CALIFORNIA COASTAL COMMISSION
CENTRAL COAST DISTRICT OFFICE
725 FRONT STREET, SUITE 300
SANTA CRUZ, CA 95060
PHONE: (831) 427-4863
FAX: (831) 427-4877
WEB: WWW.COASTAL.CA.GOV

F10a

Prepared February 17, 2010 (for March 12, 2010 hearing)

To: Coastal Commissioners and Interested Persons

From: Dan Carl, District Manager
Susan Craig, Coastal Planner

Subject: **UCSC Marine Science Campus Coastal Long Range Development Plan (CLRDP) Notice of Impending Development 2 (Younger Lagoon Reserve Beach Access Management Plan).** Coastal Commission consideration of UCSC's notice regarding their intent to implement the first required five-year beach access management plan, including docent-led tours to Younger Beach and a five-year flora and fauna monitoring program, pursuant to the certified CLRDP.

A.Staff Recommendation

1. Summary of Staff Recommendation

University of California at Santa Cruz's (UCSC's) Marine Science Campus Coastal Long Range Development Plan (CLRDP) was certified by the Coastal Commission on January 7, 2009. UCSC is now pursuing its second project pursuant to the CLRDP, and has submitted the above-referenced notice of impending development (NOID) to the Commission and is requesting that the Commission concur that the proposed project is consistent with the certified CLRDP.

UCSC proposes to implement a management plan to allow for supervised access to Younger Beach, which is a component of Younger Lagoon Reserve (Reserve). This beach area has been closed to general public access since 1981, with access since then limited to UCSC researchers. When the Commission certified the CLRDP in 2009, it required that the five-year re-review parameters associated with the original closure extend into the CLRDP and that supervised access, and at a minimum docent-led access, be provided to Younger Beach. This is UCSC's first proposed management access plan pursuant to those CLRDP provisions.

The University's proposal includes docent-led public tours to the beach area twice a month. The extent of the beach access area will vary from year to year depending upon the location of dune plants (i.e. foot traffic will be confined to areas seaward of the dune vegetation). Access to the beach will be provided on an existing trail that begins with an overview of the lagoon, includes a walk through restored coastal scrub habitat with viewing opportunities of the rear dune along the way, and terminates at Younger Beach. Docents will be trained in the natural history and ecology of the Reserve and will provide detailed information about the flora and fauna to tour visitors.

The proposal also includes implementation of a five-year monitoring program to document the presence and distribution of flora and fauna within the beach area and to evaluate changes in distribution and

density over time. Data from the 5-year monitoring program will be used to evaluate the trade-offs between ecological protection and supervised public access.

The CLRDP places limitations on public access to the Reserve by requiring controlled access to protect the habitats and species found in the Reserve. The CLRDP also describes other requirements with respect to controlled public access to the Reserve, including specific parameters related to beach access, such as the minimum required frequency of docent-led tours, trail management, and the areas within the Reserve to which access will be allowed. Furthermore, the CLRDP requires that long-term maintenance and monitoring programs for the Younger Lagoon Reserve be developed and implemented to assist in long-term preservation of species and habitats. The proposed beach access plan satisfies the standards of the CLRDP, and will allow for beach access as required by the certified document. As identified therein, the access management plan will be reevaluated and updated in five years, satisfying respective requirements of the CLRDP. **Staff recommends that the Commission determine that the project is consistent with the certified CLRDP.** The necessary motion and resolution are found directly below.

2. Staff Recommendation on CLRDP Consistency

Staff recommends that the Commission, after public hearing, find the proposed development project consistent with the certified CLRDP.

> **Motion.** I move that Commission determine that the development described in UCSC Notice of Impending Development Number 2 is consistent with the certified University of California at Santa Cruz Coastal Long Range Development Plan.
>
> **Staff Recommendation of Concurrence.** Staff recommends a **YES** vote. Passage of this motion will result in a determination that the development described in the UCSC NOID-2 is consistent with the certified UCSC CLRDP, and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.
>
> **Resolution to Find CLRDP Consistency.** The Commission hereby determines that the development described in UCSC Notice of Impending Development Number 2 is consistent with the certified University of California at Santa Cruz Coastal Long Range Development Plan for the reasons discussed in the findings herein.

Report Contents

B.Findings and Declarations

The Commission finds and declares as follows:

1. UCSC CLRDP

A. General CLRDP Background

As an alternative to project-by-project coastal permit review, Coastal Act Section 30605 allows for universities to develop long range development plans for Coastal Commission certification. Once certified, each university is the primary entity responsible for ensuring that future development on the site is consistent with the certified long range development plans, subject to ongoing Commission oversight. UCSC's Marine Science Campus CLRDP was certified by the Coastal Commission on January 7, 2009.

B. UCSC's Marine Science Campus

UCSC's Marine Science Campus site is located directly adjacent to the Monterey Bay National Marine Sanctuary just within the western border of the City of Santa Cruz in Santa Cruz County (see Exhibit A for a location map). The Campus site has been known locally for many years as Terrace Point. The main UCSC campus is located roughly two miles inland of the Marine Science Campus in the rolling foothills northwest of downtown Santa Cruz. The Marine Science Campus is located at the outskirts of the City, seaward of Highway One, at the transitional boundary between the urbanized City area to the east and the rural north coast of the unincorporated County to the west. The Santa Cruz County north coast area is well known to the Commission for its sweeping vistas of both coastal agricultural fields and natural landscapes framed by the undulating coastal range. Much of this area is in extensive State Park and

other rural public land holdings, and all of it is traversed by a rural stretch of Highway One. Although there are some limited residential enclaves (e.g., Davenport along the coast, and Bonny Doon in the mountains) in these mostly pastoral areas, this north coast area is part of the stretch of largely agricultural and undeveloped coastal lands extending nearly 50 miles to Half Moon Bay upcoast. The Campus site is located at the beginning of this stretch of coast as one heads upcoast out of the City of Santa Cruz and, by extension, out of the urbanized portion of northern Monterey Bay.[1]

The Campus is primarily made up of a relatively flat terrace area (roughly 73 acres) sloping gently from north to south (to the ocean) with the remainder occupied by a large arroyo feature (roughly 25 acres) on the west of the site, at the base of which lies Younger Lagoon, an estuarine lagoon that connects (at times) to the ocean. A sandy beach area fronts Younger Lagoon below the terrace. The lagoon, the beach, the arroyo and a portion of the terrace[2] make up Younger Lagoon Reserve (Reserve). The terrace portion of the site includes within it a 2.5 acre federally-owned parcel completely surrounded by UCSC property. Altogether, the Campus (including the federal in-holding and the Reserve) is about 100 acres.

In the general Campus vicinity, agricultural land extends to the west along the coast beyond the Reserve and the western Campus boundary. To the north is the Union Pacific Railroad tracks, the Raytek industrial facility, and Highway One. To the south lies the Sanctuary and the Pacific Ocean, and to the east is Antonelli Pond (above, or north of, Delaware Avenue) and the densely packed De Anza Mobile Home Park (residential) (below Delaware Avenue) beyond which is Natural Bridges State Park and past that West Cliff Drive in the City of Santa Cruz.

C. UCSC's Marine Science Campus CLRDP

UCSC's Marine Science Campus CLRDP was certified by the Coastal Commission on January 7, 2009. The CLRDP provides a blueprint for future development of the site including a maximum increase of about 600,000 square feet of new Campus facilities mostly within four distinct development zones (occupying about half of the terrace area) for an expanded Marine Science Campus. The CLRDP provides for roughly 340,000 gross square feet of potential new facilities within the four development zones in new one- and two-story buildings up to 36 feet tall, with the remainder in outdoor research and support areas. The CLRDP also accounts for additional areas of roads, and some natural drainage ponds, outside of the four development nodes. Overall, and at full buildout, the CLRDP allows for the Campus to grow by about three times its size at certification. In addition to the building program, the CLRDP also provides for an expanded public access trail system and natural habitat restoration in those wetland and open space areas on the terrace that are not part of the proposed development zones (roughly 41

[1] The City of Santa Cruz is located at the upcoast end of the larger urban portion of northern Monterey Bay that extends downcoast through unincorporated Live Oak, the City of Capitola, and the more urban portion of south Santa Cruz County (i.e., the Aptos-Rio del Mar-Seascape areas). Though defined by city limit boundaries, these more urban areas all blend somewhat together as a larger urban "zone."

[2] As required by the CLRDP, the terrace areas located outside of the allowed development footprint for the marine science campus were added to Younger Lagoon Reserve in 2009. Thus, when added to the original 25-acre Reserve area, Younger Lagoon Reserve now occupies 67 acres at Terrace Point.

acres) that, per the CLRDP, have been recently added to Younger Lagoon Reserve.

D. Younger Lagoon Reserve

The 67-acre Younger Lagoon Reserve is included in the University's Natural Reserve System and is jointly managed by UCSC and the UC Natural Reserve System for teaching and research uses. Much of the Reserve qualifies as environmentally sensitive habitat area (ESHA) by Coastal Act standards and access to the Reserve has been limited during most of the time it has been under UCSC control. In 1981, the Commission approved a management plan (as required by coastal permit P-04-76-1859) that allowed for the closure of Younger Beach to uncontrolled public access. This closure was reviewed and re-approved on a temporary basis by the Commission in 2001 (CDP 3-83-76-A13). When the CLRDP was certified in 2009, the criteria for re-review of the public access closure were translated into the CLRDP. Specifically, the CLRDP requires that supervised access to the beach area be provided subject to a management plan that must be re-reviewed and reauthorized every five years. In certifying the CLRDP, the Commission explicitly found that the beach itself was not ESHA.

The connection between the Lagoon and the Monterey Bay and other surrounding habitats, including the Moore Creek/Antonelli Pond system and Wilder Creek, coupled with its management as a part of the Reserve with limited human disturbance, contributes to an overall high wildlife and habitat value. Eleven distinct habitat types occur in the Reserve. Seven of these habitat types occur in the lowlands: coastal strand, coastal salt marsh, three types of freshwater marsh, central coast arroyo willow riparian forest (extending onto upland slopes in some areas), and barren area. Four habitat types occur in the uplands: coastal scrub, coastal scrub-grassland, central coast arroyo willow riparian forest, and ruderal.

Both the aquatic and upland areas of the Reserve provide excellent wildlife habitat for vertebrates and invertebrates. The beach and associated cliffs in the Reserve provide high quality habitat for wildlife to nest, rest and/or forage on. A high diversity and abundance of birds also occurs throughout the remainder of the Reserve's boundaries.

2. Notices of Impending Development

Under a certified CLRDP, University development of specific projects contained in the CLRDP can proceed without a coastal permit provided the University sends a Notice of Impending Development (or a "NOID") to the Commission prior to undertaking development, and either the Commission deems the identified development project consistent with the CLRDP (with or without conditions to make it so) or does not respond in a timely manner to the NOID.[3] Pursuant to Coastal Act Sections 30605 and 30606, the Commission may impose conditions on such development project proposals only if it finds them

[3] Coastal Act Section 30606 requires that the University provide notice of an impending development at least 30 working days prior to pursuing it. CCR Section 13549 provides that a NOID is only filed following Executive Director review of the NOID and any supporting materials to ensure there is sufficient information for making the consistency determination. CCR Section 13548 requires that the Commission take action on the notice within 30 working days of filing of the NOID. In sum, if the Commission does not take action within 30 working days of filing of the NOID, the identified development project is deemed consistent and can proceed.

inconsistent with the certified CLRDP.

This NOID was filed as complete on February 2, 2010, and the 30-working day action deadline is March 17, 2010. Thus, unless UCSC's Director of Campus Planning waives the University's right to a hearing within 30 working days of the NOID being filed, and agrees to an extension to a date certain (up to three months is allowed per the CLRDP), the Commission has until March 17, 2010 to act upon this NOID.

3. CLRDP Consistency Analysis

A. Applicable CLRDP Provisions

The CLRDP includes multiple provisions that require protection of Reserve resources while allowing supervised public beach access, and that require the development of a beach access management plan:

> ***Implementation Measure 3.2.5 – Protect Habitat Areas From Human Intrusion.*** *Habitat areas on the Marine Science Campus shall be protected against degradation from human intrusion by developing trails and interpretive signs, managing trail use, and implementing other enhancement measures in accordance with the provisions of this CLRDP.*
>
> ***Implementation Measure 3.2.6 – Natural Area Management.*** *The University shall restore, enhance, and manage all areas located outside of defined development zones (except for approved streets and trails) as high-quality open space and natural habitat area.*
>
> ***Policy 3.5 - Special Protection for Younger Lagoon Reserve.*** *The University recognizes the special biological significance of Younger Lagoon Reserve for habitat value and for research and education and therefore shall continue to provide special protection for the property by retaining it as part of the University's Natural Reserve System and protecting it consistent with this CLRDP.*
>
> ***Implementation Measure 3.5.1 – Protection and Enhancement of YLR Habitats.*** *The native plant and animal habitats of Younger Lagoon Reserve shall be protected and enhanced by controlling and removing non-native and invasive plant species, promoting the abundance and diversity of native plant species through small-scale plantings and re-vegetation of areas where exotics and/or invasives have been removed, implementing the Drainage Concept Plan (Appendix B), maintaining and installing fencing/barriers consistent with this CLRDP to control trespass from the terrace portion of the site into YLR, limiting access by humans (except access otherwise allowed by this CLRDP), prohibiting domestic pets, and other appropriate means that may become available.*
>
> ***Implementation Measure 3.5.2 – Protection of Special Status Species in YLR.*** *Habitats for special status animal species that use Younger Lagoon Reserve shall be protected and enhanced.*
>
> ***Implementation Measure 3.5.3 – Protection of YLR Resources.*** *The biological productivity and*

quality of YLR shall be protected, including by minimizing the effects of stormwater discharges and entrainment, controlling runoff, preventing depletion of ground water supplies, maintaining natural vegetation buffers areas and minimizing alteration of natural features.

Implementation Measure 3.5.4 – Development of Monitoring and Maintenance Program. *Long-term maintenance and monitoring programs for Younger Lagoon Reserve shall be developed and implemented to assist in long-term preservation of species and habitats in accordance with the provisions of this CLRDP.*

Implementation Measure 3.5.6 – YLR Manager Consultation. *Development shall not be authorized by the University without consultation with the YLR Manager. Development shall incorporate measures to address issues and impacts identified through the consultation.*

Policy 3.6 - Public Access to and within YLR. *Access to Younger Lagoon Reserve may be controlled consistent with the need to protect YLR resources from disruption and degradation and to provide maximum public access consistent with the Coastal Act.*

Implementation Measure 3.6.1 – Provision of Controlled Access within YLR. *Physical access within YLR by authorized management, emergency, research, student personnel, and/or docent-led general public consistent with the public access and recreation diagram and policies contained in this CLRDP shall be provided.*

Implementation Measure 3.6.3 - Public Beach Access within YLR. *Supervised beach access to Younger Lagoon beach shall be provided to the general public consistent with and pursuant to a management plan for such access that is based on the best possible assessment of the capacity of the beach area to sustain use and the level of intensity of such use when considered in light of the fragility of the beach area and adjacent resources and ongoing research. Within six months of CLRDP certification, and at five-year intervals post-certification after that, the University shall submit a Notice of Impending Development to the Coastal Commission with all necessary supporting information for a development project to implement such a beach access management plan for the next five years. Each such management plan shall at a minimum include:*

- *A regular schedule of guided, educational tours to the beach area that is coordinated with and similar to other Marine Science Campus education and docent programs and designed to introduce visitors to the special aspects of beach ecology without causing deterioration of that ecology or loss of opportunity for feeding or breeding of beach dependent species. These tours may be weekly weather permitting, but shall be offered a minimum of two times per month.*

- *Identification of all parameters for beach access, including a clear depiction of the area within which such access is allowed, and a clear description of all related implementing measures (e.g., trail alignments, trail design, barriers/fencing, signage, timing restrictions,*

supervision requirements, etc.). Access shall be by way of controlled access trails shown on Figure 5.6. Trails shall be maintained, marked, and signed for safety and interpretation of YLR ecology.

- *A monitoring program that evaluates trends in beach area conditions, where at a minimum such program shall include: user data (including identification of all user types and specific data on size and composition of beach tour groups); a selected set of repeatable photo points to be taken seasonally to show all major areas of the beach; presence/absence of tidewater goby and evidence of breeding activity; species composition and coverage of beach dune vegetation from the lowest (nearest to the mean high tide line) occurring terrestrial plant to 10 meters inland into the strand vegetation; evidence of seed production by beach strand species in this zone; species composition and abundance of animal tracks (vertebrate and invertebrate) on the beach and adjacent beach dune area; and regular counts of feeding shorebirds on the beach.*

- *An assessment of beach area resources and the effect of beach area use and activities (including authorized and unauthorized uses, research use, YLR activities, etc.) on such resources in the time since the last five-year review and overall in the time since at least CLRDP certification;*

- *A description of existing public access opportunities on the Campus, and the way in which such opportunities relate to the amount and type of supervised access provided to the beach area.*

Implementation Measure 6.2.13 – Public Access to Younger Lagoon Beach. *The University shall provide public access to the Younger Lagoon Beach area consistent with and pursuant to an approved management plan pursuant to Implementation Measure 3.6.3.*

Thus, the CLRDP envisions supervised access to the beach area, including at a minimum docent-led public access tours on existing trails through the Reserve to the beach to introduce visitors to the special aspects of beach ecology without causing deterioration of that ecology. The CLRDP also requires the development and implementation of long-term beach maintenance and beach monitoring programs for the Reserve to ensure preservation of sensitive native plant and animal species and habitats. The beach access management plan must be updated and reauthorized every five years, including to ensure that it strikes the appropriate balance between resource protection and public access as described in the CLRDP.

B. Public Access to Younger Lagoon Reserve

CLRDP Implementation Measures 3.2.5 and 3.2.6 provide protection parameters for habitat areas located on the UCSC Marine Science Campus. CLRDP Policy 3.5 and Implementation Measures 3.5.1-3.5.6 provide special protections, including limiting access by humans, for the habitats and the special status species found in the Younger Lagoon Reserve. CLRDP Policy 3.6, Implementation Measure 3.6.1, and Implementation Measure 6.2.13 provide for supervised public access within the Reserve, and require, at a minimum, that docent-led access be provided. Implementation Measure 3.6.3 describes the specific requirements of the required management plan to provide supervised access to Younger Lagoon Beach. These requirements include docent-led tours designed to introduce visitors to the special aspects of the ecology of the beach without causing deterioration of that ecology, that these tours be offered a minimum of twice a month via existing controlled and maintained access trails, and that the management plan include a clear depiction of the area within which access will be allowed.

In addition, CLRDP Implementation Measure 3.5.4 requires that long-term maintenance and monitoring programs for the Younger Lagoon Reserve be developed and implemented to assist in long-term preservation of species and habitats. CLRDP Implementation Measure 3.6.3 requires the University to develop and implement 5-year management plans that include a monitoring program for the Younger Beach area that evaluates trends in beach area conditions and assesses beach area resources and the effect of beach area uses, including authorized and unauthorized public access and university research uses.

The University proposes to provide docent-led public tours through the Reserve to the beach twice a month (one tour on a weekday and one tour on a weekend day – see Exhibit B for the University's beach access management plan). The extent of the beach access area will vary from year to year dependent upon the location of dune plants (i.e. foot traffic will be confined to areas seaward of the dune vegetation). Thus the exact beach access area will be determined by vegetation and may vary slightly from the area shown in Exhibit C. Access to the beach will be provided on an existing trail that begins with an overview of the lagoon, includes a walk through restored coastal scrub habitat with viewing opportunities of the rear dune along the way, and terminates at Younger Beach. Tours will be structured similarly to the marine mammal research tours currently offered by the Seymour Marine Discovery Center (SMDC). SMDC docents will be trained in the natural history and ecology of the Reserve and will provide detailed information about the flora and fauna to tour visitors. Beach tours will be advertised via the SMDC website and filled via phone reservation. Tours will be limited to 12 persons. Because beach tours will be led by trained docents, no additional signage or fences will be installed. The trail will be maintained by clipping overgrown vegetation and maintaining the existing earthen path and timber steps as needed.

The University's proposed Younger Lagoon Reserve Access Management Plan meets the requirements of Implementation Measure 3.6.3 and the other habitat-protection requirements of the CLRDP because the docent-led tours will take place twice a month (the minimum required), will use an existing trail that leads to the beach (as shown in Exhibit C), and will provide an educational interpretive experience for

visitors while protecting the special habitats of the Reserve.

Furthermore, the proposal includes implementation of a five-year monitoring program (see Exhibit D for the location of the various monitoring areas) to document the presence and distribution of flora and fauna within the beach area and to evaluate changes in distribution and density over time. Data from the 5-year monitoring program are meant to dovetail with beach user data as a means to inform future decisions on beach access here. Results of the monitoring study will be used to evaluate the trade-offs between ecological protection and public access. Variables that will be monitored include: user data (i.e. number of visitors on docent-led tours, as well as research and education use), and changes as observable in photographic documentation, tidewater goby surveys, species composition and seed production of beach dune vegetation, species composition of animals, and abundance of feeding shore birds. These variables meet the requirements of Implementation Measure 3.6.3 and will assist in long-term preservation of species and habitats in the Reserve, as required by Implementation Measure 3.5.4.

In summary, the CLRDP envisions supervised access to Younger Beach, including at a minimum docent-led access, and requires such access to be managed pursuant to and consistent with a management plan for such access that is required to be re-reviewed, updated, and reauthorized every five years. The management plan is required to strike that oftentimes tricky balance between maximizing public recreational access and protecting coastal resources, as clearly articulated in the certified CLRDP. The University's submittal is consistent with the parameters certified by the Commission in 2009, and will provide for the first allowed public access, albeit limited to docent-led tours, onto the beach area since the closure in 1981. The University's plan will also appropriately monitor the effect of such access in such a manner that should provide ample information for consideration of the next iteration of the required management plan five years hence. In short, implementation of the Younger Beach Access Management Plan as proposed by the University is consistent with the certified CLRDP.

C. California Environmental Quality Act (CEQA)

Section 13096 of the California Code of Regulations requires the Commission to make a specific finding that a permit application is consistent with any applicable requirements of CEQA. This requirement also applies to the Commission's review of NOIDs, based on Regulation Section 13550(d). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

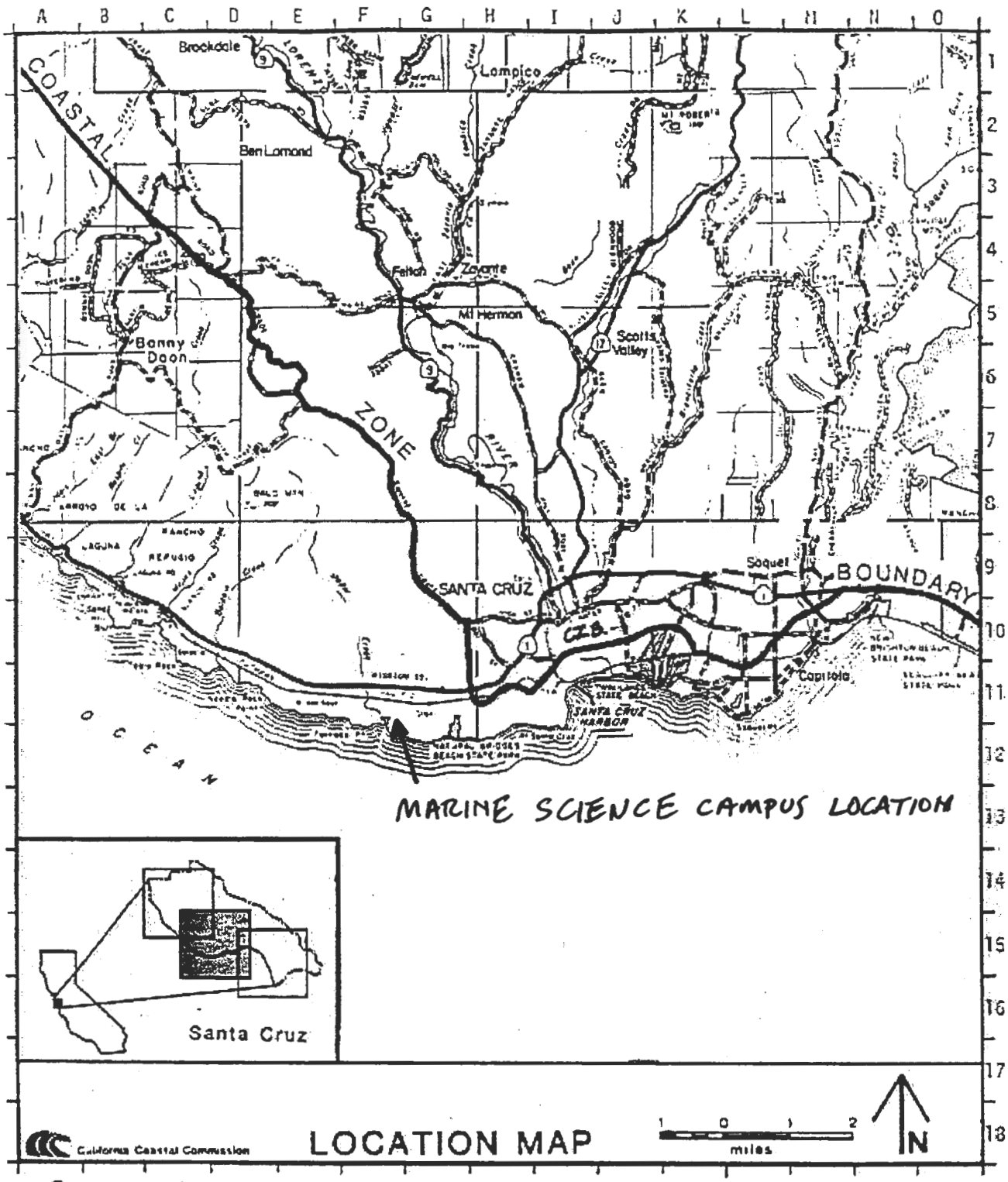
The University, as the lead agency under CEQA, certified a Final EIR (FEIR) for the CLRDP in September 2004. In November 2006, the University certified an addendum to the FEIR to respond to changes in the CLRDP in the time since the original FEIR certification, including changes stemming from Coastal Commission review of the CLRDP prior to certification.[4] On October 20, 2009, UCSC,

[4] FEIR Addendum Number 1, dated certified November 29, 2006.

again acting as lead agency, found that the proposed development project was categorically exempt from the requirements of CEQA.

The Coastal Commission's review and analysis of land use proposals has been certified by the Secretary of Natural Resources as being the functional equivalent of environmental review under CEQA. The Commission has reviewed the relevant coastal resource issues raised by the proposed project and has determined that the proposed project will not have adverse impacts on coastal resources. All public comments received to date have been addressed in the findings above. All above findings are incorporated herein in their entirety by reference.

The Commission finds that the proposed project will avoid significant adverse effects on the environment, within the meaning of CEQA. As such, there are no additional feasible alternatives or feasible mitigation measures available that would substantially lessen any significant adverse environmental effects that approval of the proposed project would have on the environment within the meaning of CEQA. The proposed project will not result in any significant environmental effects for which feasible mitigation measures have not been employed consistent with CEQA Section 21080.5(d)(2)(A).



County of Santa Cruz

Sheet 2 of 3

CCC Exhibit A
(page 1 of 1 pages)

1. Project Report

1a. NOID 10-1 Project Description

PUBLIC ACCESS TO AND WITHIN YOUNGER LAGOON NATURAL RESERVE (IMPLEMENTATION MEASURE 3.6.3)

Overview

Implementation Measure 3.6.3 of the University of California CLRDP (CLRDP 2009) requires that (through controlled visits) the public have access to Younger Lagoon Reserve beach and that a monitoring program be created and implemented to document the condition of native flora and fauna within Younger Lagoon and it's adjacent beach. The monitoring plan is then to be implemented over a 5-year time period. At the end of the 5-year period (Winter 2015) results are to be compiled and included in a report that summarizes and assesses the effect of controlled beach access on flora and fauna. The report will be submitted to the California Coastal Commission.

Nearly 45 years ago, the University of California Natural Reserve System (UCNRS) began to assemble, for scientific study, a system of protected sites that would broadly represent California's rich ecological diversity. Today the UC Natural Reserve System is composed of 36 reserves that encompass approximately 135,000 acres of protected natural land available for university-level instruction, research, and outreach. The University of California Natural Reserve System supports research and education through it's mission of contributing *"to the understanding and wise management of the Earth and its natural systems by supporting university-level teaching, research, and public service at protected natural areas throughout California."* By creating this system of outdoor classrooms and laboratories and making it available specifically for long-term study and education, the NRS supports a variety of disciplines that require field work in wildland ecosystems. UC Santa Cruz administers 4 Reserves: Younger Lagoon, Año Nuevo Island Reserve, Landels-Hill Big Creek Reserve, and Fort Ord Natural Reserve.

Because of the importance of maintaining a natural and pristine environment and protecting scientific studies and equipment, uncontrolled access to Younger Lagoon Natural Reserve (YLR) is not allowed. Uncontrolled use of YLR is likely to have a negative impact on native coastal flora and fauna that inhabit the Reserve, hamper research endeavors, and impact the area for future scientific and educational endeavors. Currently, rather than an open public access policy, users are required to fill out applications, or contact NRS staff, for specific research, education, or outreach efforts.

The text below serves as the project description for the Notice of Impending Development for Implementation Measure 3.6.3 of the CLRDP, which would allow controlled public access to the areas of the non-terrace area of the Reserve.

History of Public Access to Younger Lagoon Beach

Here we provide and abbreviated history of the closure of Younger Lagoon Beach. The goal of this summary is to provide a coarse overview of the major events centered on beach access at Younger Lagoon. Prior to 1972, Younger Beach was privately owned and closed to the public. The owners (Donald and Marion Younger) actively patrolled for and removed trespassers from their property, including the beach. In 1972, the Younger Family donated approximately 40 acres to the University of California for the study and protection of the marine environment. These lands included Younger Lagoon and Beach (approximately 25 acres), and an adjoining parcel of land (approximately 15 acres) which became the site of the original Long Marine Laboratory (LML). At the time of their donation, Donald and Marion Younger intended that the lagoon, beach and surrounding slopes be protected in perpetuity by the University as a bird sanctuary.

In the years between the donation of the property by the Younger Family to the University and the start of LML construction (1976), the University leased the future LML site back to farmers who had been farming the property for the Younger Family prior to the donation. During those years, the same no trespassing rules for the beach were enforced as they had when the property was owned by the Younger Family.

Once construction of the Long Marine Lab began in 1976, the land was no longer under the watch of the farmers, and public pressure on the beach began to increase. Although the beach was only open to uncontrolled public access for a short period of time, many Santa Cruz locals remember the next several years at Younger Beach fondly as it became a popular nude beach. The increased public access had a noticeable impact on the flora and fauna of the beach, and was not in accordance with the intention of the original donation by the Younger family. By 1978 discussions had begun between the University and the California Coastal Commission regarding the impact of uncontrolled public access to the beach. In 1981, Younger Beach was closed to uncontrolled public access under coastal permit P-1859. The closure was reviewed and re-approved by the Commission in 2001 under

coastal permit 3-83-76 A13, and again in 2009 when the Commission certified UCSC's Marine Science Campus Coastal Long Range Development Plan (CLRDP).

Management Plan

Public Beach Access within YLR

Beach access tours (Figure 1) will be provided two times per month (one tour on a weekday and one on a weekend). The extent of the beach access area will vary from year to year dependent upon the location of plants (i.e. foot traffic will be seaward of the dune vegetation). Thus, the exact access area will be determined by vegetation and may vary slightly from the areas depicted in Figure 1 below (figure was created using a 2007 aerial image) and Figure 3.11 of the CLRDP. The trail will provide an interpretive experience for visitors that begins with an overview of the lagoon, a walk through a restored coastal scrub habitat with viewing opportunities of the rear dune, and ends up on the beach. Tours will be structured similarly to the Marine Mammal Research tours currently offered by the Seymour Marine Discovery Center (SMDC). SMDC docents will be trained in the natural history and ecology of YLR and will provide detailed information about the flora and fauna of YLR. Tour curriculum will focus on the unique ecology of the YLR beach, and will be developed in coordination with SMDC staff during the fall of 2009. Curriculum will be presented to SMDC docents during regular docent training events in winter of 2010. YLR Beach tours will begin in the spring of 2010. Beach tours will be advertised via the SMDC website: http://www2.ucsc.edu/seymourcenter/calendar.html and filled via phone reservation: (831) 459-3800. The SMDC will allocate tour spaces and keep track of all user data. Tours will be limited to twelve (12) persons and will be best suited for adults and children over 10 years of age. Public members entering YLR will be required to adhere to the UCNRS Reserve Use guidelines. Because beach tours will be limited to groups with trained docents no additional signage or fences will be required. The beach trail consists of a simple dirt/mulch path that is already in place. The trail will be maintained by clipping overgrown vegetation and maintaining the earthen path and timber steps as needed.

CCC Exhibit B
(page 3 of 6 pages)

Current Species List for YLR

Species lists for birds, mammals, plants, reptiles, amphibians, and fish are included as Appendices I-IV at the end of the Project Description. These lists provide an overview of the flora and fauna that have been recorded at Younger Lagoon over the years. Although there have been numerous surveys of the area, to the best of our knowledge the proposed monitoring project outlined in this NOID will provide the most extensive survey effort for flora and fauna on the Reserve. Historical data, species lists, and anecdotal observations suggest that Younger Lagoon provides important habitat for numerous animals and supports a rich composition of plant species. The lack of disturbance and low human activity are likely the primary factors that maintain the high diversity in the Lagoon. Recent track survey and camera trap work have documented bobcat, coyote, deer, and numerous other mammals on the beach; many of these species are likely residents within the lagoon boundaries. Track survey work also indicates that several of these mammals are residing (at least occasionally) in the Reserve and use the area as hunting grounds (bobcat sign indicates that this species successfully hunts for roosting pelagic birds within the Reserve boundaries). These observations suggest that although Younger Lagoon is a relatively small area, amidst agriculture and development, this relic habitat is still functioning at a level beyond most developed beaches and lagoons in the region.

Beach Monitoring Program

Beach monitoring will be initiated in winter or spring of 2010 and be conducted over 5 years, as required by the CLRDP implementation measure. The goal of the monitoring program will be to document the presence and distribution of flora and fauna within YLR and to evaluate changes in distribution and density over time. Data from the 5-year monitoring program will be compiled and presented to the Coastal Commission at the end of the 5-year period. Results of the monitoring study will be used to evaluate the trade-offs between ecological protection and public access. Variables that will be monitored include: user data, changes as observable in photo documentation, tidewater goby surveys, species composition and seed production of beach dune vegetation, species composition of animals, and abundance of feeding shore birds. Details for each of the aforementioned parameters are described below.

User Data—User data from tours conducted by the SMDC, as well as research and education use, will be recorded and maintained by SMDC and YLR Staff.

CCC Exhibit B
(page 4 of 6 pages)

Photo Documentation—Photo point locations have been established at four locations within YLR (Figure 2). These locations were chosen to ensure coverage of all major areas of the beach. Photos will be taken two times annually during late spring to early summer (May – July) and in late fall to early winter (November – January). Photos will be taken at these permanent photo points in order to ensure repeatability over time. Monitoring information collected for each photo will include:

- Photo point number
- Date
- Name of photographer
- Bearing
- Camera and lens size
- Coordinates
- Other comments

Tidewater Goby Surveys—Tidewater goby surveys will be conducted within Younger Lagoon by a qualified biologist using approved sampling methods. Surveys will be conducted quarterly (fall, winter, spring, and summer). Each survey bout will be completed when tidewater gobies have been detected or at least 50% of the lagoon as been surveyed. The goals of the surveys are to document presence and evidence of breeding activity. Breeding activity will be determined by the presence of multiple size/age classes.

Species Composition and Coverage of Beach Dune Vegetation—Implementation Measure 3.6.3 requires that dune vegetation "*from the lowest (nearest to the mean high tide line) occurring terrestrial plant to 10 meters inland into the strand vegetation*" be surveyed to document species composition, cover, and seed production. Figure 2 shows a potential survey area for dune vegetation; however, the exact location and extent of survey area will vary annually depending upon the location of the "lowest" plant detected each year. Within the survey area vegetation will be quantified by counting every plant (abundance), noting whether individual plants are seedlings or greater than 1 year old (this will provide information on seedling recruitment), documenting the presence of seeds, and estimating extent of cover.

Non-avian Vertebrate Monitoring—Vertebrate species composition will be monitored quarterly (fall, winter, spring, and summer) by observing tracks in raked sand plots. Eight tracking stations will be placed throughout the beach area (Figure 2) in constriction zones where vegetation is absent. Size of plot will vary from approximately 4 m^2 to 6 m^2 depending upon the amount of available open sandy area at each location. Track stations will be raked each evening and checked for tracks in the morning. Stations will remain open for two days during each monitoring bout. Tracks will be

identified to species if possible and species composition will be summarized. Abundance will not be quantified due to the fact that tracks cannot be used to identify individual animals (e.g. a single individual could walk across the plot multiple times).

Invertebrate Monitoring—Terrestrial invertebrates on beach habitat will be monitored by placing four 12 oz plastic containers (pit fall traps) at each tracking station (one at each corner of the plot for a total of 32 traps) during "non-avian vertebrate monitoring" efforts. Traps will be buried to the lip of the container; terrestrial vertebrates will fall into the trap passively. Traps will be checked each morning and all individuals will be identified to species and counted.

Feeding Shorebirds—Counts of feeding shorebirds will be conducted from two survey points along the eastern edge of the cliff (Figure 2). Counts will be conducted at least quarterly to and correspond with non-avian vertebrate monitoring efforts described above. Surveys will be conducted in the dawn or dusk hours within 2 hours of sunrise or sunset and correspond as closely as possible with low tides.

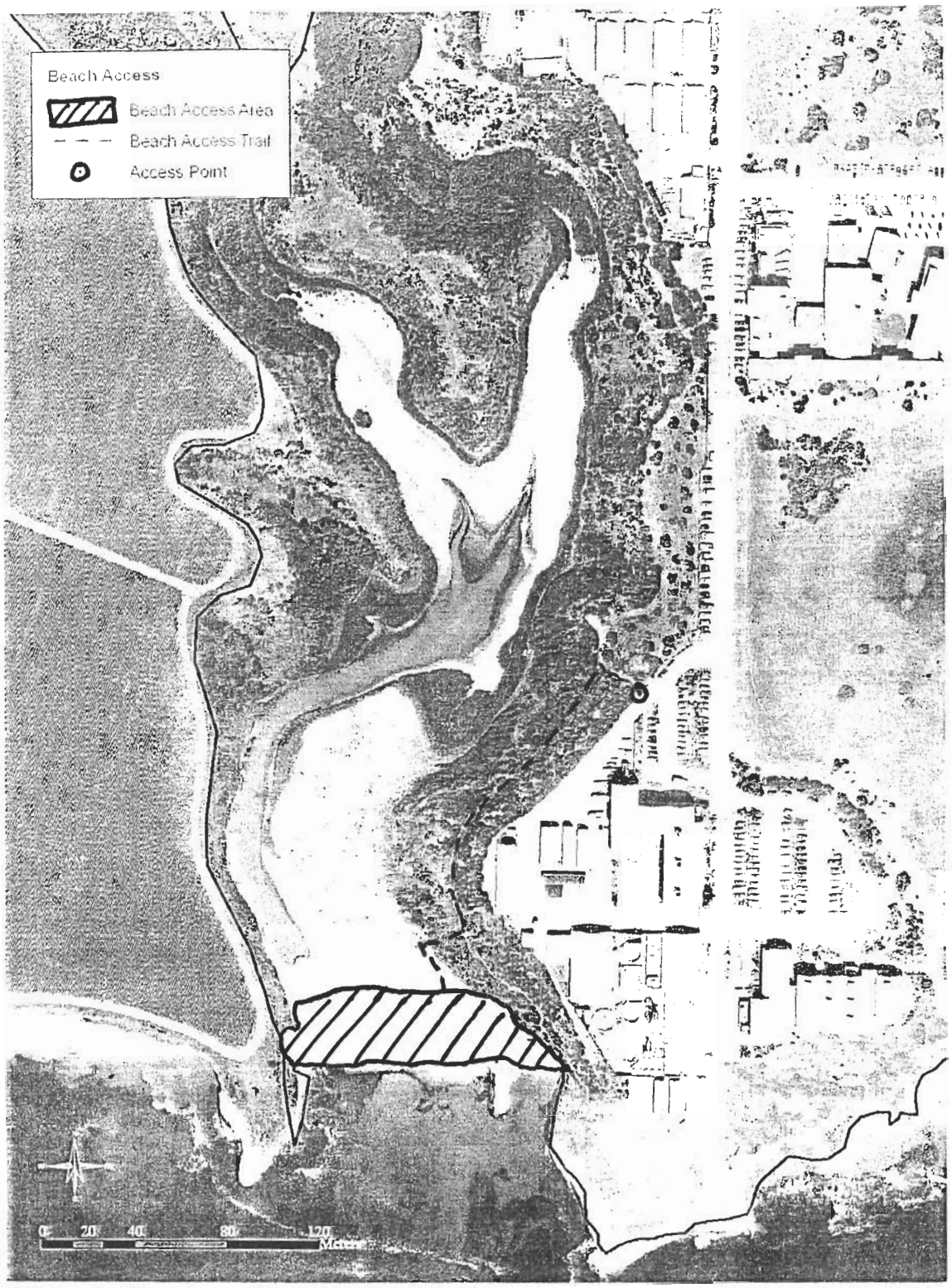


Figure 1. Overview of beach tour route. Visitors on docent led tours will have beach access within the "Beach Access Area." The extent of the beach access area will vary from year to year dependent upon the location of plants (i.e. foot traffic will be seaward of the dune vegetation). The above depiction represents the approximate location of plants in the spring of 2009.

CCC Exhibit C
(page 1 of 1 pages)

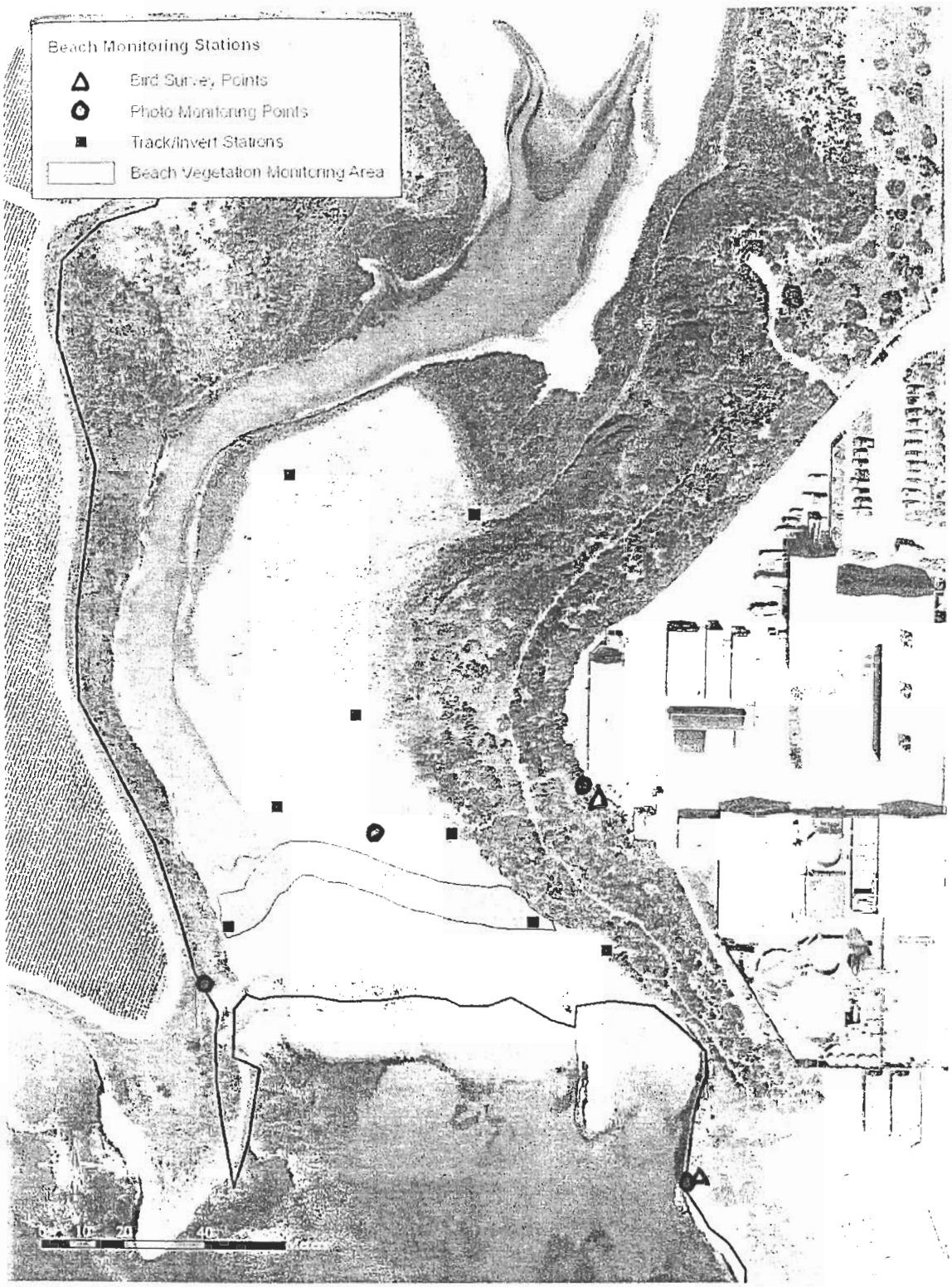


Figure 2. Locations of monitoring points, plots, and regions for YLR beach. The beach monitoring area will vary between years depending upon the high water mark. Dune plant surveys will occur within 10 m of the high water mark as per the CLRDP guidelines.

CCC Exhibit D
(page 1 of 1 pages)