CALIFORNIA COASTAL COMMISSION
NORTH COAST DISTRICT OFFICE
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EUREKA, CA 95501-1865
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P. O. BOX 4908
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F3a

Page: Page 1 of 11
Date: February 15, 2008
Permit Application: **1-07-050**

ADMINISTRATIVE PERMIT

APPLICANT(S): **California Department of Fish and Game**

PROJECT DESCRIPTION: *Oregon Silverspot Butterfly Experimental Habitat Improvement Pilot Project*, entailing a variety of experimental vegetation removal and management techniques, involving mowing, livestock grazing, burning, and manual release techniques to be performed seasonally over a two-year period

PROJECT LOCATION: At five sites ranging in size from .27-acre to 4.55 acres within the Pacific Shores Subdivision near the unincorporated community of Fort Dick (Del Norte County) (APNs 107-082-05; 108-031-05 through -13; 108-053-03 & -04; 108-173-08, & -10 through -14; and 108-240-02, -03, -10, & -11).

EXECUTIVE DIRECTOR'S DETERMINATION: The findings for this determination, and for any special conditions, appear beginning on page 3.

NOTE: Public Resources Code Section 30624 provides that this permit shall not become effective until it is reported to the Commission at its next meeting. If one-third or more of the appointed membership of the Commission so request, the application will be removed from the administrative calendar and set for public hearing at a subsequent Commission meeting. Our office will notify you if such removal occurs.

THIS PERMIT WILL BE REPORTED TO THE COMMISSION AT THE FOLLOWING TIME AND PLACE:
March 7, 2008 9:00 a.m.
Rancho Cañada Golf Club
4860 Carmel Valley Road, Carmel, CA 93923

IMPORTANT: Before you may proceed with development, the following must occur:

Pursuant to Title 14, California Administrative Code Sections 13150(b) and 13158, you must sign the enclosed duplicate copy acknowledging the permit's receipt and accepting its contents, including all conditions, and return it to our office. Following the Commission's meeting, and once we have received the signed acknowledgement and evidence of compliance with all special conditions, we will send you a Notice of Administrative Permit Effectiveness.

BEFORE YOU CAN OBTAIN ANY LOCAL PERMITS AND PROCEED WITH DEVELOPMENT, YOU MUST HAVE RECEIVED BOTH YOUR ADMINISTRATIVE PERMIT AND THE NOTICE OF PERMIT EFFECTIVENESS FROM THIS OFFICE.

PETER M. DOUGLAS
Executive Director

By: _____
JAMES R. BASKIN AICP
Coastal Program Analyst

I. STANDARD CONDITIONS:

1. Notice of Receipt and Acknowledgement. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions is returned to the Commission Office.

2. Expiration. If development is not commenced, the permit will expire two years from the date this permit is reported to the Commission. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. Interpretation. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

4. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

5. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

II. EXECUTIVE DIRECTOR'S DETERMINATION:

The Executive Director hereby determines that the proposed development is a category of development which, pursuant to PRC Section 30624, qualifies for approval by the Executive Director through the issuance of an administrative permit.

Subject to Standard and Special Conditions as attached, said development is in conformity with the policies of Chapter 3 of the California Coastal Act, including those policies regarding public access and coastal recreation opportunities, and will not have any significant adverse impacts on the environment within the meaning of the California Environmental Quality Act.

III. FINDINGS FOR EXECUTIVE DIRECTOR'S DETERMINATION:

A. Project Location and Description.

1. Project Site

The five discrete project site locations are situated approximately five miles west of the unincorporated town of Fort Dick, on state-acquired lots within the *Pacific Shores Subdivision*, an existing albeit undeveloped low-density rural residential subdivision[1] in northwestern Del Norte County. The *Pacific Shores Subdivision* is located north of Lake Talawa, south of Kellogg Road, between Lake Earl and the Pacific Ocean. (see Exhibit Nos. 1-2).

The project setting consists of a generally flat, uplifted coastal plain extending back from the ocean blufftop margins, at an elevation range of approximately 4 to 16 feet above sea level. The sites and surrounding areas are comprised of a mosaic of three habitat types: (1) Coastal Maritime Forest consisting primarily of a Sitka spruce (*Picea sitchensis*) / grand fir (*Picea grandis*) / beach or shore pine (*Picea contorta* ssp. *contorta*) complex, with an attending understory of twinberry (*Lonicera involucrata*), hairy honeysuckle (*Lonicera hispidula*), dogwood (*Cornus stolonifera*), silk tassel (*Garrya elliptica*), salal (*Gaultheria shallon*), wax myrtle (*Myrica californica*), Oregon crabapple (*Malus fusca*), and cascara (*Rhamnus purshiana*); (2) an interspersing Grasslands/Pasture association composed of sweet vernal grass (*Anthoxanthum odoratum*), velvet grass (*Holcus lanatus*), orchard grass (*Dactylis glomerata*), tall fescue (*Festuca arundinacea*), soft chess (*Bromus hordeaceus*), barley (*Hordeum* spp.), sheep sorrel (*Rumex acetosella*), English plantain (*Plantago lanceolata*), Douglas' iris (*Iris douglasiana*), European beach grass, and lupine (*Lupinus bicolor*); and extending into the deflation plain inland of the adjoining open beach strand; and (3) Coastal Dunes made up a diverse collection of

[1] See Coastal Development Permit File Nos. 1-00-057 and 1-04-008, for detailed discussions of the history, environmental setting, and status of the *Pacific Shores Subdivision*, and related habitat and flood control management within the adjoining Lake Earl Wildlife Area.

exotic and native plants including European beach grass (*Ammophila arenaria*), sea rocket (*Cakile maritima*), beach pea (*Lathyrus littoralis*), sand verbena (*Abronia latifolia*), beach buckwheat (*Eriogonum latifolium*), beach sagewort (*Artemisia pycnocephala*), silver bursage (*Ambrosia chamissonis*), beach evening primrose (*Camissonia cheiranthifolia*), beach blue grass (*Poa douglasii*), and a variety of other grasses and forbs and related undergrowth species. Most notably of these are the threatened Oregon Silverspot Butterfly (OSB) (*Speyeria zerene hippolyta*) and its larval stage host plant the early blue violet (*Viola adunca*). The proposed project intends to determine the most appropriate vegetation maintenance techniques to stimulate the growth of the early blue-violet (*Viola adunca*), a plant species crucial to the larval stage of the Oregon Silverspot Butterfly. Given the species facultative hydrophytic character, portions of the project site test plots lie within forested and emergent shrub-scrub wetlands. Several environmentally sensitive habitat areas are also located in proximity to the project sites, including forested and emergent wetlands, open dune field, vegetated dune mat and deflation plain, and open estuarine coastal lagoon waters.

The roughly 9½-acre aggregate, five-plot project area is situated between the ocean and the first public year-round, through road paralleling the sea, Lower Lake Road. The parcels currently have either single- or double-frontage along gravel-surfaced public roads, with the front of the plots abutting Marish, Surf, Vergine, and Primore Streets and Ficher Drive. Due to the presence of intervening significant forested tree and shrub cover, and significant breaks in topography, no views across the property to and along the ocean exist from vantage points along public streets, parklands, or the open shoreline.

The project site, as with the majority of the peninsula separating the two lobes of the Lakes Earl/Talawa coastal lagoon, lies within the "Pacific Shores Special Study Area of Deferred Certification" with respect to the County of Del Norte's certified Local Coastal Program. As a consequence, the Commission retains coastal development permit jurisdiction over the site, and the standard of review for issuance of a coastal development permit is whether the development would be consistent with the policies of Chapter 3 of the Coastal Act.

2. Development Proposal

The applicant, California Department of Fish and Game, proposes to undertake a pilot wildlife management study involving systematic habitat manipulations, including controlled burning, mowing, grazing by livestock of shrub layers, and the manual removal of tree and shrub canopy overstory to gather data as to the most effective vegetation management strategies for stimulating the growth of the early blue-violet (*Viola adunca*), a plant species crucial to the larval stage of the Oregon Silverspot Butterfly (*Speyeria zerene hippolyta*) (OSB), a federal Endangered Species Act-listed threatened insect (see Exhibit No. 3). The project would represent the implementation of Management of habitat" recover activities 2.2.1.1 through 2.2.1.6, as established for the Del Norte Habitat Conservation Area within the *Revised Recovery Plan for the Oregon Silverspot Butterfly*, adopted by the U.S. Fish and Wildlife Service in 2001.

All activities would be staged on existing county roads which are immediately adjacent to each treatment site. These activities would include vehicles, trailers, and equipment. All of the treatment plots would be clearly marked to define the outer limits of each treatment. Particular vegetation removal and management methods would include:

Burning – Fire lines would be cleared around portions of three of the treatment areas to contain the fire to the defined areas only. The work would involve the hand removal of vegetation cut above ground level to prevent a fuel source outside the perimeter of the burn area. California Department of Forestry and Fire Protection (Cal Fire) Conservation Camp would provide the personnel and equipment to construct the fire line perimeter, and conduct the burn. Drip torches will be used to assist in initiating and spreading the fire as the vegetation condition and time of year (winter) will not be as conducive to starting and maintaining a fire.

Mowing – A motor-powered rotary mower, similar to that used for roadside vegetation maintenance (≤ five-foot-diameter cutting swath), would be transported to the area using existing County roads. The mower will be unloaded and "driven" to the treatment areas where the vegetation within each identified area will be cut down to an approximate 6 inch height.

Livestock Grazing – Perimeter areas on three of the test plots would be fenced with panels and/or hot wire to contain livestock within each treatment area. Livestock would be transported to the site in livestock trailers and unloaded on existing county roads. The animals would then be herded to the treatment areas using dogs and herder(s). The herders would be stationed on nearby Department property within a self contained trailer to oversee the grazing activities.

The duration of the grazing would vary depending on the number of animals available. For example, if goats are used, and there are 100 goats available, the applicant anticipates that it would typically take three days or less for each treatment plot. Fewer goats would require longer grazing periods, however it is anticipates that no longer than two weeks would be necessary to complete the grazing portion of the project.

Manual Release – Overstory removal would be undertaken on 2.25- and 1.75-acre portions of the larger approximately four- and 4.5-acre test plot areas, respectively by Cal Fire Conservation Camp crews using hand tools such as chain saws and hand saws. Woody vegetation will be cut at ground level and either piled and left to decompose, chipped, or burned on-site as appropriate on the upland portions of the sites. No ground disturbance or wetland filling would occur as a result of this treatment method.

Once the vegetation removal work has been completed, the three grazed/burned/mowed treatment areas would be subsequently planted with nursery grown native early blue violets, the host plant for the OSB larvae. The applicant anticipates that planting of blue violets within the overstory removal areas will not be necessary as both early blue and Aleutian violets (*Viola langsdorfii*), a possible surrogate host plant, and other non-woody

vegetation growing on adjacent areas will be able to colonize these sites naturally due to significantly reduced plant competition.

The project will take place in the winter to avoid disturbance to adult butterflies and nectar food sources. Following planting, monitoring to determine the relative degrees of success of violet growth stimulation for each vegetation removal method would be undertaken through stem count plot surveys conducted in each plot area.

Table One below, summarizes the activities to be undertaken at the five test plot sites:

Table One: Oregon Silverspot Butterfly Experimental Habitat Improvement Pilot Program Summary

Test Area	Location (APNs)	Gross Acreage	Treatment Method	Notes
1	108-240-02 108-240-03 108-240-10 108-240-11	.51	Livestock Grazing/ Mowing/ Burning	Two sets of 9-meter by 45-meter plot couplets separated by one 10-meter by 45-meter control plot
2	107-082-05	.27	Livestock Grazing/ Mowing/ Burning	Four 9-meter by 30-meter plots
3	108-053-03 108-053-04	.27	Livestock Grazing/ Mowing/ Burning	Three 9-meter by 27-meter plots separated from a fourth 9-meter by 27-meter plot by a 5-meter-wide control plot
4	108-173-08 108-173-10 108-173-11 108-173-12 108-173-13 108-173-14	4.04	Manual Release	Approximately 50% of plot area to be cut by chainsaw, brush hook, and similar hand tool clearing, focusing on thicket between Lots 3 and 6
5	108-031-05 108-031-06 108-031-07 108-031-08 108-031-09 108-031-10 108-031-11 108-031-12 108-031-13	4.55	Manual Release	Approximately 50% of plot area to be cut by chainsaw, brush hook, and similar hand tool clearing

Several comments have been received regarding this project and how it may interface with other vegetation removal and resource management programs being conducted elsewhere with the Lake Earl Wildlife Area, especially with regard to goat grazing and paddock activities in the Del Norte County certified areas on the southern peninsula

dividing the Lake Earl/Talawa lobes (see Exhibit Nos. 4 and 5). However, the subject experimental pilot program to be conducted in the *Pacific Shores Subdivision* is functionally and programmatically independent from the activities being conducted elsewhere within the LEWA.

B. <u>Protection of Environmentally Sensitive Habitat Areas and Coastal Water Quality</u>.

Coastal Act Section 30231 states:

> *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.*

Section 30232 goes on to address potential accidental releases of petroleum products and other hazardous materials:

> *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.*

Section 30240 of the Coastal Act directs:

> *(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those 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 those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

The project site is located within the *Pacific Shores Subdivision*, a large, rural antiquated subdivision comprised of over 1,500 roughly one-half-acre lots with no developed community service and public utility infrastructure, only minimal road improvements, due in large part to the presence of a variety of protected plant and animal species and/or their habitats. Several significant environmentally sensitive areas lie within or in close proximity to the project site test plots, namely forested and/or emergent scrub-shrub

wetlands, and exposed and vegetated dune areas. In addition, given its near sea-level elevation, portions of the project parcels and the connecting roadways serving the lots are subject to seasonal inundation by the estuarine/brackish waters of the coastal lagoon known as Lakes Earl/Talawa.

Portions of the treatment sites are within known locations for Oregon Silverspot Butterfly habitat and/or are wetlands. Section 30240(a) of the Coastal Act limits the allowable use of ESHA to only uses dependent on the resources of the ESHA. The principal objective of the project is to evaluate the feasibility and effectiveness of various vegetation removal techniques to stimulate the growth of the early blue-violet (*Violet adunca*), a plant species crucial to the larval stage of the Oregon Silverspot Butterfly. As such, the project is part of an ongoing effort to provide for the recovery and restoration of the Oregon Silverspot Butterfly species. The early blue-violet grows along the edge of wetlands and is a part of the wetland habitat. Therefore, because the treatments must be conducted within an ESHA to be effective and the project is being performed to aid the recovery and restoration of the Oregon Silverspot Butterfly ESHA, the project represents a use dependent on those resources areas consistent with the limitations imposed by Coastal Act Section 30240(a).

Section 30240(b) of the Coastal Act requires that development adjacent to ESHA be sited and designed to prevent impacts which would significantly degrade those areas and shall be compatible with the continuance of those habitats. As most of the surrounding *Pacific Shores* lots contains sensitive habitats composed of other wetland and Oregon Silverspot Butterfly habitat, dune mat, unvegetated dunes, back dune deflation plain, and maritime forest ecotomes, the vegetation removal and planting associated with the project has the potential of negatively affecting these adjacent areas unless appropriate protective measures are included to avoid and minimize such potential adverse impacts.

In addition to the enhancements the proposed project would hopefully afford to OSB habitat both directly and through furthering the wildlife management knowledge base, the project has included several measures to ensure that untoward impacts to other proximate environmentally sensitive areas do not result. These include:

- Project scheduling to a winter-spring timeframe to avoid impacts to other OSB habitat plants, particularly adult-phase food source species;

- Avoiding ground-disturbance through limiting the vegetation removal to above-surface grazing, burning, mowing, and cutting;

- Preventing over-cropping and trampling impacts through direct herder presence and exclusion fencing of non-treatment areas; and

- Limiting the disposal of lopped/mulched manual release cutting to non-wetland sites.

The U.S. Fish and Wildlife Service (USFWS) has prepared a biological assessment and determined that the project would not result in more than incidental take of Oregon Silverspot Butterflies provided conditions such as those listed above and as proposed by the applicant are followed. Accordingly, provided the development is undertaken consistent with the description within the project application, no significant disruption of habitat values or impacts which would significantly degrade those areas are likely to result such that the project could be found to be compatible with the continuance of those habitat areas.

However, to further ensure that the project does not impact the onsite and nearby ESHAs, the Commission attaches Special Condition No. 1. Special Condition No. 1 sets certain performance standards for conducting the experimental pilot vegetation removal program, primarily addressing certain repair and maintenance activities associated with the use of motorized vehicles and equipment, and livestock grazing within or in proximity to wetlands and areas subject to periodic inundation, and reiterating several of the protective measures incorporated into the design of the proposed project.

The Commission has received a comment letter from the Environmental Protection Information Center (EPIC) on the project which raises concerns about how the project might adversely affect ESHA (see Exhibit No. 4). The letter mainly addresses the goat herding/staging area occurring across the lagoon in the LEWA which is not a part of the subject project. The USFWS has written a letter responding to another letter from EPIC addressed specifically to USFWS raising most of the same concerns as in the EPIC letter to the Commission. The USFWS letter addresses the various concerns and is attached as Exhibit No. 5.

Therefore, the Commission finds that the development as approved with the attachment of Special Condition No. 1 will be sited and designed to prevent impacts which would significantly degrade environmentally sensitive habitat areas and shall be compatible with the continuance of those habitats, consistent with Coastal Act Section 30240.

C. Public Access.

Section 30210 of the Coastal Act requires that maximum public access shall be provided consistent with public safety needs and the need to protect natural resource areas from overuse. Section 30212 of the Coastal Act requires that access from the nearest public roadway to the shoreline be provided in new development projects except where it is inconsistent with public safety, military security, or protection of fragile coastal resources, or adequate access exists nearby. Section 30211 requires that development not interfere with the public's right to access gained by use or legislative authorization. Section 30214 of the Coastal Act provides that the public access policies of the Coastal Act shall be implemented in a manner that takes into account the capacity of the site and the fragility of natural resources in the area. In applying Sections 30210, 30211, 30212, and 30214, the Commission is also limited by the need to show that any denial of a permit application based on these sections, or any decision to grant a permit subject to

special conditions requiring public access, is necessary to avoid or offset a project's adverse impact on existing or potential access.

The proposed project would not adversely affect public access. The project site does not front directly on the ocean, as it is separated from the open, sandy shoreline by a row of parcels to the west of Ocean Drive. As noted previously, the project site is located in the *Pacific Shores Subdivision* adjoining Lake Earl Wildlife Area where public access via a series of developed trail facilities to the coastline is open and available for use. The project site is located well away from these trail facilities. Therefore, the proposed project would not adversely affect any existing rights of access that may have been acquired through use, as no existing public access would be blocked by the proposed development.

Therefore, the Commission finds that the proposed project does not have any significant adverse effect on public access, and that the project as proposed without new public access is consistent with the requirements of Coastal Act Sections 30210, 30211, 30212, and 30214.

D. California Environmental Quality Act (CEQA).

Section 13096 of the Commission's administrative regulations requires Commission approval of Coastal Development Permit applications to be supported by a finding showing the application, as modified by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). 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. Previously the applicant agency, California Department of Fish and Game, found the project to be categorically exempt from CEQA review.

The Commission incorporates its findings on conformity with LCP policies at this point as if set forth in full. These findings address and respond to all public comments regarding potential significant adverse environmental effects of the project that were received prior to preparation of the staff report. As discussed above, the development has been conditioned to be found consistent with the policies of the Coastal Act. Mitigation measures which will minimize all adverse environmental impacts have been required as permit special conditions. As conditioned, there are no feasible alternatives or feasible mitigation measures available, beyond those required, which would substantially lessen any significant adverse impact that the activity may have on the environment. Therefore, the Commission finds that the development as conditioned to mitigate the identified impacts, can be found to be consistent with the requirements of the Coastal Act to conform to CEQA.

IV. SPECIAL CONDITIONS

1. Protection of Environmentally Sensitive Habitat Areas and Coastal Water Quality

The permittee shall conduct the subject experimental pilot habitat improvement vegetation maintenance program subject to the following performance standards:

a. All vegetation removal, whether by grazing, mowing, burning or manual release methods shall be conducted between September 15 and April 1.

b. Livestock grazing activities shall be directly monitored and adaptively managed to ensure that over-cropping, avoidable trampling of other sensitive plant species, siltation-inducing levels of bioturbation, or entry by grazing animals into non-treatment areas do not result.

c. Fueling and/or maintenance of vehicles, stock trailers, and fuel-powered tools shall not be undertaken within environmentally sensitive areas but conducted only on cleared roadway areas.

d. Spill prevention and response "tail-gate" training and adequate supplies of clean-up materials shall be provided to all work sites involving the use of motorized equipment.

e. Lopped or cut green wastes from manual release clearing work intended to be composted/mulched onsite shall be disposed of only in non-wetland upland areas.

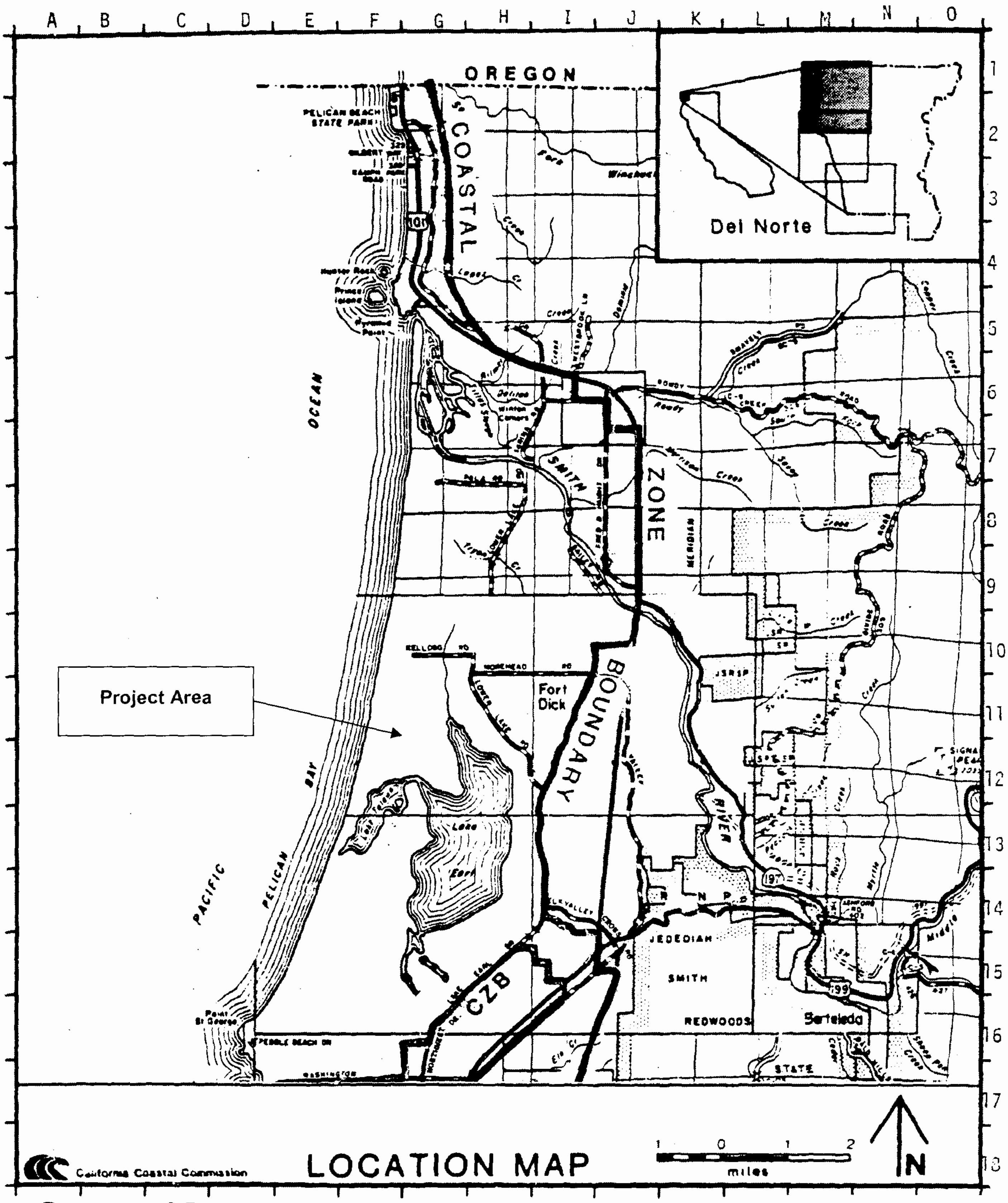
V. EXHIBITS

1. Regional Location
2. Vicinity Map
3. Project Site Plans
4. General Correspondence
5. Agency Correspondence

ACKNOWLEDGEMENT OF PERMIT RECEIPT/ACCEPTANCE OF CONTENTS:

I/We acknowledge that I/we have received a copy of this permit and have accepted its contents including all conditions.

Applicant's Signature	**Date of Signing**



County of Del Norte

EXHIBIT NO. 1
APPLICATION NO.
1-07-050
CALIF. DEPT. OF FISH & GAME
REGIONAL LOCATION

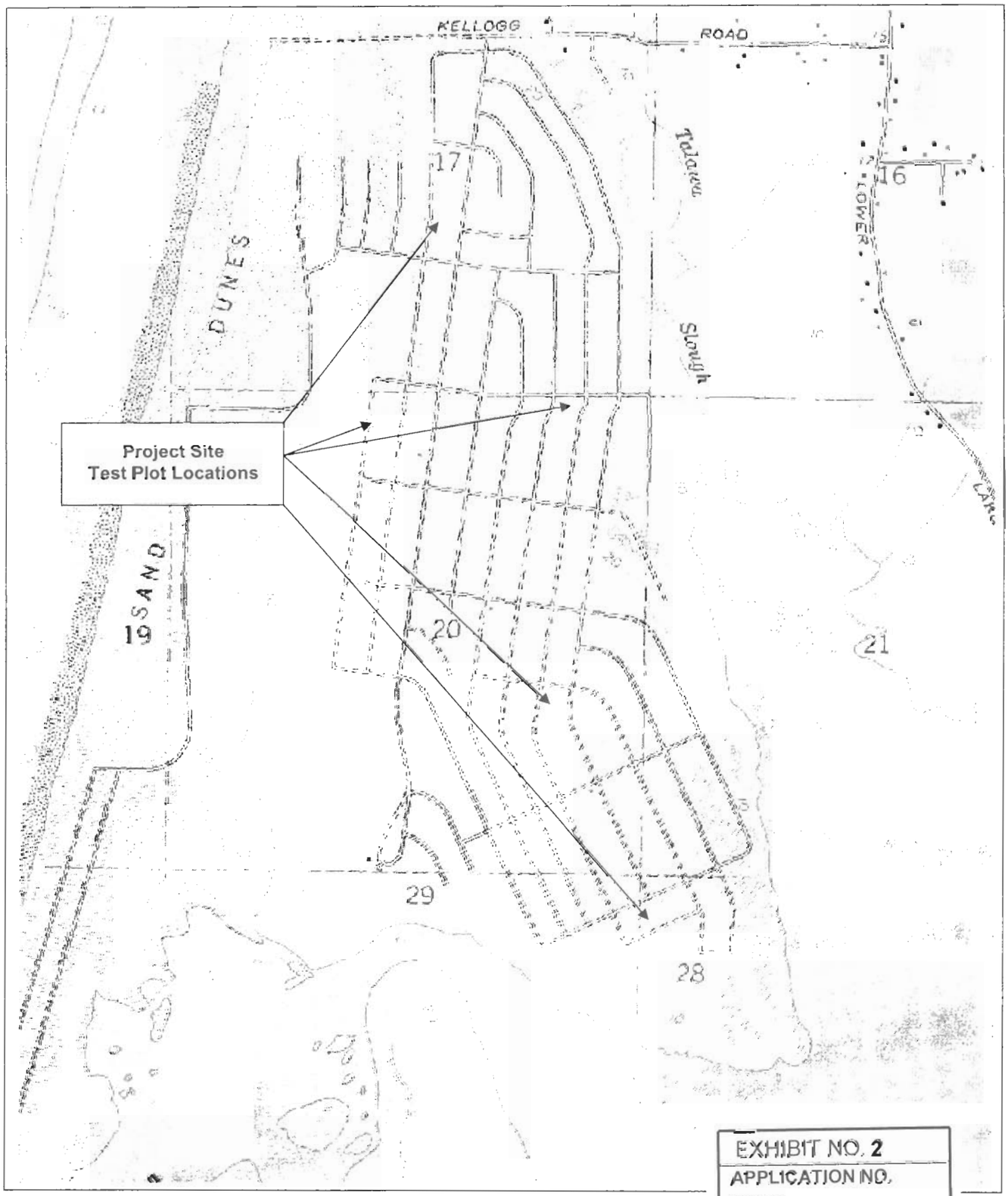


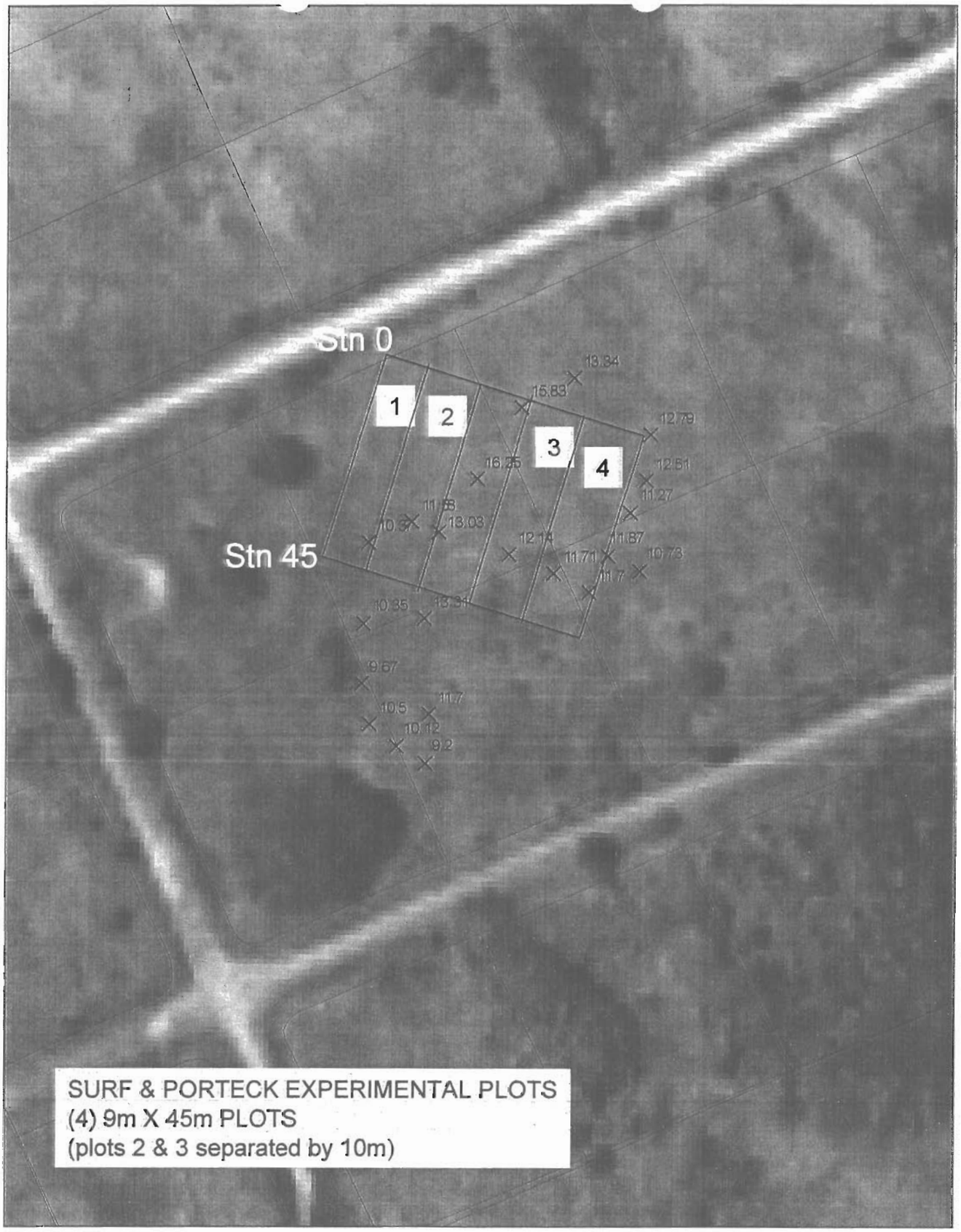
EXHIBIT NO. 2
APPLICATION NO.
1-07-059
CALIF. DEPT. OF FISH & GAME
VICINITY MAP

MAP 1
PACIFIC SHORES SUBDIVISION
OREGON SILVERSPOT BUTTERFLY
EXPERIMENTAL HABITAT RESTORATION

EXHIBIT NO. 3
APPLICATION NO.
1-07-050
CALIF. DEPT. OF FISH & GAME
PROJECT SITE PLANS
(1 of 10)

APN 108-240-002, 003, 010 and 011 - California Department of Fish and Game – Lake Earl Wildlife Area, Del Norte County, November 2007

Map 2a.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10.5
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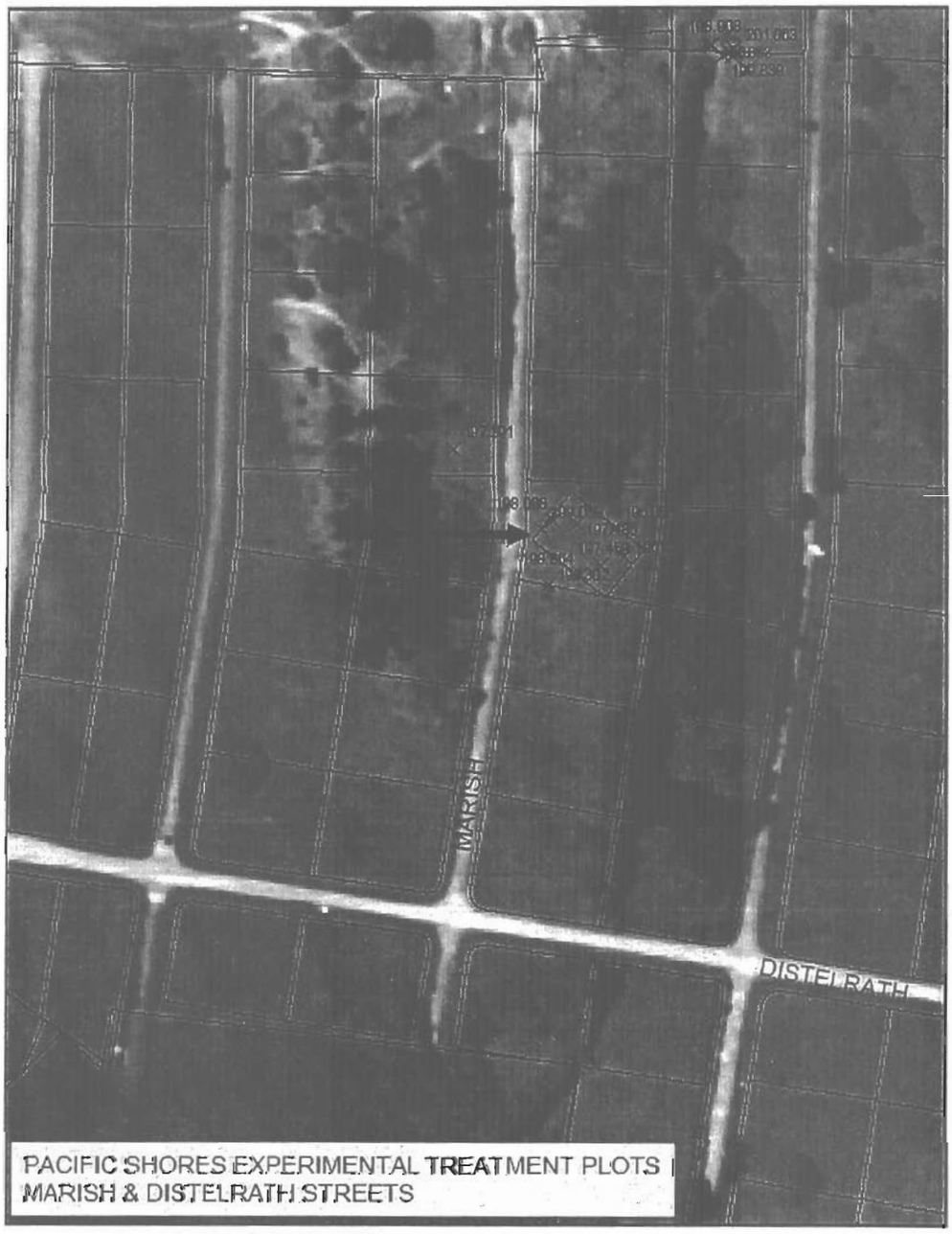
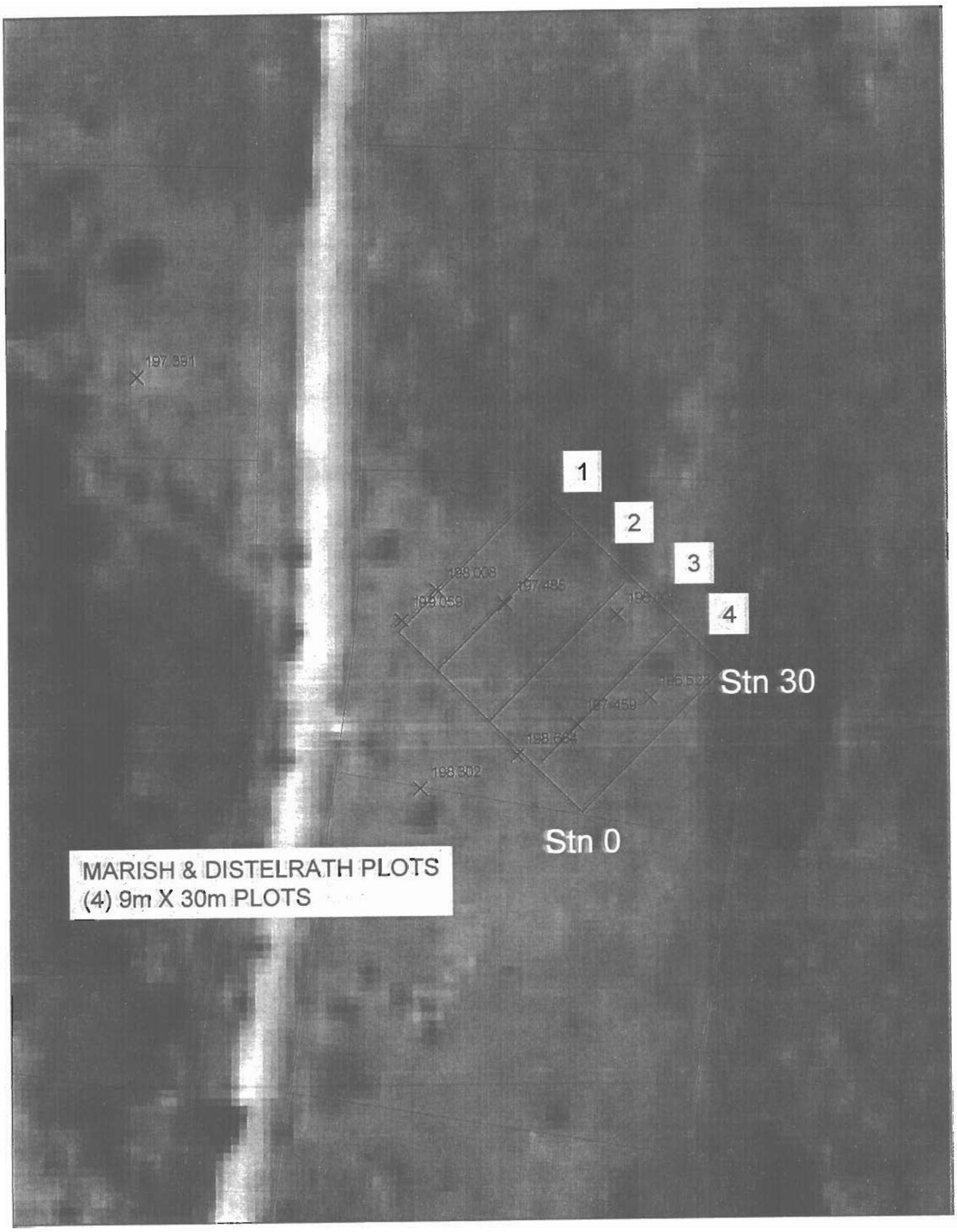
9.2
SURF & PORTECK EXPERIMENTAL PLOTS
(4) 9m X 45m PLOTS
(plots 2 & 3 separated by 10m)

Map 2.b.



APN 107-082-005 - California Department of Fish and Game – Lake Earl Wildlife Area, Del Norte County, November 2007

Map 3.a.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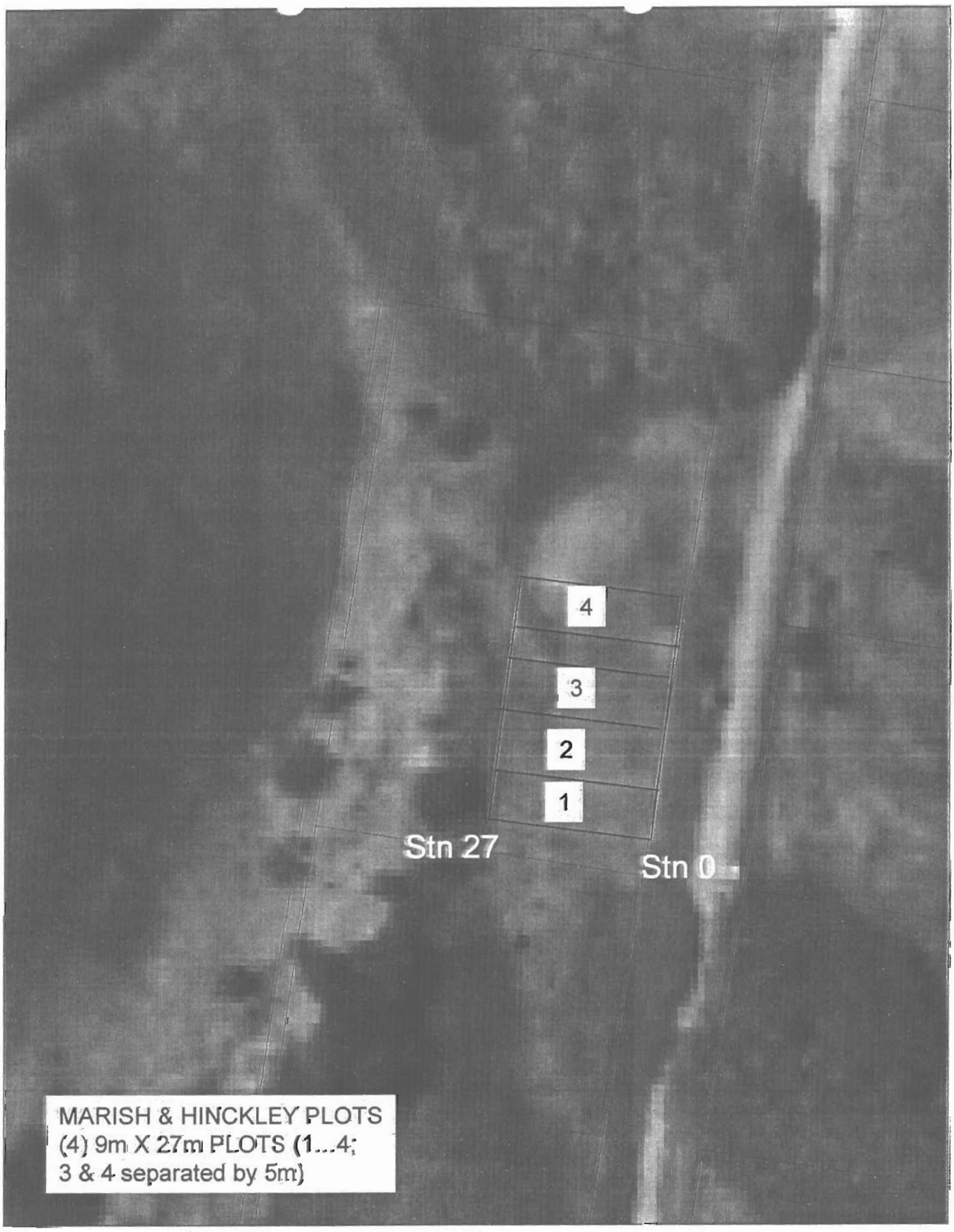
Stn 0
MARISH & DISTELRATH PLOTS
(4) 9m X 30m PLOTS

Map. 3.b.

APN 108-053-003 and 004 - California Department of Fish and Game – Lake Earl Wildlife Area, Del Norte County, November 2007

Map 4.a.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3
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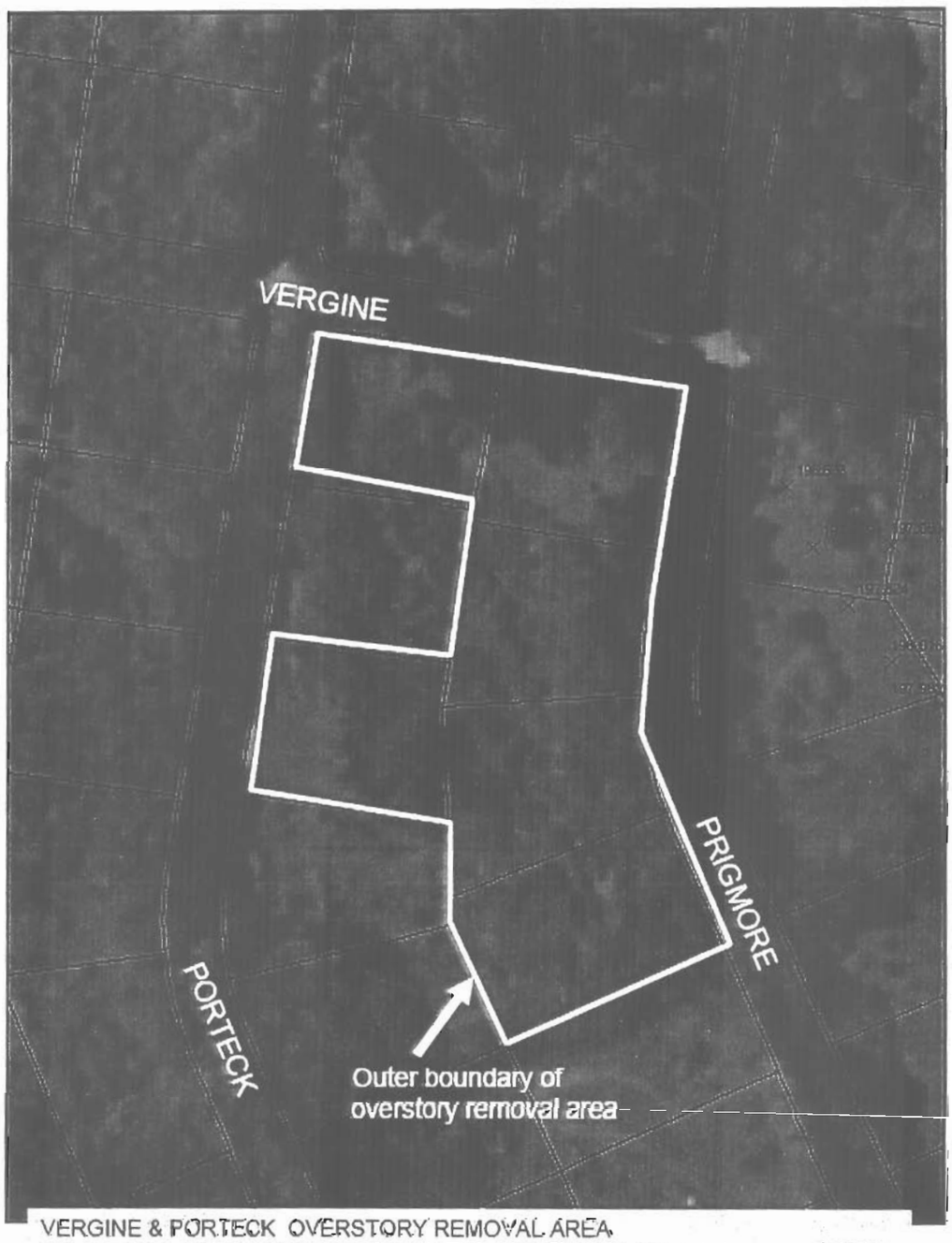
Stn 0
MARISH & HINCKLEY PLOTS
(4) 9m X 27m PLOTS (1...4;
3 & 4 separated by 5m)

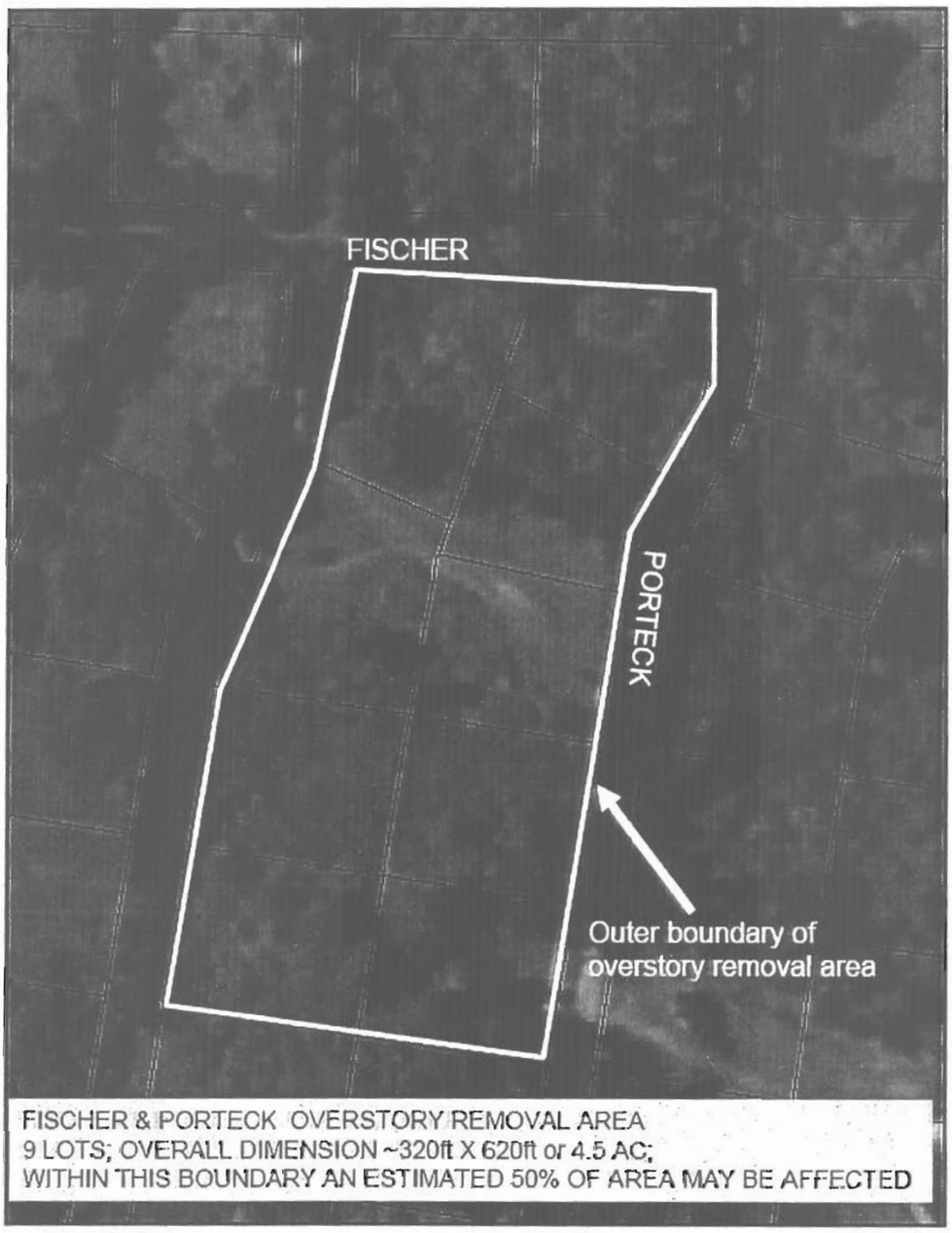
Map 4.b.



VERGINE & PORTECK OVERSTORY REMOVAL AREA.
BETWEEN 3 AND 6 LOTS TO BE TREATED DEPENDING ON AVAILABLE LABOR
MAX. OVERALL DIMENSION ~320ft X 550ft; MAX. AREA WITHIN BOUNDARY 3 ac,
WITHIN THIS BOUNDARY AN EST'D ~50% OF AREA MAY BE AFFECTED

APN 108-173-008, 010 through 014 - California Department of Fish and Game – Lake Earl Wildlife Area, Del Norte County, November 2007

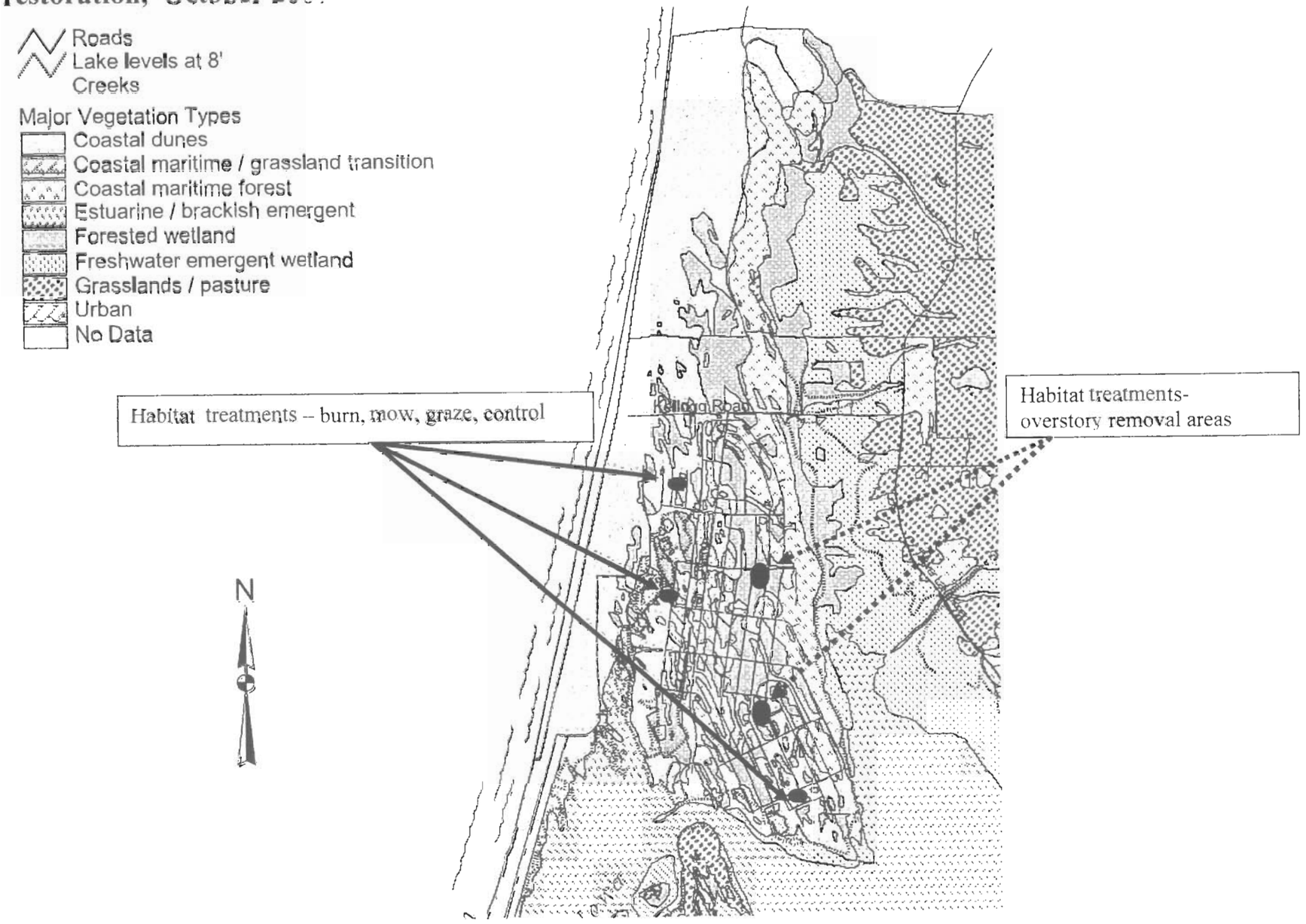
Map 5.



APN 108-031-005 through 013 - California Department of Fish and Game – Lake Earl Wildlife Area, Del Norte County, November 2007

Map 6.

Lake Earl Wildlife Area, Del Norte County – Oregon silverspot butterfly experimental habitat restoration, October 2007



Bob Merrill, District Manager
California Coastal Commission
710 E Street, Suite 200
Eureka, CA 95501

December 17, 2007

EPIC

RE: California Dept. of Fish and Game's November 28, 2007, Coastal Development Permit Application, Lake Earl Wildlife Area, Del Norte County.

Dear Mr. Merrill,

This letter responds to and comments on Coastal Development Permit Application No. 1-07-050 - CDFG OSB Habitat Improvement Pilot Program, for the Lake Earl Wildlife Area, Del Norte County, filed by the California Dept. of Fish and Game (DFG) on or about November 28, 2007. The Environmental Protection Information Center (EPIC) hereby respectfully suggests that the California Coastal Commission should properly deny the Coastal Development Permit (CDP) requested by DFG.

While EPIC would support many specific restoration actions included in the proposed project, we do not believe that DFG's permit application fully captures the scope, range, and potential impacts of the proposed action. Based on our understanding of actions already taken and presently ongoing within the Coastal zone, as well as of planned actions within the Coastal zone, DFG's project may have serious potential impacts on the environment which have not been disclosed to the public or to the Calif. Coast Commission in the above-described permit application. The wildlife agency has failed to discuss directly associated ground-disturbing activities which are already occurring, without benefit of a CDP or required CEQA analysis and mitigation. We have attempted to explain these activities to the best of our knowledge below.

The permit application suggests that the proposed activity (grazing by goats) will be limited to a few small areas on Lake Earl Wildlife Area lands north of Lake Earl, in proximity to the Pacific Shore Subdivision. However, our information indicates that, beginning approximately three weeks before the application was filed, the goat herd had already been concentrated in the "peninsula" area of the wildlife area, between Lakes Earl and Tolowa, across a substantial amount of open water from the Pacific Shores area. There the goats apparently remain, with potentially significant and undisclosed impacts on native vegetation and habitat.

As well, we understand that while some goats are being trucked to the Pacific Shores area, approximately half of the remaining herd of over 800 goats are to be herded south though Tolowa Dunes State Park to Point St. George. All of these actions appear to be taking place

within the Coastal zone, but none appear to be reflected in DFG's CDP application. Nor does the permit application include other related activities that may also impact Tolowa Dunes State Park and other wetland areas on both State Wildlife Area and Del Norte County lands within the coastal zone.

Again, while EPIC would support many of these habitat restoration actions standing alone, we cannot endorse evasion of Coastal Act requirements, nor actions which in sum appear to far exceed the necessary scope of the specifically proposed restoration activities.

Ongoing coastal zone activities neither permitted nor publicly disclosed.

In early November 2007, approximately 1410 goats were placed along wetland and dune meadows on a sand "peninsula" located on the Lake Earl Wildlife Area, north of Crescent City, California. This major grazing activity, which has significantly impacted area dune and wetland vegetation, appears to have begun without either prior environmental review, or any prior public notice that goats were to be placed at this particular ecologically sensitive location. Thus, DFG's application concerning grazing at Pacific Shores fails to fully describe the full project the department has already undertaken.

EPIC is also providing to the Coastal Commission staff aerial photographic maps provided to us by the US Fish and Wildlife Service. These maps show the specific total land area intended to be disturbed in the project. Regrettably, DFG's November 28 CDP application does not appear to include these areas.

In addition to the specific project described in the Pacific Shores Subdivision area, DFG should also obtain a CDP for related goat grazing projects which, though likely to be environmentally beneficial, have not been disclosed or discussed in the present application. This includes specific aspects of the same project, and use of the same animals at this time, to attempt to enhance habitat for threatened western lilies habitat at both Pt. St. George and on Wildlife Area lands at the Crescent City marsh. All of these actions should be fully disclosed, analyzed, and if necessary mitigated in a revised DFG application for a CDP that covers the entire project.

The purpose of the project, as stated to local conservationists who discovered the goats while hiking in the wildlife area, is to control and open up "rank vegetation", to favor and stimulate the growth of more desirable, herbaceous species. However, the still-ongoing grazing within this portion of the coastal zone does not appear to be achieving these purposes. Intensive goat grazing in sedge-dominated wetland areas is more likely to have the opposite of the intended effect, as goats avoid "rank" sedges to browse preferentially on the more desirable herbaceous species the project is supposed to be promoting. Recent inspection confirmed that while sedges themselves have not been substantially grazed, herbaceous plants surrounding sedges have been grazed very heavily.

A need to warehouse goats pending proposed action.

The real reason the goats were placed this fall in this sensitive dune and wetland area location was that the wildlife agency simply need a place to "warehouse" the goats. The plan had been to eventually take them to other nearby locations for habitat restoration projects.

At other coastal locations, the goats in varying numbers were to be grazed to try to set back vegetation competing with *Viola adunca*, a blue-flowered violet that is the primary food plant for the larva of the threatened Oregon Silverspot Butterfly. Goats were also to be used to similarly set back vegetation competing with the threatened western lily, *Lilium occidentale*. To date, these specific restoration projects have not been undertaken. Our understanding is that they have been delayed, due in part to tribal objections to potential impacts on traditional cultural properties and other important cultural resources, and in part to DFG's failure to obtain the CDP sought here.

On November 27, 2007 nearly a month after some hundreds of goats had been first turned out, California Fish and Game first applied for the required coastal development permit. As noted, the application only describes a small part of the total proposed impact, and fails to address previous and continuing grazing impacts. The November 27 application only discusses one of three specifically planned activity areas. Thus, this after-the-fact application appears to be ignoring what may be the most significant effects of these ground disturbing activities within the coastal zone.

The owner of the goats told us that 530 younger goats (by his count), having been fattened off on public lands, were removed from the wildlife area on December 8, 2007 to be trucked to Stockton for slaughter. Presently, and again to the best of our knowledge, 880 goats remain on the Lake Earl Wildlife Area, and will apparently stay there for a length of time that remains undisclosed.

As noted above, the area where the goats have been placed is in a dune and wetland area termed the "peninsula," as it lies between Lake Earl and Lake Tolowa. It is important to note that this area lies within the "Habitat Conservation Area" designated for the federally threatened Oregon silverspot butterfly in the US Fish and Wildlife Service's 2001 revised recovery plan for the species. Figure 11, on page 103 of the revised recovery plan, is attached. This maps shows a dashed line "- - -" that includes the peninsula area, immediately west of the western shore of Lake Earl proper.

Unfortunately, this butterfly's distribution has continued to dramatically decline since it was first listed. The Lake Earl area in Del Norte County is now this Oregon silverspot butterfly's second largest remaining population. (Presently there are only four other known silverspot butterfly populations, all found along the north-central Oregon coast.)

While past surveys have not found specific Oregon silverspot butterflies presently occurring on the peninsula area where the goats were turned out in November to graze, the majority of the Oregon silverspot butterfly population in Del Norte County occurs in the Pacific Shores area, about a half mile to the north. Additionally, this "peninsula area" has been described by a renowned butterfly expert as a very likely former habitat site, providing nectar plants for other sensitive butterfly species and native pollinators such as the "The Coastal Greenish Blue Butterfly" or (Insular Blue subspecies Greenish Blue), *Plebejus saepiolus littoralis*. Similar in its life cycle to the silverspot and many other butterfly species, the greenish-blue butterfly also overwinters as a tiny caterpillar (1st instar, diapause) in the withered flower heads of the previous summer's clovers. See: http://www.xerces.org/Species_Fact_Sheet_Insular_Blue.pdf

The final March 2000 "Tetra Tech Final Lake Earl and Lake Talawa (sic) Intensive Habitat Analysis Study" (prepared for the US Army Corp of Engineers) states, on page 4-6 (under 4.4 Violet Habitat Areas) that grazing has previously had adverse affects on this butterfly habitat:

> "In addition to the primary project area covered by Figure C-1, other potential habitat areas on adjacent state park lands to the south and north were also explored and surveyed for the presence of violets and silverspot butterflies. The old McLaughlin Ranch on the peninsula separating Lake Talawa (sic) from Lake Earl appeared from a distance and from the aerial photographs to have been high quality violet and silverspot habitat in the past, at least in the pre-European contact period. However, a ground survey of this area showed that all native vegetation in the low moist bottomlands normally occupied by violets had been replaced with tall-growing exotic grasses and other rank-growing vegetation. Extensive domestic livestock grazing was probably responsible for replacing the native meadow community with exotic vegetation."

Additionally California Dept. of Fish and Game's 1/15/2003 Draft EIR, LEWA Management Plan, describes on page 34, under III Habitat and Species Description:

> "Coastal dune habitat is an important habitat type for coastal butterflies. Within coastal dune habitat located within the upper edges of inter-dune wetland hollows, violets are found where soil moisture is sufficient. The early blue violet (*Viola adunca*) is the primary larval host plant for the federally listed Oregon silver spot butterfly (*Speyeria zerene hippolyta*). These and other rare butterflies are specifically adapted to use native plants for their larvae. Native dunes also host a variety of native and non-native nectar plants which are the primary food source for adult butterflies."

As stated on page 4 of the U.S. Fish and Wildlife Service's 2001 Oregon silverspot butterfly (*Speyeria zerene hippolyta*) revised recovery plan:

> "The Nature Conservancy recommends that at least five different species of native nectar plants be maintained at a density of no fewer than five flowering stems per square meter (square yard) in habitat areas (D. Pickering, The Nature Conservancy, pers. comm. 2001).

Site managers should ensure that each habitat area maintains nectar sources in flower throughout the entire flight period of the Oregon silverspot butterfly."

Many specifically identified Oregon silverspot and other adult butterfly nectar plants occur on the peninsula and other coastal plain meadows of the Lake Earl Wildlife Area as well as at the immediately adjacent Tolowa Dunes State Park. Even though these areas occur wholly within the habitat conservation area designated by the US Fish and Wildlife Service for the Del Norte population of the Oregon silverspot butterfly, there appear to be no agency produced local grazing management plans which address how either ongoing, intensive "goose management," or current goat grazing, is impacting various varieties of taller growing, and essential nectar producing wildflower species.

Goats and land managers "Gone Wild"

EPIC is concerned that without any prior measure or analysis of the potential impacts to other plant and small animal species, hundreds of still remaining goats' hooves are presently (and have been this last month) trampling down these or other butterfly species' tiny caterpillars.

In other areas, where grazing, fire or mowing is incorporated to enhance blue violet production (as within other managed Oregon silverspot butterfly identified use areas) only a small percent of the specific known butterfly habitat area is ever completely treated or disturbed at any one time. This is because the treatment itself unavoidably harms any young butterfly caterpillars (during inactive winter diapause) within the specific treatment area. When precautions are not taken to avoid the greater habitat area, disturbance techniques that enhance potential food plant production might be accomplished, but at the cost of impacting the very butterfly population the disturbance sought to benefit.

When large wetland edge habitat areas are so impacted with no consideration for what species might be affected, it is a poor apology on the part of land managers who never even looked, to then assure the inquiring public that "no harm is being done." But even setting these potential unanalyzed impacts aside, this intensive grazing may be having the opposite effect that which was intended. Over the last month, rather than eating the ranker native, wetland area sedges, it is obvious to even the casual observer that goats in the peninsula area have primarily instead consumed softer herbaceous vegetation species, while largely avoiding the ranker, more fibrous putative target species.

This is despite the fact that two on-site goat herders were assigned to see that the goats were herded predominately into concentrations of the courser and rougher slough sedge, *Carex obnuta*. We've all heard the old expression about leading horses to water—apparently the same can be said of goats who may not care for finely serrated sedge edges when more palatable native vegetation is similarly available.

Additionally, goats have not been penned in *Carex* and rush dominated areas, but instead were left too long in portable pens placed in sand-soil upland sites. Until recently, those night holding areas were not rotated to minimize the impacts to thin sandy soils. Moreover, the remaining 880 goats are now using the once intended sedge areas even less, as winter rains have flooded lower-lying areas where most of the sedge plants are. Goats, we have been told, do not like to wade into water much above ankle level in pursuit of what appears to be a little favored food species. As winter progresses, the available forage area thus shrinks with rising water in area swales. That seems likely to further concentrate the goats' grazing in sensitive places where, arguably, they should not have ever been allowed in the first place.

Additionally, there are major recreation conflicts with the goat grazing, as the peninsula area is one of Lake Earl Wildlife Area's more popular recreational locations. Particularly, it is used by hikers, bicyclers, birders and even people with baby strollers. All must now endure the smell of rapidly accumulating manure pellets, which have become unavoidable on some of the more accessible peninsula trails.

Pet dogs are banned from most wildlife area trails, including most of the peninsula area, even on a leash. Ironically, dogs are not allowed where 1410 goats were allowed to graze. This is because Wildlife Area managers consider the peninsula's principal north-south gravel road – which is routinely open for administrative vehicle use, and to accommodate a cattle-grazer's trucks – far too biologically sensitive to permit any sort of canine walking, recreational use activities. (Exceptions are regularly made for hunting dogs.)

While significant native plant habitats fortunately remain, the peninsula already suffers from the previous introduction of various exotic plant species due to past historical grazing uses (as quoted above in the March 2006 Tetra Tech report). Still the Lake Earl Wildlife Area peninsula area is composed of two principal categories of vegetation:

> **Palustrine Emergent Wetlands.** These wetlands consist of the "wet meadow," swale, and coastal freshwater marsh habitats. They also comprise, in part, the Coastal Freshwater Marsh habitat considered sensitive by the California Natural Diversity Database (CNDDB). They are seasonally inundated/ saturated, and dominated by low-growing grasses and other herbaceous hydrophytic vegetation (plant species adapted to growing in locations that experience prolonged saturation) such as grasses, sedges, and rushes.
>
> **Dune Mat.** This habitat has a semi-stable, sandy substrate and variable vegetative cover that typically hosts relatively high native species diversity. Dune Mat is considered "sensitive" by the California Department of Fish and Game and is listed in the CNDDB.

Sand dune associated species such as Coast Buckwheat, *Eriogonum latifolium* and particularly Beach Knotweed, *Polygonum paronychia* have in some areas also been very noticeably impacted by the recent grazing of goats in the areas above the lower wetland marshes. These dune-associated plant species represent a plant community where any grazing immediately disturbs and exposes portions of the shallow soil layer.

These species appear to be important habitat. A species of native bee collects and lines their underground nests with the cottony hairs from the bottoms of the coast buckwheat's leaves. Additionally, the purplish copper butterfly, *Epidemia helloides*, feeds on beach knotweed. In other areas immediately to the north, the Oregon silverspot butterfly has been observed taking nectar from the small whitish flowers of this species of knotweed.

Most of the soft, herbaceous wetland-associated plants, growing around and just above the base of the slough sedges, such as Marsh Clover, *Trifolium wormskioldi,* and Pacific Silverweed, *Potentilla anserine* var. *pacifica*, have been pretty much grazed "down to the nubbin". Also, while there is not a lot of exotic reed canarygrass, *Phalaris arundinacea* in this area, it appears also to have been generally avoided by the goats in the areas where it does occur.

Prior to this unannounced introduction of goats into the peninsula area, there was no prior evaluation of the potential impacts of the habitat areas known to support sensitive area butterflies species (such as the Coastal Greenish Blue Butterfly). Particularly there was no consideration if this or other species with a winter larval diapause stage might be impacted by the prolonged, and intensive grazing of goats which have consumed vast areas of the wetland edge where its host clover plant species occurs, and in which the small caterpillars first reside.

Until these issues such as these are addressed, and until California Dept. of Fish and Game presents an application for a coastal development permit that fully describes the extent of this grazing impact, all 880 remaining goats should be immediately removed from the Lake Earl Wildlife Area.

A public process should consider alternative restoration techniques.

If EPIC and the general public had been given adequate notice of the proposed restoration actions, conservationists would have proposed a more site-specific alternative that would focus on mechanical clearing of vegetation. We believe such an alternative must be analyzed to determine if it would provide equal or superior benefits to threatened species before the proposed CDP can be issued.

Such an alternative would specify a simpler set of practices, employing humans using chain saws to remove dense woody overgrowth and weed eaters to cut through sedges and other coarse rush and grass species. A far fewer number of goats or other grazing animals could be used to graze a far smaller area of specific test plots. This could all have been accomplished in far less time, for less money, without public controversy, and without the undesirable secondary environmental impacts associated with employing two full-time goat herders to herd many hundreds of goats on the Lake Earl Wildlife Area. Conservation volunteers, who have long pulled exotic European beach grass by hand, and without any financial compensation, were shocked to recently learn that the total cost of this proposed "restoration project" using non-selective goats was $18,000.

While Calif. Dept. of Fish & Game has yet to supply us with the specific "goat restoration" contract, we understand that the (federal) funds designated for this project have now been passed through to another subcontractor, with the subcontractor having brought these hundreds of goats to this corner of California, and all the way from the State of Nevada. This has required not just one or two trips, but has required multiple trips for the goat owner to first truck livestock to Del Norte County, and to then return again from Nevada to move the goats to other various local restoration habitat locations.

The broader plan, as described, now also envisions herding perhaps as many as 400 goats from the Wildlife Area peninsula, across other adjoining Wildlife Area and State Park lands, and down several miles of undeveloped State Park beach and dunes to the specific rare lily restoration site area on the south end of Pt. St. George. This is still another publicly undisclosed impact for which there has been no environmental analysis and for which no coastal development permit has so far been requested or obtained.

In Del Norte Co local contractors (as well as prisoners) are regularly seen clearing vegetation along multiple miles of public land roadsides and area trails. These mechanical vegetation removal techniques have been shown to be highly effective in periodically removing extensive areas of accumulated and even woody vegetation completely down to almost bare ground. Many extensive projects are thus accomplished in a matter of only a very few days. Why can't, and why haven't these similar techniques also be similarly employed in these targeted, site-specific restoration priority locations? We believe this could be done with far fewer undesirable environmental impacts.

Additionally, the Lake Earl Wildlife Area, through the local Resource Conservation District, administers a year-round grazing program to maintain and create short grass pasture for Aleutian Canada Geese. While such habitat manipulation should also not have been allowed to procede prior to environmental analysis, State Parks has previously allowed a local rancher to clear willows and riparian vegetation, and even fill in former wetland areas to create leveled cattle fields for the claimed primary benefit of Canada geese. However, these lily and violet restoration projects will hopefully not require as extensive (and ecologically draconian) removal of the wetlands themselves and the area's associated native vegetation.

If DFG had first done the required CEQA analysis, they should have also considered placing the 1400 goats in one or more of the Wildlife Area's six already-identified Resource Conservation Area grazing pastures. While these areas should also be evaluated for their abilities to produce a greater array of plant and wildlife enhancement opportunities, these pastures have far less native plant and other wildlife conflicts, having already been regularly grazed or mowed to provide short grass, for Aleutian Canada geese which have now been delisted under the ESA.

Thus, besides failing to consider less costly manual vegetation clearing techniques, DFG has also failed to consider any alternative providing for the use of fewer animals, or for pasturing the animals in a less environmental sensitive location. Instead, scarce restoration funds have been squandered hauling goats from Nevada.

In sum, then, DFG has failed to accomplish the restoration disturbances the butterflies do require, and failed to obtain the permits required to undertake these actions. Activities associated with allegedly beneficial disturbances have instead caused collateral impacts that are pretty clearly not beneficial, but which are now explained as unanticipated. We should not need to point out that the purpose of California's various environmental laws, including CEQA and the Coastal Act, is to prevent just such circumstances from arising by requiring prior disclosure and analysis of potential impacts. The first rule in medicine is to "do no harm." The same philosophy should apply to future DFG "restoration" projects.

Thank you for your attention to these matters.

Sincerely yours,

Scott Greacen, Executive Director
POB 147
Eureka CA 95502

cc: California Dept. of Fish and Game
US Fish and Wildlife Service

Enclosure: Habitat Conservation Area map from 2001 revised Oregon Silverspot Butterfly Recovery Plan

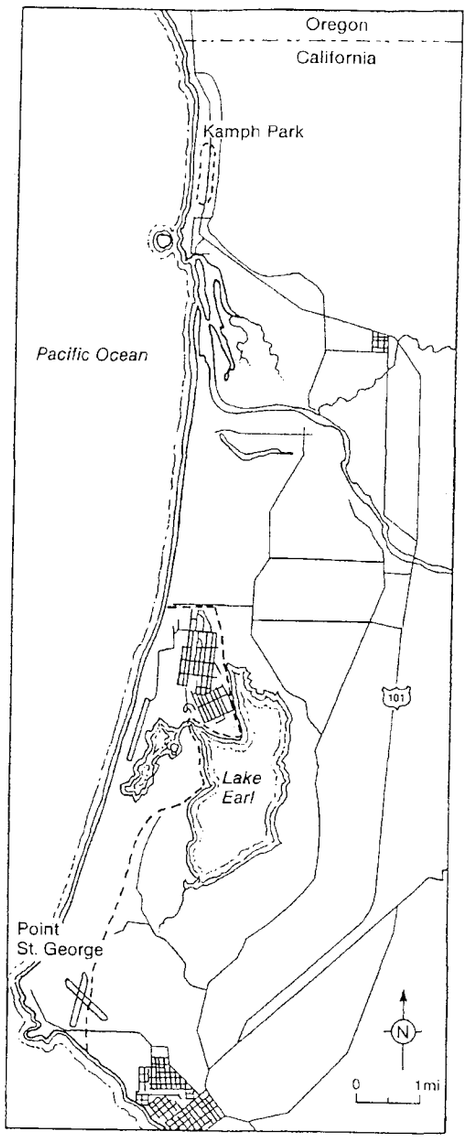


Figure 11. Del Norte Habitat Conservation Area

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Bob Merrill, District Manager
California Coastal Commission
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19 December 2007

Dear Mr. Merrill:

This letter is in regards to Coastal Development Permit Application No. 1-07-050 - CDFG OSB Habitat Improvement Pilot Program, filed by the California Dept. of Fish and Game (DFG) on November 28, 2007 for the Lake Earl Wildlife Area, Del Norte County. I am writing in support of comments submitted on December 17, 2007 by the Environmental Protection Information Center (EPIC). Please include this letter as part of the official record.

Wendell Wood of EPIC has posed to me the question of how slough sedge, *Carex obnupta*, would be affected in northern California coastal habitats by removal of associated graminoids and soft herbaceous vegetation (forbs). EPIC's question to me originated from public concerns about the effects of recent intensive grazing by domestic goats in the Lake Earl Wildlife Area. EPIC's comments and detailed photographs of the grazed area were sent to me with a request for my professional opinion on possible impacts of concentrated grazing on native vegetation, in particular slough sedge and associated herbaceous vegetation.

I am a botanist specializing in wetland vegetation, and have thirty years of field experience in the western United States. One of my mentors was Rexford Daubenmire, and his training, in the classroom and in the field, has given me an appreciation for the complexity of ecological relationships in biological communities. I have lived in north coastal California and, through my own field projects and work with my husband, I have gained familiarity with vegetation and habitats there.

One of my particular research interests is the genus *Carex*, sedges. I prepared the treatment of *Carex* for the 1993 Jepson Manual: Higher Plants of California, and also for the current revision of that volume. I also was one of the authors for the treatment of *Carex* in the Flora of North America series. In preparing these treatments I have spent considerable time in the field, including concentrated field work in coastal wetlands of Del Norte and Humboldt Counties.

Slough sedge is a vigorous and aggressive species that grows by means of strong rhizomes and forms large tussocky clumps or dense swards. Because of the tough, strong fibers in its leaves, it is not a favored food choice for domestic grazing animals. The photographs from the Lake Earl Wildlife area show clearly that the goats introduced into the area have eaten very little slough sedge but have drastically reduced other plants. This is not surprising. Omnivorous as they are,

goats do have their preferences, and tender, delicate plants are more appealing to eat than tough, fibrous leaves.

Slough sedge responds positively (increases) as a result of grazing disturbance. Ground trampling by sharp hooves tends to stimulate vigorous new rhizome growth. Thus, in addition to the fact that slough sedge canopies have not been significantly reduced by this grazing, the plants are stimulated to spread.

The "non target" native forbs, on the other hand, are not such strong competitors. They are degraded by the direct effects of grazing--shoots being consumed to the extent that canopies and possibly propagules are drastically reduced, and roots are injured by hoof traffic). Furthermore, these more delicate plants also suffer indirect effects of grazing, in this case the stimulation and probable increase of slough sedge.

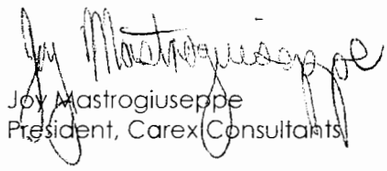
EPIC's photographs and recent field observations indicate that results of continued intensive goat grazing in the lake Earl Wildlife Area would be increasing coverage of slough sedge and reduced coverage of native forbs. Grazing and trampling also increase the chance of invasion/spread of aggressive exotic species (e.g. tansy ragwort, *Senecio jacobea*). (Ironically, tansy ragwort is currently a nectar plant for the Del Norte County population of the Oregon Silverspot Butterfly. This is probably due to greatly reduced native nectar sources.) Weeds are weeds because they have competitive advantages over native plants, and intensive grazing is a kind of disturbance that greatly enhances and encourages weed populations.

These drastic changes in balance of species would impact the entire biological community, including animal, bird, and insect species that depend on native forbs for food or for reproductive habitat.

If the objectives of introducing a large number of goats into coastal wetlands are to reduce coarser species such as slough sedge and to favor associated native forbs, the project has very little chance of success.

Trying to help sensitive species is extremely important, but biological communities are very complex. I consider goats a poor choice as vegetation managers, especially if the objective is to favor rare and more delicate species on the broader landscape. Attempts to change the balance of species through management need to be based on the characteristics of the entire biological community, on all the plants and animals living there and their relationships with each other. A simplistic approach is likely to have negative repercussions. As John Muir said, "When we try to pick out anything by itself, we find it hitched to everything else in the Universe.[1]"

Sincerely,



Joy Mastrogiuseppe
President, Carex Consultants

[1] My First Summer in the Sierra. 1911.

Summaries from eight references specific to silverspot butterfly studies and restoration recommendations in the Del Norte Habitat Conservation Area

The following excerpts are to provide your agency with an overview of the variety of sensitive resources that have not been identified by Calif. Dept. of Fish & Game (CDFG) or the Arcata Field Office of the US Fish and Wildlife Service (USFWS) prior to their initiating intensive goat grazing activities this last fall on the Lake Earl Peninsula of the Lake Earl Wildlife Area in Del Norte. County California.

This information is to supplement previous letters of December 31, 2007 which EPIC and the Friends of Del Norte have sent to the USFWS, CDFG and the Calif. Coastal Commission requesting the removal of the goats in the absence of required public notice, environmental reviews, and proper permitting of these previously unannounced grazing activities.

The following summary of prior research information and recommendations is additional information that EPIC and Friends of Del Norte have located since our letter was sent to your agency of December 31, 2007. This is information, for the sake of brevity here, is excerpted from government documents and other research information that CDFG and USFWS should have considered. We believe these documents, read completely and in their full context should be reviewed by decisions makers and be considered as part of a public process and further environmental analysis. This review should have occurred prior to CDFG's & USFWS's placing hundreds of goats for a still indefinite length of time on the biologically sensitive Lake Earl peninsula area. Again, the location where this intensive grazing activity is occurring was previously identified in the USFWS's 2001 revised recovery plan for the federally threatened Oregon silverspot butterfly in a habitat recovery area termed the "Del Norte Habitat Conservation Area."

While many grazing research studies have been previously (and appropriately) conducted, EPIC and Friends of Del Norte have been unable to find any studies that recommend intensive grazing in these specific habitats or these types of habitats. While some studies have shown that some butterfly food plants such as *Viola adunca* can tolerate heavy grazing, the butterfly larvae and many of the adult nectar food plants do not. This is primarily because intensive grazing favors the establishment of alien grass species that out compete both caterpillar food and adult butterfly nectar plants. See information and management recommendations contained below. Please advise us of any studies or research you are aware of that makes any specific recommendations to the contrary. Our examination of the literature, including butterfly restoration studies from Europe, that were supplied to us on 9/27/2007 by the USFWS in Arcata, also did not reach conclusions that intensive grazing was an activity that favored the maintenance or restoration of butterfly habitats.

Any of the documents referenced below, for which a specific URL is not provided, we would be happy to mail you upon your request. Additionally, EPIC recently received a document from CDFG under a formal Public Records Act request titled: "Memorandum of Understanding by and between CDFG and Knudsen Ranch." This agreement, which authorized the placement of hundreds goats in the Lake Earl Wildlife Area, "shall commence on October 18, 2007 and terminate on October 18, 2008, subject to renewal with approval of both parties prior to the Termination date." It is not known if CDFG intends to extend this MOU once it expires in October 2008.

The following are the excerpts as described above

1) From "Management Issues & Goals for Recovery of the Oregon Silverspot Butterfly (*Speyeria zerene hippolyta*) along the Pacific Coast by Dr. Paul Hammond (15 pages) (Written after the 2002 field season)

Page 10 (Under "Del Norte, California) "Livestock grazing has a negative impact on silverspot populations in two ways. First, the direct impact of trampling kills the larvae and pupae. Second, grazing tends to replace native short-grass prairie with tall-growing exotic grasses and weedy vegetation that thrive under grazing disturbance. Such vegetation completely eliminates violets and silverspot butterflies, as was observed at Pelican State Beach. Butterflies were also lost in the south section between Point St. George and Crescent City due to urban development at the south end and livestock grazing at Point St. George." And, "Only the ungrazed wetlands in the sand dunes on the north side of Lake Earl still support violets and butterflies."

Page 11 & 12 The Lake Earl area contains "a wide diversity of other plants and animals as well. Many of these are extremely rare, and survive only in this area. For example, the coastal blue butterfly (*Plebejus saepiolus littoralis*) and its larval food plant springbank clover (*Trifolium wormskjoldii*), occupy the same wet deflation valleys as *Viola adunca*, while the rare Aleutian violet (*Viola langsdorfii*) occupies particularly boggy habitats.

Page 13 "it is my opinion that the Lake Earl sand dunes and wetlands represent one of the richest hotspots for biodiversity of both plants and animals found along the West Coast of the United States. The Oregon silverspot butterfly is the flagship indicator of an entire endangered ecosystem."

Page 14 "One alternative would be to re-introduce the Oregon silverspot butterfly to Point St. George through management of these grasslands. I believe this is where the silverspot lived in pre-European times before livestock grazing eliminated the butterfly..." Indeed, one of the recovery goals in the Oregon silverspot Butterfly Recovery Plan is to re-establish a second silverspot population in Del Norte County. Point St. George is the logical site for such a re-introduction if a habitat management program can be implemented.

2) Management Recommendations for Oregon Silverspot Butterfly Habitat from Paul C. Hammond (Written around 2000—according to a Dec. 27, 2007 letter to Wendell Wood from Dr. Hammond)

In reference to a previous "OSB Working Group meeting in Portland" that discussed management techniques of "livestock grazing, burning, and mowing."

"Many people at the Portland meeting seemed unaware that the extensive history of livestock grazing with silverspot butterflies has been entirely negative in the past, both in Clatsop County and Del Norte County. Livestock grazing tends to eliminate most native meadow vegetation and replaces it with exotic grasses such as bentgrass. Only a few native plants such as Viola adunca grow well with heavy livestock grazing. However, the trampling effect appears to kill most silverspot larvae and pupae and butterflies do not survive in heavily grazed pastures. Light grazing does allow low levels of butterfly survival, as historically seen on the Reed Ranch and Malarkey habitat in Clatsop county, but tall grass also inhibits the violets and butterflies with only light grazing."

Page 2 "The most effective management tool for maintaining low vegetation in the presence of tall-growing grass and herbs is mowing. This has been well documented by the past twenty years of work on the Sisulaw National forest and ten years of work at Camp Rila on the Clatsop Plains. Exotic grass problems at Rock Creek and Camp Rilea have required a minimum of two spring mowings at a mower height of three inches. The first mowing is done around the first of May at Rock Creek and the middle of May at Camp Rilea, while the second mowing is done around the middle to end of June. This provides adequate control of exotic grasses that average vegetation height is around 6 inches when female butterflies are ovipositing in late summer and fall."

3) Letter of December 27, 2007 to Wendell Wood from Dr. Paul Hammond concerning the Del Norte HCA:

"Short-growing nectar flowers are usually compatible with the violet breeding habitat, but tall-growing flowers like asters, goldenrod, or the exotic tansy ragwort are not compatible with the violets and habitat requirement of the silverspot larvae. Thus in areas where fall flowers are important, we try to maintain areas of tall vegetation with such flowers adjacent to, but outside of the actual violet breeding habitat with the very short vegetation."

(silverspot butterfly) "adults can fly for a considerable distance to find nectar flowers"
(issues concerned with management programs include) "3) the distribution and abundance of nectar flowers required by adult butterflies. Previously, a minimum viable population size was thought to be around 200-400 adult butterflies. However, recent experience suggests the minimum viable population size might be closer to 400-800 butterflies if a population is to survive over the long term future. Invasion of native grassland habitats by tall-growing exotic grasses, herbaceous weeds, and woody vegetation pose a far greater challenge for attaining a successful recovery of the Oregon silverspot butterfly than we previously imagined, and this species continues to be severely endangered as of 2007."

4) Summer 2003 Field Survey for Oregon Silverspot Butterfly in Northern California
Report prepared by David H. Wright, PhD. For Robin Bencie Humboldt State University
Sept. 2003

http://davidhwright.com/pdfs/Oregon_Silverspot_Butterfly_Survey_2003.pdf

NOTE: "Recovery actions should start near but outside occupied habitat."

Page 9
Management and restoration recommendations—Because the OSB has low numbers and a restricted distribution in Del Norte County, recovery actions are desirable.

Recovery actions should start near but outside occupied habitat, to test habitat restoration methods and to promote expansion of the distribution of the species while minimizing the risk of direct negative impacts. Successful methods may then be applied incrementally to occupied habitat if necessary.

5) The final March 2000 "Tetra Tech Final Lake Earl and Lake Talawa Intensive Habitat Analysis Study" (prepared for the US Army Corp of Engineers) on page 4-6 (under 4.4 Violet Habitat Areas

"In addition to the primary project area covered by Figure C-1, other potential habitat areas on adjacent state park lands to the south and north were also explored and surveyed for the presence of violets and silverspot butterflies. The old McLaughlin Ranch on the peninsula separating Lake Talawa from Lake Earl appeared from a distance and from the aerial photographs to have been high quality violet and silverspot habitat in the past, at least in the pre-European contact period. However, a ground survey of this area showed that all native vegetation in the low moist bottomlands normally occupied by violets had been replaced with tall-growing exotic grasses and other rank-growing vegetation. Extensive domestic livestock grazing was probably responsible for replacing the native meadow community with exotic vegetation."

6) August 11, 1999, biological opinion for the Oregon silverspot butterfly titled: "Section 7 Programmatic consultation on Issuance of Section 10(a)(1)(A) Scientific Take Permits and Section 6(c)(1) Exemption from Take for Oregon silverspot butterfly (*Speyeria zerene hippolyta*) (1-7-99-F-411)."

This document recommends that USFWS "explore opportunities for securing additional habitat for the Oregon silverspot butterfly, particularly at Long Beach, Clatsop Plains and Del Norte." And, "encourage the development of state conservation plans for the Oregon silverspot butterfly and management of its habitat" and "restore native coastal grassland communities and prairies within the range of the Oregon silverspot butterfly".

7) Habitat Search & Survey for the Oregon Silverspot Butterfly (*Speyeria zerene hippolyta*) and its Primary Larval Host the Western Dog Violet (*Viola adunca*) in Del Norte County, California Prepared by Kyle S. Wear. Prepared Under Interagency Agreement California State University/Dept. of Fish and Game, October 2004

Page 20 "Based on our field surveys and observations of tOSB and its habitat in Del Norte County, the results of previous investigations around Lake Earl, and what has been learned by others from management of OSB along the Oregon coast, the following five management recommendations are proposed:
1) Maintain and enhance early successional habitat within the known range of OSB in Del Norte County. Burning and mowing have both been used in Oregon to manage OSB habitat. Another possible management tool for habitat around Lake Earl is carefully implemented cattle grazing."

8) U.S. Fish and Wildlife Service. 2001. Oregon silverspot butterfly (*Speyeria zerene hippolyta*) revised recovery plan. U.S. Fish and Wildlife Service, Portland, Oregon. 113 pp.

http://ecos.fws.gov/docs/recovery_plans/2001/010822.pdf

(Specific Recommendations quoted from this 2001 USFWS revised recovery plan):

page 4: "The Nature Conservancy recommends that at least five different species of native nectar plants be maintained at a density of no fewer than five flowering stems per square meter (square yard) in habitat areas (D. Pickering, The Nature Conservancy, pers. comm. 2001). Site managers should ensure that each habitat area maintains nectar sources in flower throughout the entire flight period of the Oregon silverspot butterfly."

1.6.3 Select Oregon silverspot butterfly habitat in the Del Norte habitat conservation area that must be protected to achieve recovery.
Develop a management plan for the Del Norte population center to address habitat needs

1.6.4 Protect habitats identified in task 1.6.3.
Protect sufficient habitat within the habitat conservation area. Protecting habitats identified in task 1.6.3. may be accomplished by Federal or State governments or appropriate nonprofit
conservation organizations.

Page 59:
2.2.1.1 Controlling exotic grasses.
Non-native grasses such as bent grass, European beachgrass, heath grass, orchard grass, velvet grass, reed canary grass, and tall fescue commonly invade meadows, crowding out low-growing early blue violet and nectar plants needed by the butterfly. Grasses have
Page 60
become a major threat to Oregon silverspot butterfly habitat and currently limit recovery.
Develop and implement effective control techniques for non-native grasses. Effects of control methods on early blue violets and native nectar sources should be determined. More intensive methods should be developed for areas with advanced encroachment of grasses or where violet and nectar sources have been completely suppressed.

2.2.1.3 Establishing or maintaining nectar plant abundance and density.
Nectar species are somewhat limited at several of the Oregon silverspot butterfly's population centers. Additionally, management techniques such as mowing and grazing which encourage early blue violets can have negative impacts on nectar species.

Techniques to enhance nectar species in meadows and in portions of the forest fringe should be completed.
page 62
... artificial introduction techniques may be necessary only for unoccupied sites that are more than 8 kilometers (5 miles) from occupied habitat or a shorter distance from habitat occupied by the more sedentary populations. Additionally, artificial introduction techniques may be needed at some habitat conservation areas that are exhibiting population declines and/or contain very low Oregon silverspot butterfly populations that may eventually lead to extirpation.

page 63
2.3.2 Determine methods for the release of reared Oregon silverspot butterfly caterpillars into restored or unoccupied habitat. This task is complete. Reared Oregon silverspot butterfly caterpillars have been successfully released at Cascade Head (Pickering 2001) using methods modified from Hammond and McCorkle (1991).

From USFWS 2001 Revised Recovery Plan for federally threatened Oregon silverspot butterfly

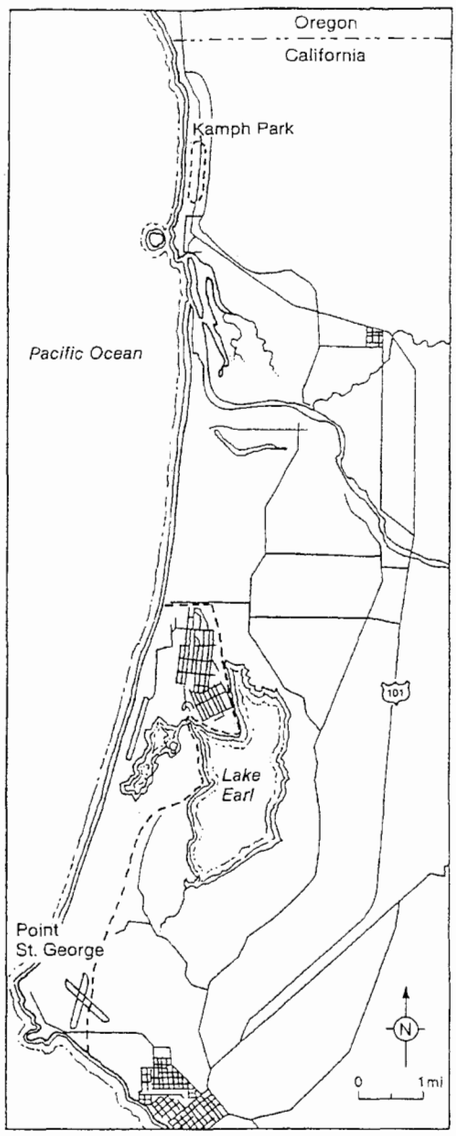


Figure 11. Del Norte Habitat Conservation Area

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Arcata Fish and Wildlife Office
1655 Heindon Road
Arcata, California, 95521
Phone: (707) 822-7201 FAX: (707) 822-8411

In Reply Refer To:
8-14-2008-3337.1

Mr. Wendell Wood
Environmental Protection Information Center
P.O. Box 229
Crescent City, California 95531

Ms. Eileen Cooper
Friends of Del Norte
P.O. Box 1783
Gasquet, California 95543

Subject: U.S. Fish and Wildlife Service (Service) recovery efforts for the Federally-listed Oregon silverspot butterfly (*Speyeria zerene hippolyta*) (OSB) and western lily (*Lilium occidentale*) in Del Norte County, and grazing conducted by the California Department of Fish and Game on their Lake Earl Wildlife Area

Dear Ms. Cooper and Mr. Wood:

This responds to your letter of December 31, 2007, on behalf of EPIC and the Friends of Del Norte, regarding U.S. Fish and Wildlife Service (Service) recovery efforts for the Federally-listed Oregon silverspot butterfly (*Speyeria zerene hippolyta*) (OSB) and western lily (*Lilium occidentale*) in Del Norte County. We also address grazing conducted by the California Department of Fish and Game (CDFG) on the Lake Earl Wildlife Area, in particular on the area of this Wildlife Area known as the "peninsula", which extends northwards to separate the Lake Earl and Lake Tolowa lagoons.

We wish to respond to your questions and concerns with clear answers, and to clarify processes under Sections 6 and 7 of the Endangered Species Act relative to this issue. We have organized this letter by including sections of text from your letter in bold, followed by our response.

1) LETTER EXCERPT: **"In early November, 2007 the Arcata Field Office of the US Fish and Wildlife Service (USFWS), in cooperation with the California Department of Fish and Game (CDFG) initiated a Section 6 funded project in which hundreds of goats have been allowed intensively a graze a 300 acre portion of the "peninsula area" of the Lake Earl Wildlife Area. This activity, which was initiated in early November 2007, is still on going, and is being allowed to continue for a still unspecified length of time within the "Del Norte**

Habitat Conservation Area" of the federally threatened Oregon silverspot butterfly, *Speyeria zerene hippolyta*."

SERVICE RESPONSE: The Section 6 funded project referred to, entitled "Investigation of Oregon Silverspot Butterfly (*Speyeria zerene hippolyta*) population, habitat relationships and habitat restoration methods in Del Norte County, California", was funded in December 2005, and initiated in early 2006. The study contained many elements related to conservation of the butterfly, one of which involved experimental manipulation of habitat on lands owned by the CDFG within the Pacific Shores subdivision. This latter element is designed to test methods for restoring habitat for the butterfly, with grazing as one treatment method being tested. Goats were chosen as most appropriate for the grazing treatment because of their small size (the test plots are small), and their ability to eat woody as well as herbaceous vegetation. The final study design involves three replicates of four treatments (mowing, burning, grazing, and control/no treatment), applied to plots 9 meters wide by 27 to 45 meters long. The treatments were to be applied in the fall/winter of 2007-2008. Funding for the actual costs of the goat grazing treatment of these three plots was not included in the Section 6 grant funding, which did however cover other expenses such as pre- and post-treatment monitoring of the test plots.

2) LETTER EXCERPTS: "While various scientific and conservation related projects were previously authorized by an August 11, 1999, biological opinion for the Oregon silverspot butterfly, the grazing activities that are presently occurring in this area are entirely outside of the scope of what was previously described or authorized in this 1999 biological opinion titled: " Section 7 Programmatic consultation on Issuance of Section 10(a)(1)(A) Scientific Take Permits and Section 6(c)(1) Exemption from Take for Oregon silverspot butterfly (*Speyeria Zerene hippolyta*) (OSB) (1-7-99-F-411)."

"EPIC and Friends of Del Norte therefore formally request that if an additional Section 7(a)(2) ESA consultation (specific to this particular grazing activity) has not already occurred, that such a consultation be immediately reinitiated. In the mean time, we request that goats still on the peninsula within this Oregon silverspot butterfly recovery area be removed to a more appropriate location outside of the Oregon silverspot butterfly Del Norte Habitat Conservation Area."

"Page 27 of the August 11, 1999 Biological Opinion states that:
"as provided in 50 CFR 402.16, reinitiation of formal consultation is required where Federal agency involvement or control over an action has been authorized by law and if (2) if new information reveals effects of this action that may affect listed species or critical habitat in a manner or to an extent not considered in this biological opinion; (3) if the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this biological opinion." USFWS has taken actions outside the scope of activities covered within the August 11,1999 Biological Opinion. EPIC and Friends of Del Norte believe that the additional and originally unintended impacts occurring in the Del Norte Oregon silverspot butterfly Habitat Conservation Area should have triggered a reinitiation of consultation.""
"This specific project, as covered by an August 11, 1999 Region 1 Biological Opinion, makes no mention of grazing a large number of animals for an unspecified length of time

within this portion of the US Fish and Wildlife Service's specific Oregon silverspot butterfly recovery area."

SERVICE RESPONSE: The grazing by goats on the peninsula is not a Service action subject to ESA Section 7 consultation. We do not believe that the grazing on the peninsula is causing take of OSB. In addition, that grazing was undertaken at the discretion of CDFG on their land, was not included in the Section 6 project, and is not on Federal lands or subject to Service funding or authorization. Therefore, a Federal nexus does not exist which would require a Section 7 consultation. The goat grazing that *is* part of the Section 6 project, the experimental grazing of the 3 test plots, is covered by the Service's 1999 biological opinion referenced in your letter and quoted above. That consultation, being a programmatic one, was conducted to cover take of the Oregon silverspot butterfly that would occur in the course of future butterfly conservation projects, such as ours, that are funded under Section 6 of the Endangered Species Act. The programmatic opinion covers a wide range of management activities, including habitat manipulation, restoring and enhancing suitable OSB habitat. While the 1999 programmatic opinion does not explicitly discuss grazing as a habitat management method, it does explicitly discuss and cover manual removal, burning, mowing, and herbicide use, and concludes that burning of occupied habitat "is likely to result in the death of any OSB present in the habitat at the time of the burn" and in that in the worst case, the impacts of a prescribed burn "should not have a long-term negative effect on Oregon silverspot populations, provided that a majority of the population or high quality habitat is unaffected by activities." While grazing as planned for the test plots may impact some of the OSB present, it is highly unlikely to result in the death of all OSB present, as could occur with burning. Therefore, the impacts of habitat manipulation via grazing are clearly within the scope of impacts considered for habitat manipulation, restoration and enhancement activities evaluated and covered in the 1999 programmatic opinion. Also, the experimental grazing treatment will affect a very small proportion of the occupied habitat present, and avoids high quality habitat. We have evaluated the Section 6 project, including the grazing treatment of the 3 test plots, and determined the project, including grazing of the test plots, to be covered by the 1999 biological opinion for any associated take.

3) LETTER EXCERPT: **"Specifically we request that the USFWS provide our organizations with any existing documents that specifically describe any Section 7(a)(2) ESA consultation specific to the present activity where goats are being grazed on this Lake Earl Wildlife Area peninsula area."**

"This should include any documents that describe any re-initiation of consultation, describing the changed conditions that authorize the grazing of hundreds of goats within the Del Norte Habitat Conservation Area since the issuance of the August 11, 1999 Oregon silverspot butterfly Biological Opinion. This should include any document where an internal (or intra-service) reinitiation of consultation has occurred, or where any special terms and conditions concerning grazing goats on the Lake Earl peninsula has been written by the Arcata Field Office of the USFWS."

SERVICE RESPONSE: As described above, the goat grazing on the peninsula is not subject to Section 7 consultation; therefore, we have no documents as requested regarding an ESA Section 7 consultation on the peninsula grazing. We do have a map of potential grazing habitat provided

to the owner of the goats, which you already have and attached to your letter. Those maps included both the western lily sites and the OSB test plots (part of the section 6 project described above), as well as habitat that CDFG indicated they would like to have grazed, both on the peninsula and within CDFG's Crescent City Marsh Wildlife Area. It would be incorrect to interpret that map as evidence of a Service nexus triggering Section 7 consultation. The Service funding for goat grazing was specifically for the treatment of western lily and Oregon silverspot habitat elsewhere, and did not pay for the grazing on the peninsula.

4) LETTER EXCERPT: "Also please inform us if there was ever a "stand alone" consultation on the Section 6 portion of this project, or is there was formal or internal consultation for any Sec. 10(a)(1)(A) permit that has been issued to the USFWS Arcata office since the August 11, 1999 Biological Opinion."

SERVICE RESPONSE: No separate consultation was required for the Section 6 project. As described above, the 1999 programmatic consultation addresses OSB scientific take permits and ESA Section 6 projects. The current Section 6 project is consistent with that consultation. The Biological Opinion from that consultation contains specific terms and conditions that apply to the grazing experiments, and are being followed (on page 24 of the consultation, see the terms and conditions under "3.h" on page 24 of the consultation; items v and vi apply specifically to this experimental treatment).

5) LETTER EXCERPT: "Please provide us with any similar Oregon silverspot butterfly take permits issued to US Fish and Wildlife Service Arcata Field Office staff members, or Calif. Dept. of Fish and Game staff members that describes the terms and conditions under which Oregon silverspot butterfly take is permitted to occur within the "Del Norte Habitat Conservation Area" (HCA)."

SERVICE RESPONSE: No separate take permits were required or issued to Service or CDFG staff. The Service staff biologists involved the Section 6 project, Gary Falxa and David Imper, have been covered by a sub-permit for take of the butterfly issued by the Service's Regional Office under a Service regional permit. Copies of regional permit and the 2007 subpermit are attached; the 2008 permit is being processed, and will be provided you when we receive it.

6) LETTER EXCERPT: "Please acknowledge which if any of these documents have been prepared, and provide any documents as described to EPIC at PO Box 1783, Crescent City, CA 95531. To further discuss, please contact wendell_wood@charter.net or 707-218-8355. While we prefer to make this request informally, please consider this a formal request under the Freedom of Information Act if necessary."

SERVICE RESPONSE: Please be advised that the request as stated in your letter does not meet the formal requirements for a FOIA request. However, as stated in our responses herein, it appears that the only documents covered under your request, which you do not already have, are the office sub-permit described above, and xx and which is attached. We have to date provided a number of documents to EPIC in Crescent City, care of Wendell Wood.

7) LETTER EXCERPT:
"Additional Background and Reasons for the Need to Reinitiation Sec. 7 Consultation"
"The "peninsula" is primarily a sand, dune, and wetland area which lies between Lake Earl and Lake Tolowa in coastal Del Norte Co. California. This specific peninsula area is also contained within the "Del Norte Habitat Conservation Area" designated for the federally threatened Oregon silverspot butterfly, *Speyeria zerene hippolyta*, in the US Fish and Wildlife Service's 2001 revised recovery plan for the species. Figure 11, on page 103 of the revised recovery plan, clearly shows the peninsula area as contained with in a dashed line "- - -" This HCA is immediately west of the western shore of Lake Earl. See http://ecos.fws.gov/docs/recovery_plans/2001/010822.pdf."

SERVICE RESPONSE: The term "Habitat Conservation Area" (HCA) has no legal or regulatory basis. It is a term meaningful only within the context of the Recovery Plan to describe those areas within which recovery actions should be considered, and for evaluating when recovery has occurred and the species can be delisted. The area marked as the Del Norte HCA on the map in the revised recovery plan is intended only as a guide for recovery efforts. For example, the HCA includes part of the peninsula area, which, based on past surveys, supports only very limited numbers and distribution of the larval host plant for OSB, and within which no OSB have historically been documented. However, the HCA does not include the habitat north of Kellogg Road, which based on our work currently appears to support a large part of the OSB population in Del Norte County. Therefore, while the HCA is a useful concept for the purpose of planning recovery efforts, it does not, and should not be the only guide in assigning priority for recovery actions. After our fieldtrip on December 13 during which we observed the extent to which OSB habitat has declined within the Pacific Shores subdivision over the past 40 years (which coincides with removal of cattle in the 1960's), we believe that recovery of the OSB is better served at this time through our efforts to restore its habitat within the Pacific Shores subdivision and north of Kellogg Road, than spend limited resources working to restore what may or not be suitable habitat for the OSB located on the peninsula. That said, we continue to believe that we should evaluate the potential for habitat enhancement on the peninsula, in the hopes that eventually suitable habitat can be established and the population will expand to the south into this area. To that end, we have approached CDFG about developing an appropriate grazing plan, with input from EPIC and other local interested parties.

8) LETTER EXCERPT: **"EPIC and Friends of Del Norte first discovered this goat grazing activity on November 7, 2007, and this major vegetation disturbing activity is still presently occurring. During this time, large numbers of dune and wetland area associated plants have been grazed to just above the ground over a still undisclosed number of acres and habitats to be grazed. This includes local area identified adult nectar plants for the Oregon silverspot butterfly, such as Beach Knotweed, *Polygonum paronychia*."**

SERVICE RESPONSE: As discussed in a separate response above, the best available information does not indicate use of the peninsula by OSB, and we do not believe the current goat grazing there will impact the butterfly. Your letter refers to beach knotweed as an "identified adult nectar plant", but does not state the source of this information. The OSB may occasionally nectar on the plant, but nothing in the information available to us suggests it is an important nectar source: 1) we have not documented use of this plant in more than 60 recorded

observations of nectaring by OSB in the Del Norte population; 2) we are not aware of other records of its use; and 3) the 2001 Revised Recovery Plan for the Oregon silverspot butterfly does not list the knotweed as a nectar plant. With regard to the impacts of grazing, as discussed elsewhere in this letter, the Service is not responsible for grazing on the peninsula. However, we are concerned that you may object to any grazing on public lands (such as the peninsula), even when designed for the purposes of restoring and maintaining ecosystems and habitat for rare species. A wide body of evidence indicates that controlled grazing can benefit early successional species, which include most or all of the OSB nectar and host plants, which are adapted to habitats subject to disturbance regimes. For example, in the book The Ecology and Restoration of Northern California Dunes, Andrea J. Pickart and John O. Sawyer (1998, page 42) note that "disturbance is essential to the maintenance of high species diversity in many ecosystems...but is also known to promote plant invasions". We recognize that poorly designed grazing programs can degrade native ecosystems, and therefore strive to design grazing treatments that maintain diversity while minimizing negative impacts.

9) LETTER EXCERPT: **"This project has changed from what was first a very narrowly defined project, as described by the USFWS in a one page summary, along with a map titled *"Oregon Silverspot Butterfly (OSB) Experimental Habitat Restoration, Pacific Shores Subdivision California Fish and Game/US Fish and Wildlife Service Fall/Win 2007-2008, Summary of Ground Activities."* Similarly, this project was also similarly narrowly defined by USFWS's Section 6 funding partner California Dept. Fish and Game in its 4 page *"Calif. Dept. of Fish and Game 2005 Traditional Section 6 Project Statement. Project Name: Investigation of Oregon Silverspot Butterfly (Speyeria zerene hippolyta) population, habitat relationships and methods for habitat restoration in Del Norte County, CA"***

SERVICE RESPONSE: The Section 6 project remains the same as described in the documents you cited, with a few minor adjustments made in response to onsite reviews and new information. As we noted above, and as described in the documents you mention, the goat grazing on the peninsula of Lake Earl Wildlife Area is not, and never was, part of the Section 6 project.

10) LETTER EXCERPT: **"This 2005 Calif. Dept. of Fish and Game document also states: "that there is concern that the OSB (Oregon silverspot butterfly) population is declining as a result of an overall decline in suitable habitat quality and extent." Yet, the publicly unannounced, intensive and ongoing grazing practices that CDFG and USFWS are conducting on the Lake Earl Wildlife peninsula is potentially further contributing to this very decline, in the very habitat the 2001 recovery plan has sought to recover or restore."**

SERVICE RESPONSE: Again, the OSB has never been documented on the peninsula to our knowledge, and the larval host plant is scarce there. Based on the observed abundance of early blue violet within currently occupied habitat elsewhere across the range, we believe that the current abundance of violets on the peninsula is not adequate to support the OSB. If you have observations or other evidence of OSB on the peninsula, we would be very interested in that information. Habitat for the OSB is declining across its range as a result of vegetation encroachment. Various methods used in the past to retard that decline have included fire and mowing. Experimentation has been ongoing in Oregon utilizing grazing. It is our opinion that, while the effects of goat grazing on the peninsula have not been quantified, the type and intensity

of the current grazing will not likely have any effect on the OSB, but will certainly contribute to maintaining early successional vegetation. Open, low growing vegetation in an early successional stage appears necessary to support most or all of the nectar and host plants for the OSB.

11) LETTER EXCERPT: **"Additionally, and despite the changed conditions, this specific restoration project continues to be only very narrowly described by USFWS's Section 6 funding partner, California Dept. of Fish and Game. In a Nov. 10, 2007 Notice of Exemption from CEQA, the Eureka, CA office of CDFG wrote: "CDFG, in cooperation with the U.S. Fish and Wildlife Service, seeks to improve habitat for the Oregon silverspot butterfly, through the use of habitat manipulation in 5 selected plots within the Pacific Shores subdivision." See http://www.ceqanet.ca.gov/NOEdescription.asp?DocPK=615893 Under "Reasons for Exemption" CDFG also failed to acknowledge the greater ongoing impacts, by describing the development as: "Consists of projects not to exceed 5 acres in size to assure the maintenance, restoration, enhancement or protection of habitat for fish, plants or wildlife." Just the associated areas in which the goats have been penned every night has "exceed 5 acres in size."**

SERVICE RESPONSE: The grazing test plots at the Pacific Shores subdivision total well under one acre of habitat (about 920 square meters, or roughly 0.25 acres). When the treatments are conducted, the goats will be overnighted within the treatment plots, not on the peninsula.

12) LETTER EXCERPTS: **"Although neither agency has done any environmental analysis of the impacts of grazing goats in this portion of the Del Norte Oregon silverspot butterfly HCA, this project is directly tied to the proposed project that is claimed to be limited to no more than "5 acres", or "5 selected plots within the Pacific Shores Subdivision."**

EPIC has further learned this to be the case from several telephone conversations and email communications between Wendell Wood of EPIC and Dave Imper and Gary Falxa--who are coordinating this project on behalf of the US Fish and Wildlife Service Field Office in Arcata, California.

Both USFWS biologists have explained that the several hundred goats were being kept on the peninsula area until they were able to place the goats in the specific lily and violet plot areas where specific restoration projects had been intended to be accomplished in 2007. It was explained that goats were also to be herded across Tolowa Dunes State Park and several miles south along the state park beach to the lily plots at Pt. St. George. Goats were also to be trucked to graze in other plots to in attempts to release threatened western lilies or violets at other Lake Earl Wildlife Area units that are being overtopped by competing vegetation. These wildlife area unit plots occur along the immediate coast at the Crescent City Marsh (south of Crescent City) in addition to the described plots at Pacific Shores subdivision on the northwest side of Lake Earl.

Further proof that the peninsula area grazing is directly tied to the other lily and violet restoration projects, is contained in emails written by USFWS staff to EPIC. This communication related below, contradicts CDFG's staffer Karen Kovac's recent

contentions made in a telephone call of December 26, 2007 with Eileen Cooper of Friends of Del Norte. In that phone call Karen told Eileen that CDFG now considers the goat grazing on the peninsula to be an unrelated project:

On the morning of Dec. 14, 2007, Dave Imper emailed Wendell Wood with EPIC saying:

"FYI, it appears moving forward with our Section 6 OSB experimental habitat restoration project at Pacific Shores is off the table now until next year"

Wendell Wood then emailed Dave Imper back asking: "If so, when might the goats come off the Lake Earl Wildlife Area? Are you willing to ask that they be removed? Off the peninsula? Off the Wildlife Area? Taken back to Nevada?"

To this Dave Imper responded in another email (same date): "Doesn't sound like you are supportive of my need to graze PSG and other western lily habitat? The Pac Shores plots were just a small part of the grazing effort."

This email additionally demonstrates the "relatedness" of the different projects, as in fact the grazing of goats on the peninsula has become a very large "part of the grazing effort".

SERVICE RESPONSE: The goat vendor contracted by the Service to graze western lily habitat and OSB test plots is only being paid for treating that habitat. The vendor has a separate agreement with CDFG to hold the goats on their LEWA property, at their discretion, for purposes related to the CDFG vegetation management goals. CDFG has indicated that were the goats not available, the habitat would likely be mowed or grazed by cattle in order to achieve a similar objective.

13) LETTER EXCERPT: **"Additionally, in a November 30, 2007 email titled "tentative USFWS goat grazing maps", Dave Imper supplied us with a pdf file called "GOATMAPS2". This is attached within the email copy of this letter. These maps show the various lily and violet restoration plot areas. The second map additionally shows the peninsula area and is titled on the aerial photo as "New CDFW Peninsula Site." However, to date we have never seen any written information which describes the specific restoration objectives that requires the continual grazing of hundreds of goats within this portion of the silverspot butterfly HCA."**

SERVICE RESPONSE: The map showing the peninsula was provided as part of a group of maps which included the habitat areas covered under our contract, as well as the areas which CDFG had determined were available to graze in order to meet their own goals.

14) LETTER EXCERPT: **"It is our understanding, that presently adult silverspot butterflies have not been found on the peninsula. However, this area is within only a half-mile of other known silverspot locations in the Pacific Shores subdivision area immediately to the north. The peninsula area thus needs to be managed to better encourage more adult nectar food plants species. However, the peninsula area does contain both native and non-**

native plant species that are known nectar food plants of adult silverspot and other area butterfly and native pollinator species."

SERVICE RESPONSE: The peninsula, like virtually all habitat in the region, supports one or more nectar species for the OSB. As indicated above, management of the peninsula to enhance caterpillar food plant and adult nectar species which support the OSB is certainly a worthwhile endeavor that may contribute to recovery of the species. We have no evidence to indicate that the peninsula is currently used by OSB, or could support a viable population of the butterfly in its current condition. Therefore, our initial efforts and limited resources are better focused on habitat which is currently occupied by the butterfly. While we believe strongly that our current efforts should focus on protecting and restoring currently-occupied areas, we have offered, as stated in discussions with EPIC during our December 13 field visit, and in an email to EPIC and others, to work with CDFG and interested stakeholders such as yourselves, towards a plan that would evaluate the restoration potential of sites within the peninsula, and develop recommendations for future grazing management there.

We believe that it is very unlikely that the peninsula is being used at this time by nectaring OSB. The peninsula is separated from occupied OSB habitat by the open waters of Lake Earl/Tolowa, a relatively hostile environment with no cover, and nectar sources are available much closer than this, on the north side of the lagoon system. For these reasons, while a rare individual OSB may be blown or fly to the peninsula, we believe it highly unlikely that the area currently provides a nectar source that is biologically meaningful to the OSB population.

15) LETTER EXCERPT: **"Additionally, silverspot caterpillar violet food plants have been documented to the southwest of this specific peninsula area (on a color coded map) by former Tolowa Dune State Park botanist, Susan Nyoka. Susan showed *Viola adunca* occurring along the western side of an expansive deflation plain meadow immediately to the southwest of the peninsula area of the adjacent Lake Earl Wildlife Area. This meadow that adjoins the peninsula area additionally contains many adult silverspot butterfly nectar food plants.**

This adjacent deflation plain meadow is located on state lands on both the Lake Earl Wildlife Area and Tolowa Dune State Park, and also is contained within the silverspot butterfly "Del Norte Habitat Conservation Area." Consistent with the 1999 Biological Opinion and the 2001 Revised Recovery Plan, local conservationists would like to see an additional analysis done to see how this area, as well as the peninsula proper could be best managed to provide adult nectar food plants for Oregon silverspot butterflies. We are concerned that the present intensive goat grazing is more likely diminishing, rather than maintaining this future option."

SERVICE RESPONSE: We agree that the above-mentioned meadow may be a good candidate for selective management designed to enhance both the violet and nectar species, and we will be pursuing that possibility in the future. The current goat grazing is not being conducted in that area. We do not consider the current level of goat grazing in anyway will diminish the ability to enhance habitat for the OSB in the future.

16) LETTER EXCERPT: As stated on page 4 of the U.S. Fish and Wildlife Service's 2001 Oregon silverspot butterfly (*Speyeria zerene hippolyta*) revised recovery plan:

> **"The Nature Conservancy recommends that at least five different species of native nectar plants be maintained at a density of no fewer than five flowering stems per square meter (square yard) in habitat areas (D. Pickering, The Nature Conservancy, pers. comm. 2001)."**

The need to improve silverspot habitat in this area is specifically spoken to on page 26 of the Service's August 11, 1999 Biological Opinion Section 7 Programmatic consultation on Issuance of Section 10(a)(1)(A) Scientific Take Permits and Section 6(c)(1) Exemption from Take for Oregon silverspot butterfly (Speyeria Zerene hippolyta) (1-7-99-F-411).

This document recommends that USFWS "explore opportunities for securing additional habitat for the Oregon silverspot butterfly, particularly at Long Beach, Clatsop Plains and Del Norte. (emphasis added). The peninsula area, where hundreds of goats are presently being intensively grazed, also ignores the BiOp's recommendations to "encourage the development of state conservation plans for the Oregon silverspot butterfly and management of its habitat." Finally, it is also ignoring its recommendation to "restore native coastal grassland communities and prairies within the range of the Oregon silverspot butterfly".

SERVICE RESPONSE: We agree that the peninsula may provide an opportunity to restore habitat for the OSB and other native species in the future. However, given the urgency of enhancing and restoring currently OSB occupied habitat, and our limited resources, our efforts are better spent in those areas first. Baseline data, including maps indicating vegetation associations, sensitive species, wetlands, soils, and other factors need to be developed in order to assess the potential suitability of the peninsula for management aimed at enhancing habitat for the OSB.

17) LETTER EXCERPT: "EPIC also explained to Dave Imper and Gary Falxa on other occasions including during a December 13, 2007 field trip to some of these proposed restoration areas, that conservationists do not oppose the specifically identified lily and violet restoration projects, and had suggested that the goats (if they needed to be stored or kept prior to being used to meet the specific objectives for the lily and violet restoration areas), should have been better placed or "warehoused" in other areas on the Lake Earl Wildlife Area. Several other state-owned pastures exist that are regularly grazed for goose habitat and that are outside of the silverspot butterfly habitat conservation areas."

SERVICE RESPONSE: The decision about where to place the goats on the Lake Earl Wildlife Area lies solely with CDFG. The goats were utilized by CDFG for their own purpose, under direct agreement between CDFG and the owner of the goats. As noted below, we do, however, make recommendations to CDFG.

18) LETTER EXCERPT: "Local conservationists have expressed their desire to work with the Service and Calif. Fish and Game to come up with grazing or other disturbance

management plans that can be used in a way to maintain and enhance variously identified Oregon silverspot nectar plants, but that may not be benefited by prolonged, and little regulated intensive grazing."

SERVICE RESPONSE: We appreciate your willingness to work toward developing an appropriate grazing plan. Our office is ready to assist in developing such a plan, and offered to do so to Wendell Wood and others during our December field meeting, and again in a follow-up email from Dave Imper sent to you on December 12, 2007, quoted below. We have not yet received a response:

> "Several folks here [at FWS] did discuss the Tolowa peninsula grazing issue with Karen Kovacs on Friday, and it appears we can begin moving toward development of a grazing plan. A lot of baseline data needs to be developed however, among other things is a habitat map, and a map indicating potentially suitable habitat for the OSB and violet. Since neither of our agencies has much $$ or labor to shift to that effort right now, we might consider getting yourself and other interested parties in Del Norte together and come up with a plan for volunteer labor to begin mapping and sampling the habitat. We could also begin putting out some permanent plots to monitor grazing impacts on specific habitats and species. I had hoped last spring to expand the satellite imagery-based mapping effort around Humboldt Bay this year to Lake Earl, but was overwhelmed by workload. Part of that study, headed up by Andrea P. is comparing the efficacy of primarily ground-based and aerial photography mapping to satellite spectral imagery mapping. We may be able to apply Andrea's results in coming years, if we can find funding, but it still would be good to begin gathering ground-based mapping and plot data for the areas you are most concerned about there. Think about it and pass it around. If you are interested let me know. We could also use help if you have connections for accessing grant money to develop the baseline data and grazing plan."

19) LETTER EXCERPT: **"That the peninsula area is "worthy" of future, specially designed nectar plant restoration projects is also to be inferred from various expert opinion. For example, the final March 2000 "Tetra Tech Final Lake Earl and Lake Talawa (sic) Intensive Habitat Analysis Study" (prepared for the US Army Corp of Engineers) states, on page 4-6 (under 4.4 Violet Habitat Areas) that grazing has previously had adverse affects on this butterfly habitat":**

> **"In addition to the primary project area covered by Figure C-1, other potential habitat areas on adjacent state park lands to the south and north were also explored and surveyed for the presence of violets and silverspot butterflies. The old McLaughlin Ranch on the peninsula separating Lake Talawa (sic) from Lake Earl appeared from a distance and from the aerial photographs to have been high quality violet and silverspot habitat in the past, at least in the pre-European contact period. However, a ground survey of this area showed that all native vegetation in the low moist bottomlands normally occupied by violets had been replaced with tall-growing exotic grasses and other rank-growing vegetation. Extensive domestic livestock grazing was probably responsible for replacing the native meadow community with exotic vegetation."**

SERVICE RESPONSE: Based on our experience in working in OSB habitat, it is exceedingly difficult to assess suitability of habitat for the host plant, or nectar species in general based on aerial photography inspection or observation from a distance. The Tetra Tech assessment made only a cursory review of the peninsula, and its conclusions regarding past and current suitability for the OSB are speculative at best. We agree that the past ranching history and likely excessive grazing may have contributed both to the preponderance of exotic species and "rank" vegetation occurring at this time, and perhaps degraded soils there. However, in our opinion the current one-time only, goat grazing on the peninsula will not likely exacerbate the degraded condition, and will contribute to reducing the "rank" vegetation, by opening habitat for early successional species, including one or more OSB nectar species and potentially the early blue violet. There is abundant evidence supporting the need for disturbance, in the form of fire or grazing/browsing, to maintain the coastal grasslands and other early successional habitats on the North Coast on which the OSB depends. While overgrazing in the past may have degraded the peninsula habitat, maintaining disturbance such as carefully controlled grazing in the future is critical to retaining the early successional habitats and level of biodiversity necessary to support the butterfly.

20) LETTER EXCERPT: Additionally California Dept. of Fish and Game's 1/15/2003 Draft EIR, LEWA Management Plan, describes on page 34, under III Habitat and Species Description:

> **"Coastal dune habitat is an important habitat type for coastal butterflies. Within coastal dune habitat located within the upper edges of inter-dune wetland hollows, violets are found where soil moisture is sufficient. The early blue violet (*Viola adunca*) is the primary larval host plant for the federally listed Oregon silver spot butterfly (*Speyeria zerene hippolyta*). These and other rare butterflies are specifically adapted to use native plants for their larvae. Native dunes also host a variety of native and non-native nectar plants which are the primary food source for adult butterflies."**

SERVICE RESPONSE: The Service did note on one visit to the peninsula several small areas where the goat herd had been run across what appeared to be native dune vegetation next to the road. We contacted CDFG and the goat owner, and were told that this occurred when it was necessary to go around portions of the road that had flooded. Although the grazing is under CDFG guidance, we recommended the goat herder avoid that vegetation in the future. The Service also has made recommendations to CDFG regarding the areas used to overnight the goat herd.

21) LETTER EXCERPTS: "Again, EPIC and Friends of Del Norte have long been supportive and very much do want the previously, and carefully defined and implemented violet and lily restoration projects to proceed. But we want them to occur in the manner in which they have previously been represented to the public, and not in a way where impacts that were never described or anticipated are now occurring over a far greater geographic area, and seemingly in the absence of any additional environmental analysis or endangered species consultation. We thus very much regret that $18,000 of Section 6 money has been spent to bring goats over two mountain ranges from Nevada, and despite the intensive grazing on the peninsula, little or none of the other Del Norte County restoration projects

have so far been accomplished. In the future, we ask that USFWS consider other more efficient and economical alternatives of vegetation controls, in the experimental and research lily and violet restoration areas. This should include the employment of local area residents that are regularly employed in the use of weed eaters and other power towels to annually clear hundred of miles of area park trails and roadsides. Use of mechanical tools, as well as fewer numbers of animals might just as well, or even better accomplished the specific restoration needs in a fraction of the time, and for a fraction of this projects economic (as well as environmental) costs."

"Additionally, the Service has previously explained to us that this project was funded by an $18,000 Section 6 grant."

SERVICE RESPONSE: As indicated above, the funds used to contract for grazing of western lily habitat and the OSB test plots were discretionary recovery funds, not Section 6 grant funds. Service personnel involved with this project have more than 25 years experience in managing for western lily and other rare species that occupy the declining early-successional habitats that are the focus of our goat grazing contract. We have extensive experience in use of manual clearing, goats, and cattle. The majority of western lily habitat we had originally hoped to treat with this contract has been treated. However, additional occupied and formerly occupied lily habitat still needs to be restored if a serious decline in this species is to be avoided. Our experience with manual vegetation control indicates that, while effective, it is exceedingly short-term in results and is expensive. A most important aspect of many species' recovery programs, and certainly with respect to western lily and the Oregon silverspot butterfly, is to identify and secure long-term maintenance of its habitat in the most economical and reliable manner. For the western lily, where fire and cattle grazing are not viable, goats appear to be the best long-term management option. For the butterfly, our ongoing work with experimental treatments is designed to evaluate which treatments are most effective for restoring and maintaining butterfly habitat in the Del Norte HCP. Your recommendation for using fewer number of animals goes against our research and experience with western lily, which indicates high intensity, short duration grazing is preferable to low intensity, long duration grazing, in terms of minimizing impacts to soils.

The $18,000 number referred to was actually $17,500, and represents Arcata Fish and Wildlife Office recovery funds allocated to a 3-year goat grazing contract, primarily to treat a number of western lily sites in Oregon and Del Norte County, and secondarily to treat the 3 OSB "grazing" treatment test plots described above. This funding has no relation to the Section 6 OSB project, other than providing the goat grazing treatment for the 3 test plots, representing an area of less than 0.25 acre.

22) LETTER EXCERPT: **"In conclusion, we wish to quote from the 1995 special issue of Madroño 42(2): 258-268 which was dedicated to "The Future of California Floristics and Systematics: Research, Education, Conservation". With regard to agency management and native plants, Berg, K wrote:**

> **"...[S]ensitive plants (and animal) taxa are the rarest of the natural renewable resources under our charge. ...[T]hese taxa and their habitats are the foundation of ecosystem management and...are not to be viewed as constraints to other resource programs.'" (Shevock in Berg 1995)**

"...[C]ommodity uses of public land resources [should] be authorized only after we are sure that the native ecosystem will be sustained." (Willoughby in Berg 1995)
"If, because of limited personnel and funding, we can't assess, through monitoring, whether our management is in fact achieving our objectives, then we should either not authorize any commodity use at all, or we should authorize it at such a minimal level we can be reasonably sure it is not impacting biological diversity nor threatening the sustainability of ecosystems" (Willoughby in Berg 1995)."

SERVICE RESPONSE: We agree.

Thank you again for your considered input regarding our grazing project, Section 6 OSB project, and the grazing of CDFG lands in Del Norte County. We hope this response helps to resolve the issues you have raised. We look forward to working with you and other local interested parties in the future in conserving our endangered species and their habitats. Please contact Gary Falxa or David Imper of my staff at (707) 822-7201 should you have any questions.

Sincerely,

Michael M. Long
Field Supervisor

Attachments (2): Service's Regional Permit, and Arcata Fish and Wildlife Office Subpermit

cc:
USFWS, Carlsbad, CA (Attn: Daniel Marquez, Region 8 Recovery Permit Coordinator)
U.S. Fish and Wildlife Service, Newport, OR (Attn: Anne Walker)
RNSP, Crescent City (Attn: Bruce Lynn)
Office of California State Assemblywoman Patti Berg, Eureka (Attn: Connie Stewart)
CDFG, Redding (Attn: Bob Smith)
CDFG, Redding (Attn: Gary Stacey)
CDFG, Eureka (Attn: Karen Kovacs)
CDFG, Lake Earl Wildlife Area, Crescent City (Attn: Tim Williamson)
California Coastal Commission, Eureka (Attn: Bob Merrill)
Elk Valley Rancheria, Crescent City (Attn: Ray Martell)
Smith River Rancheria, Smith River (Attn: Brad Cass)
Northcoast Environmental Center, Arcata (Attn: Jim Clark)
Northcoast Environmental Center, Arcata (Attn: Susan Nolan)
Environmental Protection Information Center, Garberville (Attn: Scott Greacen)
Redwood Region Audubon Society, Eureka (Attn: Chet Ogan)
Sandra Jerabek, Crescent City
Susan Calla, Crescent City
Craig Strong, Crescent City
Jen Kalt, McKinleyville
Xerces Society, Portland, OR (Attn: Scott Black)