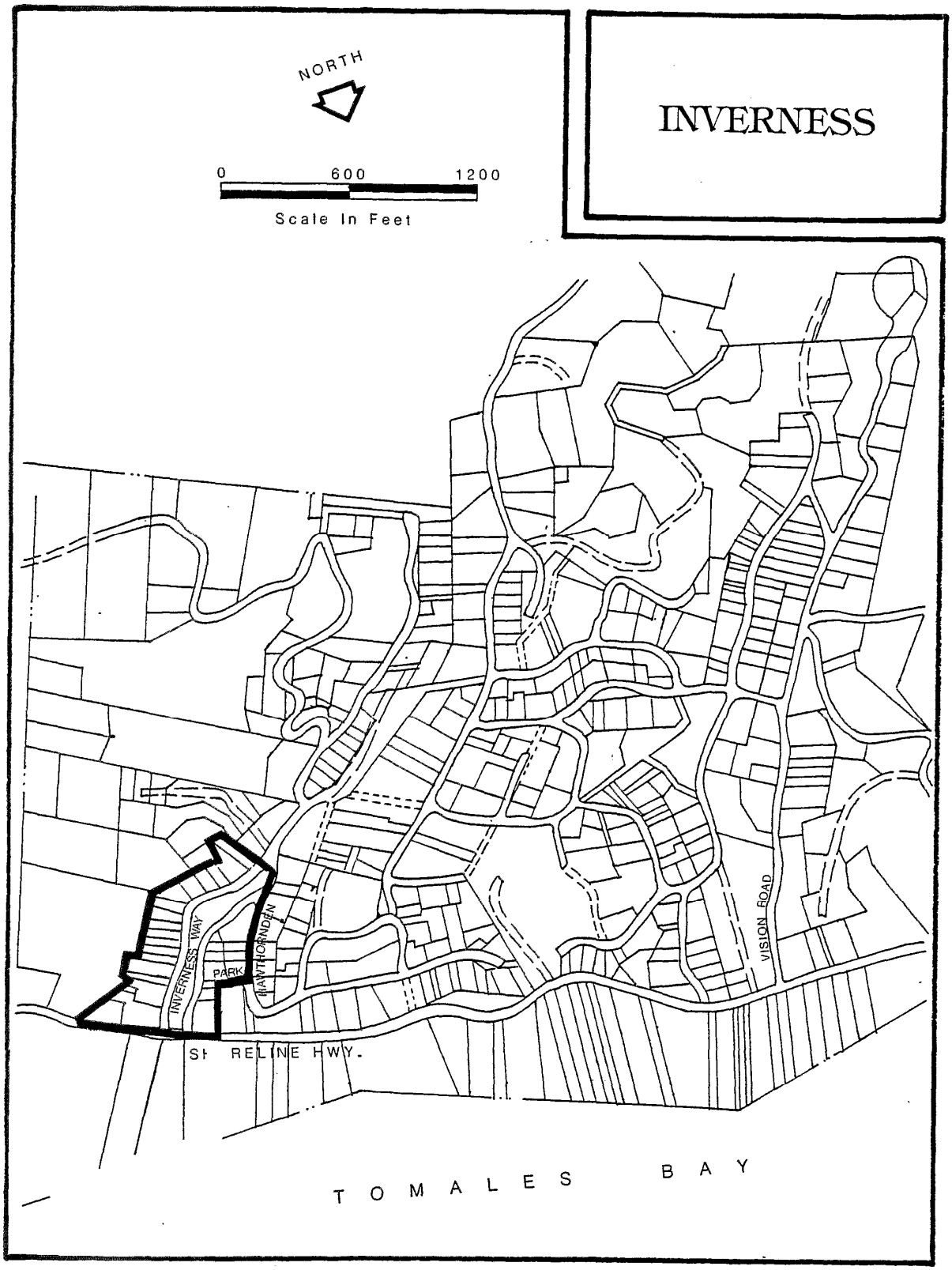

TOMALES
NORTH
0 300 600
Scale In Feet
RAILROAD AVE.
SECOND ST.
MAIN ST.
VALLEY AVE.
HUNGRY CANYON ST.
JOHN ST.
FIRST ST.
TOMALES AVE.
BAY RD.
SHORELINE HWY


MARSHALL
MARSHALL-PETALUMA RD.
NORTH
0 500 1000 2000
Scale In Feet
TOMALES
BAY
SHORELINE HWY.

E-3


POINT REYES STATION
NORTH
0
300
600
Scale In Feet
MANANA WAY
SHORELINE HWY.
MESA RD.
6th ST.
5th ST.
4th ST.
3rd ST.
2nd ST.
B ST.
1st ST.
LAGUNITAS
CREEK


OLEMA
NORTH
0
400
800
Scale In Feet
OLEMA CREEK
SHORELINE HWY.
BEAR VALLEY RD.
SIR FRANCIS DRAKE HWY.
PRIVATE RD.

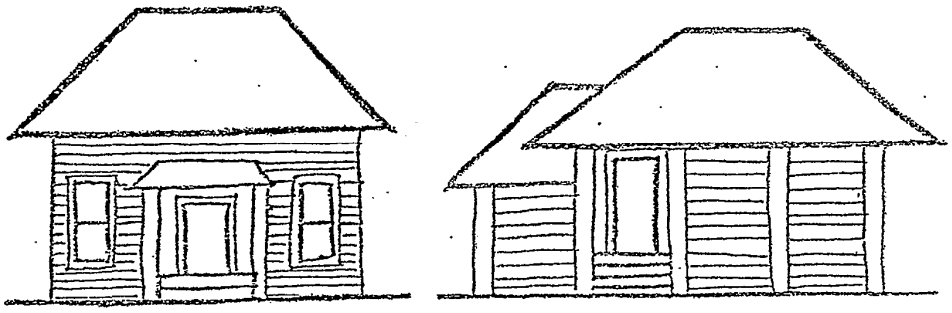

INVERNESS
NORTH
0
600
1200
Scale In Feet
INVERNESS WAY
PARK
HAWTHORNDEN
VISION ROAD
ST RELINE HWY.
TOMALES BAY

DESIGN GUIDELINES FOR CONSTRUCTION IN HISTORIC AREAS AND FOR PRE-1930"S STRUCTURES

Technology has quickened the pace of change and introduced a great variety of building materials and construction methods. Since personal tastes and social attitudes often govern today's choice of materials and methods, design review has been introduced to guarantee carefully executed design solutions.

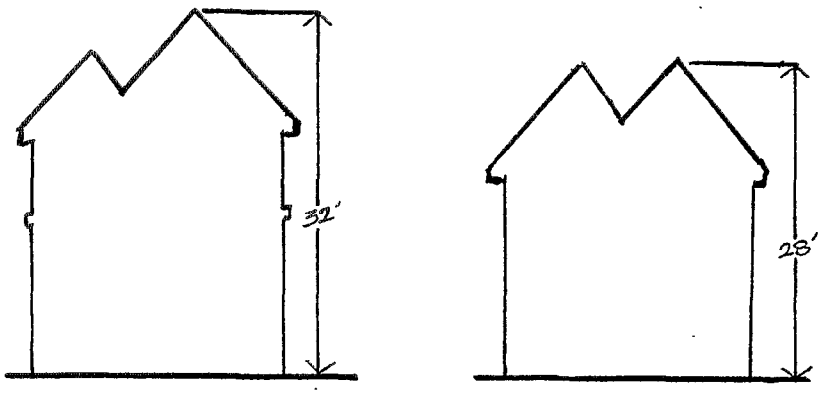
The landscape and buildings of a healthy community exhibit continuity of a community's past and present. In recognition of this concept, a properly instituted design review program aims to insure guided freedom for future growth in historic areas. Design review will vary according to conditions in particular communities, but should insure that new buildings conform in scale, proportions and texture to existing community form.

The design principles and standards below are intended to insure maximum compatibility of remodeling and new construction with older buildings in historic districts.



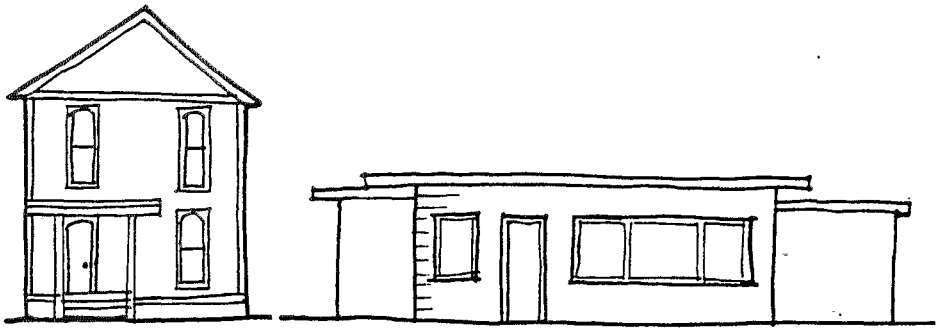
REPETITION OF ROOF SHAPE

Similarity of roof shapes is often the most important means for achieving continuity in design between new and old buildings in historic areas. Roofs are an important factor in the overall design of a building to help relate items such as height and scale to those adjacent structures:



CONSISTENT BUILDING HEIGHT

New buildings should be constructed to a height within a reasonable average height of existing adjacent buildings.



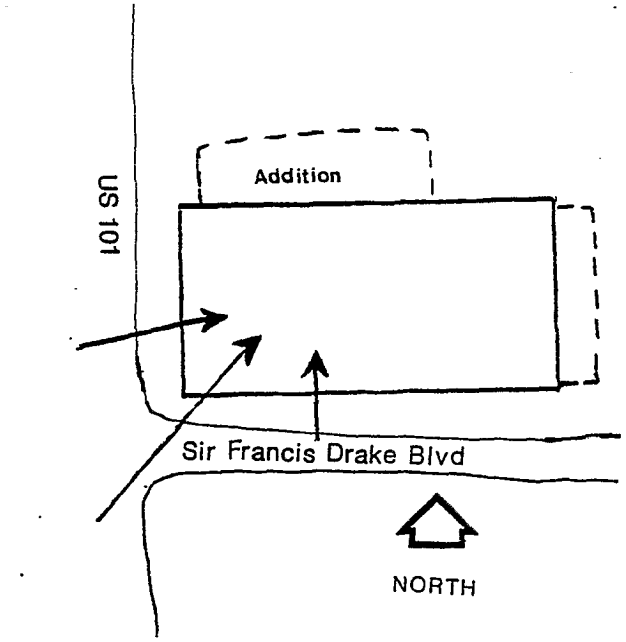
DIRECTIONAL EXPRESSION OF FRONT ELEVATIONS

Structural shape, placement of openings, and architectural details may give a predominantly vertical, horizontal, or a non-directional character to a building's facade. If buildings in a historic district are predominantly vertical expressions, then new buildings should be vertical expressions also.

19th century buildings tend to be vertical while 20th century buildings often have a horizontal emphasis.

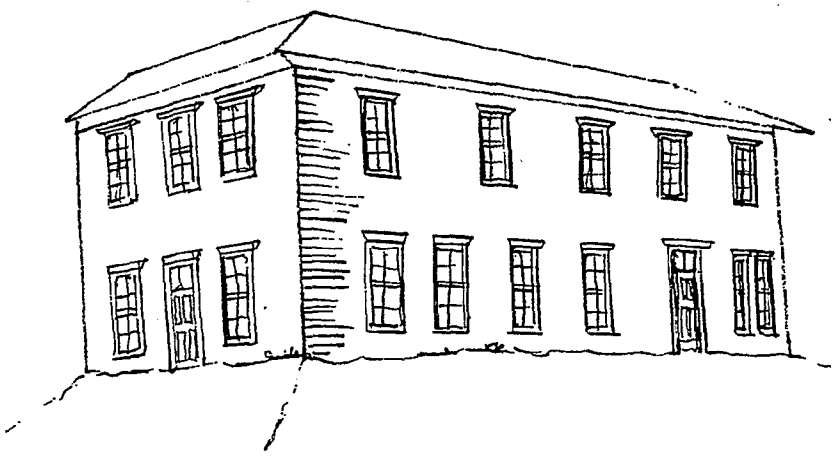
PLACEMENT OF NEW ADDITIONS TO HISTORIC BUILDINGS

The most important facade of any building is generally the frontal facade; this is particularly true when viewing a streetscape. The front elevation, and side elevation on a corner building, should not have additions added that destroy a building's historic character.



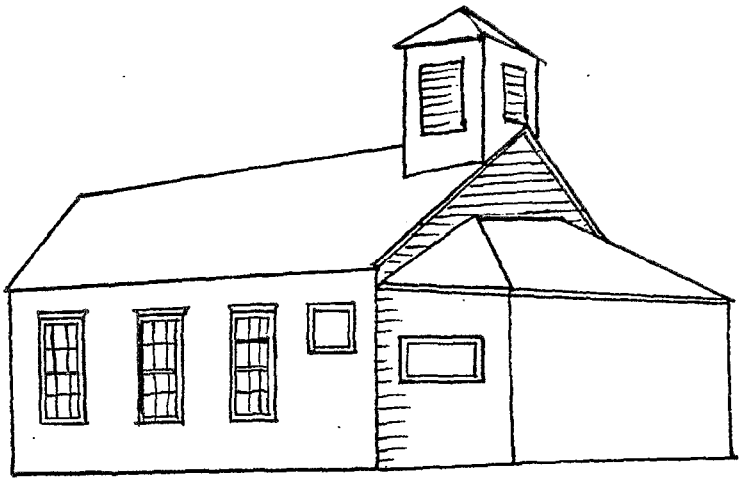
GOOD EXAMPLE
Focal Points of Olema Inn.

Additions were made to the Olema Inn, but these additions left the focal point facades intact.



BAD EXAMPLE

Greek Revival school house with addition on front facade, destroys the focal point view.



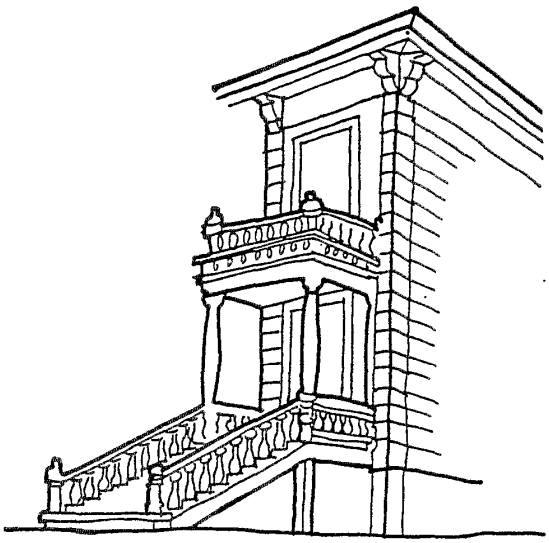
BAD EXAMPLE

Italianate commercial structure with front facade addition.

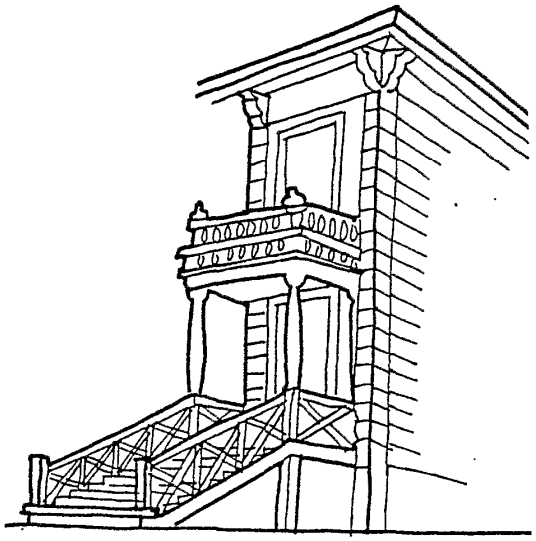
BUILDING SETBACK

Setback is an important consideration in harmonizing new with old in rural historic areas.

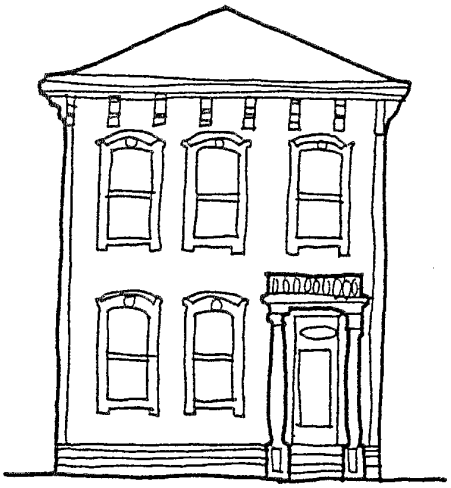
PRESERVE OR REPLICATE HISTORIC DETAILS



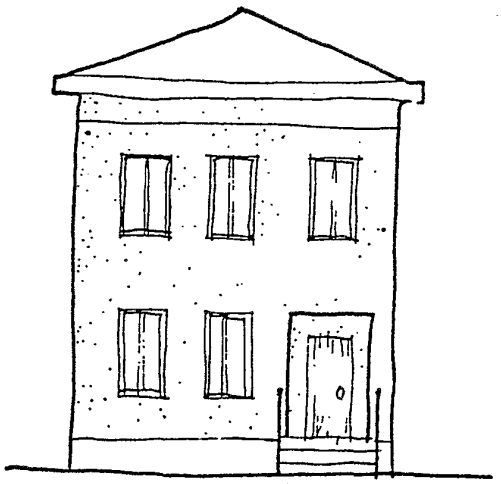
Original: Sympathetic treatment of stairway railing.



Remodeled: Unsympathetic treatment of stairway railing



Original: Precise wooden details around windows, doors, cornice line, at building edges, horizontal lap siding.



Remodeled: Stucco facade destroys integrity of historic structure.

The front facade of the Greek Revival commercial building (in foreground to left) has been "modernized" with the addition of wood shingles and brick. These exterior coverings are not appropriate for Greek Revival. Its next-door neighbor (smaller building to left) retains the Greek Revival feeling.

RELATIONSHIP OF TEXTURES

The texture of a building is an important factor in the overall appearance of a neighborhood. The predominant texture may be smooth (stucco), or rough (brick with tooled joints), or horizontal wood siding, or other textures. Whatever texture is used, its appearance must be considered in relation to the neighborhood to insure a compatible blending with other styles.

The front facade on the Greek Revival commercial building (in foreground to left) has been "marinated" with the addition of wood shingles and brick. These exterior coverings are not, appropriate for Greek Revival. Its next-door neighbor (smaller building to right) retains the Greek Revival feeling, with the original horizontal siding.

REPETITION OF DETAILS

Repetition of details, such as choice of exterior building materials, proportions of windows and doors, gingerbread porch posts and trim, window and door moldings, cornices, lintels, and arches, is extremely important in insuring compatible appearance in new construction in historic areas.

There has been a general misunderstanding about 19th century styles because of the weather-beaten appearance of many vintage buildings. Greek Revival, Queen Anne, Italianate, and Stick architectural styles are precise in their detailing and consistency of proportions. There is a great difference between these precise, albeit weathered, architectural statements, and contemporary efforts to create vintage-style buildings by constructing badly proportioned, indistinctive, rough-shod buildings of rough-sawn plywood or board and batten.

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[1] "Marinated" - the fad in Marin County currently is to add wood shingles whether appropriate or not.

RELATIONSHIP OF COLORS

The proper application of a color scheme to a building or a series of buildings can highlight important features and increase their overall appearance. Accent or blending colors on building details is also desirable in creating compatibility of neighboring structures.

Use of exterior color is of particular importance in the case of a wood frame house where the combination of wall and trim colors usually decides its basic character.

A good color scheme should be neighborly as well as effective in itself, so that both the house and the environment benefit.

RELATIONSHIP OF LANDSCAPING AND PHYSICAL FEATURES

Landscaping should be placed to emphasize design and should enhance a structure rather than detracting from it or obscuring it. Physical features such as picket fences, building facades, beaches, lamp posts, and signs or combinations of these features provide continuity and cohesiveness to a neighborhood.

Efforts to achieve continuity should not be so restrictive that they force mere imitation. However, the design of new buildings in and adjacent to historic areas, and new additions to old buildings must be carefully executed to achieve harmony between old and new. The challenge, particularly in special design districts, is to create contemporary buildings whose flavor and scale compliments, rather than imitates, the predetermined images of the historic setting.

SIGNS AND STREET FURNITURE

Commercial signs are an effective tool for enhancing the historic quality and can be designed to harmonize with the structure. All too often, oversized or modernistic signs are used and detract from the overall charm. For this reason, strict design review for signs is recommended.

Similarly, street furniture (benches, light fixtures and litter containers) should be designed to embellish the historic grace and conform to existing architectural styles. Ingenuity may be required, but these details can provide cohesion and grace.

HISTORIC REVIEW CHECKLIST

The attached Historic Review Checklist has been established to provide an initial determination of compatibility of new construction, alterations and additions in historic areas or for individual pre-1930 structures outside the boundaries of historic districts. Additional background information is available in the Historic Study and in Planning Department files.

This checklist should apply to all types of structures, including outbuildings. Signs and street furniture should be compatible with the historic character of the community.

HISTORIC REVIEW CHECKLIST

Please check the appropriate box in applicable categories.

YES	NO	
		A. NEW CONSTRUCTION, ALTERATIONS AND ADDITIONS
		Does the Project:
_____	_____	1. Preserve distinguishing original qualities or character of the structure or site and its environment?
_____	_____	2. Retain or preserve any previous modifications that evidence the history and development of the structure or site?
_____	_____	3. Has every reasonable effort been made to provide a compatible use for the property in this community?
_____	_____	4. Give consideration to harmonizing street furniture and signs?
		B. NEW CONSTRUCTION
_____	_____	1. Is the roof shape similar to adjacent structures?
_____	_____	2. Is the building height consistent with surrounding structures?
_____	_____	3. Do the front facades give similar directional expressions (vertical or horizontal)?
_____	_____	4. Are building setbacks similar to adjacent structures?
_____	_____	5. Will new landscape features (including parks, gardens, fencing, benches, walk ways and signs), be compatible with the character of the neighborhood?
_____	_____	6. Is the design compatible in scale, design, materials and texture with surrounding structures?

YES	NO	
_____	_____	7. Will a contemporary design that is compatible with the mood and character of the surrounding neighborhood be used?
_____	_____	8. Will mechanical equipment such as air conditioners and television antennae be placed in inconspicuous locations?

C. <u>ALTERATIONS, RESTORATION</u>

_____	_____	1. Has the applicant applied for designation of a historic structure?
_____	_____	2. Does the State Historic Building Code apply?

Will the proposed project:

_____	_____	3. Retain the front of the building to preserve the architectural and historic character of the building?
_____	_____	4. Retain distinctive features such as the size, scale, mass and building materials, including roofs, porches and stairways that give the community its character?
_____	_____	5. Retain landscape features (including parks, gardens, fencing, benches, signs, walkways), that reflect the structure's development and history?
_____	_____	6. Place new additions without destroying focal point views?
_____	_____	7. Preserve or duplicate original details (such as cornices, brackets, windows, doors, shutters, siding, railing) of architectural significance?
_____	_____	8. Repair or stabilize weakened structural members and systems?
_____	_____	9. Retain original materials where possible?
_____	_____	10. Preserve the original roof shape and material?

YES	NO	
_____	_____	11. Retain or replace, where necessary, architectural features in the roof such as dormer windows, chimneys, cornices and brackets?
_____	_____	12. Improve the thermal performance of the building through weather-stripping without damaging window and door frames?
_____	_____	13. Improve or repair drainage to prevent damage to the structure or foundation where necessary?
_____	_____	14. Retain any previous modifications that evidence the history and development of the structure?
_____	_____	15. Make alterations and new additions in such a manner that they can be removed in the future without impairing the essential form and integrity of the structure?

D. RESTORATION

_____	_____	1. Are any deteriorated architectural features being repaired rather than replaced, where possible?
_____	_____	2. Where replacement of deteriorated architectural features is necessary, do new materials match the material being replaced in color, texture, composition and design?
_____	_____	3. Will cleaning methods undertaken damage the historic building materials?

E. DEMOLITION

_____	_____	1. Is the building or structure of such architectural or historic interest that its removal would be to the detriment of public interests?
_____	_____	2. Is the building or structure of such interest or significance that it could be designated as a National, State or local historic landmark?

YES	NO	
_____	_____	3. Is the building of such old and unusual or uncommon design, texture and/or material that it could not be reproduced or be reproduced only with great difficulty and/or expense?
_____	_____	4. Would retention of the building or structure help preserve and protect an historic place or area of historic interest in the County?
_____	_____	5. Would retention of the building or structure promote the general welfare of the community by encouraging study of local history, architecture and design or by developing an understanding of the importance and value of the local culture and heritage?
_____	_____	6. Can the structure be converted to another use?
_____	_____	7. Is the structure in a state of major disrepair?
_____	_____	8. Has the local historical group or society been contacted?
_____	_____	9. Has the State Historic Preservation Office been contacted?
_____	_____	10. Has an attempt been made to locate a purchaser for the property?
_____	_____	11. Has an alternative site for the structure been researched?

APPENDIX F

Adopted Resolutions 1982 through 1987:
(Unit II LUP amendments only)

Plan/ Amendment #	1st BOS Resolution No. & Date	CCC Initial Action	2nd BOS Resolution/ Ordinance No. & Date *(if applicable)*	CCC Final Action: [ED Checkoff] *(if applicable)*	Description
LCP No. 1-81 Unit II LUP	81-353, 11/3/81 81-354, 11/3/81	Approved (Minor) as submitted, 2/5/82	n/a	n/a	*Res. 81-353* amends Unit II LUP sections pertaining to: public access, wetlands, public trust lands, public services, and dev. standards for the shoreline of Tomales Bay. *Res. 81-354* amends Unit II LUP sections pertaining to: recreation & visitor-serving facilities (Dillon Beach), and new dev. & land use (Pt Reyes Station, Inverness Ridge, East Shore, and Dillon Beach/Oceana Marin).
LCP No. 1-82 Unit II LUP	82-257, 6/22/82;	Approved as submitted, 9/7/82;	n/a	n/a	*Res. 82-*257 amends Unit II LUP Historical & Archaeological Resources background (p. 193) and Policies 1.a, 1.b and 1.c (p. 206), and adds Appendix E regarding Historic Preservation.
LCP No. 2-83A Unit II LUP	• 83-253, 6/14/83	Approved as submitted, 8/11/83	n/a	n/a	*Res. 83-253* amends Unit II LUP Public Services Policy #2(a) (p. 187).
LCP No. 1-87 Unit II LUP	• 87-278, 8/4/87	• Approved as submitted (Exhibits 'B' and 'C' only*), 9/8/87	87-360*, 10/13/87	n/a	Amends LCP Unit II Recreation & Visitor-Serving Facilities Policy #3.e.1 and 3.e.3 (pp. 48-49), and New Development & Land Use Policy #8.e.2 (p. 215). [Exhibit 'C']

Appendix G

The following land use categories and densities have been incorporated from the Marin Countywide Plan:

1. Coastal, Single-family Residential Land Use Category and Density.
   Single-family residential development shall be provided at a range of lower densities, recognizing physical hazards and development constraints, the necessity to protect natural resources, and the availability of public services and facilities. Other consistent uses may include parks, playgrounds, crop and tree farming, nurseries and greenhouses, home occupations, schools, libraries, museums, community centers, churches, hospitals, retreats, educational, philanthropic and charitable institutions, cemeteries, golf courses, country clubs, stables and riding academies, and daycare centers for six or more children.

   Single family 4. 1 to 2 units per acre. Commercial floor area ratio: 10% to 15%. Consistent zoning includes: C-RA:B-3.

2. Coastal, Multiple-family Residential Land Use Category and Density.
   Predominantly multi-family development shall be provided in areas where increased density can be accommodated due to a full range of urban services and location near collector and arterial streets, transit service and neighborhood, community and regional shopping facilities. Other consistent uses may include lodges, fraternity and sorority houses, museums, motels, hotels, apartments and incidental businesses, hospitals, rest homes, sanitariums and clinics, educational, philanthropic and charitable institutions, child care centers, offices, libraries, churches, community centers and cemeteries.

   Multiple-family 2. 1 to 4 units per acre. Commercial floor area ratio: 10% to 30%. Consistent zoning includes C-RMP-1 to C-RMP-4.

3. Coastal, Residential Commercial Land Use Category and Density.
   Consistent uses include crop and tree farming, nurseries, greenhouses, stores, shops, offices, banks, restaurants, hospitals, meeting halls, community centers, schools, libraries, churches, museums, child care centers, educational, philanthropic and charitable institutions, and residential dwellings.

   Coastal, Residential Commercial. 1 to 20 units per acre. Commercial floor area ratio: 30% to 50%. Consistent zoning includes C-RMPC.

4. Public and Quasi-public Land Use Category and Intensity.
   Land shall be designated for both public and quasi-public institutional purposes, including open space, schools, hospitals, cemeteries, government facilities, correctional facilities, power distribution facilities, sanitary landfills, and water facilities. Only publicly owned lands may be designated for open space unless subject to deed restrictions or other agreements. Lands designated as public or quasi-public facilities may be combined with another land use designation and zoned for consistency with use as a public facility and for another use.

   Coastal, Open Space. Consistent zoning includes C-OA.

[Appendix G added as shown pursuant to BOS Resolution No. 2002-27 [3/19/02], CCC approved as submitted 5/9/02]