



United States Department of the Interior

FISH AND WILDLIFE SERVICE
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In Reply Refer To:
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AUG 17 2010

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08-AFC-3

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Chairman
Energy Commission Docket Unit
1516 Ninth Street MS-4
Sacramento, California 95814

Subject: Endangered Species and the Proposed Marsh Landing Generating Station Project in Contra Costa County, California (Docket No. 08-AFC-3)

Dear Sir:

This responds to the proposed Marsh Landing Generating Station Project in Contra Costa County, California. At issue are the potential adverse effects of the proposed project on the endangered Lange's metalmark butterfly (*Apodemia mormo langei*), endangered Antioch Dunes Evening primrose (*Oenothera deltooides* ssp. *howellii*), endangered Contra Costa wallflower (*Erysium capitalium* var. *angustatum*), and the designated critical habitat of the Contra Costa wallflower and the Antioch Dunes evening primrose. The U.S. Fish and Wildlife Service (Service) is issuing this letter under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*)(Act). Our comments and recommendations are provided to assist you with your environmental review of the project and are not intended to preclude future comments from Service.

The comments and recommendations in this letter are based on 1) *Marsh Landing Generating Station Presiding Member's Proposed Decision* dated July 2010 that was prepared by the California Energy Commission; 2) *Biological Resources Testimony of Heather Blair* (Biological Report) dated June 2010; and 3) other information available to the Service.

Endangered Species Act of 1973, as amended

Section 9 of the Act prohibits the take of the endangered Lange's metalmark butterfly, and other federally listed species by any person subject to the jurisdiction of the United States. As defined in the Act, take is defined as "...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." "Harass means an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to breeding,

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feeding, or sheltering.” “Harm has been further defined to include habitat destruction when it injures or kills a listed species by interfering with essential behavioral patterns, such as breeding, foraging, or resting. Thus, not only is Lange’s metalmark butterfly protected from such activities as collecting and hunting, but also from actions that result in injury or death due to the damage or destruction of its habitat. The Act prohibits activities that “...remove and reduce to possession any listed plant from areas under Federal jurisdiction; maliciously damage or destroy any such species on any such area; or remove, cut, dig up, or damage or destroy any such species on any other area in knowing violation of any law or regulation of any State or in the course of any violation of a State criminal trespass law.” The term “person” is defined as “...an individual, corporation, partnership, trust, association, or any other private entity; or any officer, employee, agent, department, or instrumentality of the Federal government, of any State, municipality, or political subdivision of a State, or any other entity subject to the jurisdiction of the United States.”

Take incidental to an otherwise lawful activity may be authorized by one of two procedures. If a Federal agency is involved with the permitting, funding, or carrying out of the project and a listed species is going to be adversely affected, then initiation of formal consultation between that agency and the Service pursuant to section 7 of the Act is required. Such consultation would result in a biological opinion addressing the anticipated effects of the project to the listed species and may authorize a limited level of incidental take. If a Federal agency is not involved in the project, and federally listed species may be taken as part of the project, then an incidental take permit pursuant to section 10(a)(1)(B) of the Act should be obtained. The Service may issue such a permit upon completion of a satisfactory conservation plan for the listed species that would be taken by the project.

Lange’s Metalmark Butterfly

Lange’s metalmark butterfly is endemic to the Antioch Dunes in Contra Costa County, and the only known extant population inhabits the Antioch Dunes National Wildlife Refuge. This species is sedentary and does not migrate. Prior to European settlement, the Antioch Dunes were probably several hundred acres in size. Currently, because of past sand mining, agriculture, and urban development, only about 70 acres of the sand dune habitat remains, which is located within the Antioch Dunes National Wildlife Refuge. Between 50 to 100 years ago, the population size of the Lange’s metalmark butterfly at the Antioch Dunes is estimated to have been approximately 25,000 individuals, but after many years of destruction and degradation of the unique sand dune habitat, the numbers dropped to about 5,000 individuals in 1972 (Arnold and Powell 1983). For the past 20 years, peak count population surveys have been conducted annually at the Antioch Dunes National Wildlife Refuge. The number of animals observed in 2000 was 1,185 individuals, but by 2006, the number had plummeted to a total of 45 adults. For the past four years, the number of adults observed in the wild has continued to remain at critically low levels. The Service has implemented a captive breeding program and habitat enhancement program in an attempt to prevent the extinction of Lange’s metalmark butterfly.

The foodplant for this animal is the naked-stemmed buckwheat (*Eriogonum nudum* ssp. *auriculatum*), which grows best in areas with good drainage and are dry and open. This plant species is the sole food source for the caterpillar of this endangered species. Lange’s metalmark

butterfly is dependent on the health and abundance of the naked-stemmed buckwheat. There is a direct positive correlation between the numbers of the foodplant at the Antioch Dunes National Wildlife Refuge and the population size of this animal (Arnold and Powell 1983). The naked-stemmed buckwheat plant occupies a limited area within the Antioch Dunes National Wildlife Refuge and is imperiled with extirpation from this location due to the prolific overgrowth of invasive non-native plants, particularly rip-gut brome (*Bromus diandrus*), vetch (*Vicia villosa*), and star thistle (*Centaurea solstitialis*). The non-native plants out compete the naked-stemmed buckwheat and/or eliminate its habitat. Nitrogen from powerplants, automobiles, and other sources provides a major source of fertilizer for exotic vegetation and non-native weeds which are then able to invade natural habitats and outcompete and eliminate native plant species (Weiss 1999), including the Antioch Dunes National Wildlife Refuge. If the naked-stemmed buckwheat is eliminated from the Refuge, or its numbers are reduced to a level that are unable to support Lange's metalmark butterfly, currently at critically low numbers, then this species likely will become extinct in the wild.

Contra Costa Wallflower

Like Lange's metalmark butterfly, the Contra Costa wallflower is endemic to the Antioch Dunes. The majority of individuals are found within the Antioch Dunes National Wildlife Refuge, but a few plants have been found in the immediate vicinity of this area. In 1978, the population of the Contra Costa wallflower at the Antioch Dunes National Wildlife Refuge was growing on only 27 acres and it consisted of 174 fruiting plants and 60 rosettes or seedlings (Service 1984). In 1982, the estimated number of plants had increased to 700 individuals. The highest population size recorded to date was in 1999, when 11,567 individual plants were counted, however, there has been a steady decline in the overall population size of the Contra Costa wallflower. A count in 2006 revealed the population had declined to 4,581 individuals.

The greatest threat to the Contra Costa wallflower is the overgrowth of invasive non-native plant species at the Antioch Dunes National Wildlife Refuge, particularly rip-gut brome, vetch, and star thistle. These invasive plants stabilize the sand dunes, "choke out" native plants through extensive proliferation, and reduce the available area for colonization and growth of this listed plant.

Antioch Dunes Evening Primrose

The Antioch Dunes Evening Primrose is found only on the riverine dune habitat located on and immediately adjacent to the Antioch Dunes National Wildlife Refuge (Service 1984). This species has been introduced to other locales within the Bay area but persists only at the Antioch Dunes National Wildlife Refuge, and perhaps several other locations: Tilden Regional Park in Alameda County, within some low riverine dunes at Brannan Island State Recreational Area just east of the Refuge in Sacramento County, two small colonies on Brown's Island in Contra Costa County, and the most recently discovered population is located on private property north of Oakley.

From 1984 to 1991, the total population of the Antioch Dunes evening primrose was estimated to range from 4,300 to 5,800 plants. Population numbers fluctuate annually, but the long term trend

is clearly declining. The population number in 2006 was estimated to be 776 individuals. Like the other two endangered species found at the Antioch Dunes National Wildlife Refuge, the greatest threat to the Antioch Dunes evening primrose is the overgrowth of invasive non-native plant species, particularly rip-gut brome, vetch, and star thistle. These invasive plants stabilize the sand dunes, “choke out” native plants through extensive proliferation, and reduce the available area for colonization and growth of this listed plant.

Critical habitat for the Antioch Dunes evening primrose and the Contra Costa wallflower

Critical habitat for the Antioch Dunes evening primrose and the Contra Costa wallflower was designated on August 31, 1978. The critical habitat is defined as an area of land, water, and airspace in the Antioch Dunes National Wildlife Refuge (T.2 N.R. 2 E. SW ¼ section 17, E 2/3 of S 1/3 of section 18). Critical habitat is defined in the Act as the specific geographic area(s) occupied by a species at the time it was listed, on which are found the physical or biological features that are essential to their conservation and which may require special management considerations or protections.

Potential Impacts and Effects to the Listed Species

The Service concurs with the Biological Report and the *Presiding Member's Proposed Decision* that the proposed Marsh Landing Generating Station will have a significant adverse effect on the Lange's metalmark butterfly, Contra Costa wallflower, Antioch Dunes evening primrose, and the designated critical habitat for the two listed plants as well, because it will encourage and exacerbate the noxious weed proliferation at the Antioch Dunes National Wildlife Refuge and result in cascading adverse impacts on these three endangered species. However, it appears that the baseline nitrogen deposition levels and the additional 0.04 kilogram of nitrogen per hectare per year that will be deposited from the Marsh Landing Generating Station as described in these two California Energy Commission documents does not take into account the cumulative effect on the three listed species and the designated critical habitat over the life of the project.

Because of the fact that the only population in the World of the Lange's metalmark butterfly is restricted to the Antioch Dunes National Wildlife Refuge and its current low numbers place it in danger of extinction in the foreseeable future, the Service is concerned that the additional adverse effects of the proposed Marsh Landing Generating Station are likely to push this endangered species over the edge. The increased numbers and amount of exotic weeds caused by the deposition of nitrogen from the proposed project could eliminate the butterfly and possibly the Contra Costa wallflower because of competition and habitat loss or the reduction or loss of the caterpillar's foodplant. Although the Antioch Dunes evening primrose is found at a few other locations, nearly all of them likely are located in the areas where nitrogen from this project likely will be deposited. The adverse effects of the proposed project also are likely to result in adverse modification or destruction of the critical habitat for the two endangered plants.

The Service disagrees with the Findings of Fact on page 75 in the *Presiding Member's Proposed Decision* that with the implementation of BIO-8, the effects of nitrogen deposition on the three endangered species and the designated critical habitat for the two listed plants will not be significant. The proposed BIO-8 mitigation of \$2000.00 per year is inadequate for mitigating the

adverse effects of nitrogen from the Marsh Landing Generating Station on the three endangered species. It is unclear what specific actions would be implemented using these funds nor do there appear to be success criteria or reporting requirements. In addition, the cumulative effects of the project, as proposed, on the three endangered species are unlikely to be mitigated to levels that are less than significant, as described on page 76 of the *Presiding Member's Proposed Decision*. The Service is concerned that in contradiction to the conclusion on page 76 of the *Presiding Member's Proposed Decision*, the Marsh Landing Generating Station, as proposed, will not be compliance with laws, ordinances, regulations, and standards, specifically the Endangered Species Act of 1973, as amended, because take or adverse impacts to the Lange's metalmark butterfly, and adverse effects on the Antioch Dunes evening primrose and the Contra Costa wallflower are virtually certain to occur as result of this project.

Therefore, we recommend that: (1) the California Energy Commission and/or the applicant ensure the proposed Marsh Landing Generating Station does not jeopardize the Contra Costa wallflower and Antioch Dunes evening primrose, or result in adverse modification or destruction of critical habitat for these two endangered plants; and (2) the California Energy Commission and/or the applicant obtain authorization for incidental take of the endangered Lange's metalmark butterfly pursuant to sections 7 or 10(a) of the Act prior to adoption of the *Presiding Member's Proposed Decision*.

We are interested in assisting the California Energy Commission and/or the applicant in the development of a project that conserves Lange's metalmark butterfly, Contra Costa wallflower, Antioch Dunes evening primrose, and the critical habitat for these two endangered plants, while meeting California's energy needs. Please contact Stephanie Jentsch, Ryan Olah, or Chris Nagano at the letterhead address, via electronic mail (Stephanie Jentsch,[@fws.gov](mailto:Stephanie.Jentsch@fws.gov); Ryan_Olah[@fws.gov](mailto:Ryan_Olah@fws.gov); Chris_Nagano[@fws.gov](mailto:Chris_Nagano@fws.gov)), or at telephone (916) 414-6600 if you have any questions regarding this response on the proposed Marsh Landing Generating Station Project.

Sincerely,



Cay C. Goude
Assistant Field Supervisor

cc:

Scott Wilson, Liam Davis, Randi Adair, California Department of Fish and Game, Yountville, California

Mendel Stewart, Louie Terrazas, Susan Euing, SFBNWR, Newark, California

Literature Cited

- Arnold, R.A. and J.A. Powell. 1983. *Apodemia mormo langei*. Pages 98-128 in R.A. Arnold (editor). Ecological studies of endangered butterflies (Lepidoptera: Lycaenidae): island biogeography, patch dynamics, and the design of habitat preserves. University of California Publications in Entomology 99.
- U.S. Fish and Wildlife Service. 1984. Recovery Plan for Three Endangered Species Endemic to Antioch Dunes, California. U.S. Fish and Wildlife Service, Portland, Oregon.
- Weiss, S.B. 1999. Cars, cows, and checkerspot butterflies: nitrogen deposition and management of nutrient-poor grasslands for a threatened species. *Conservation Biology* 13(6): 1476-1486.



BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
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**APPLICATION FOR CERTIFICATION
FOR THE MARSH LANDING
GENERATING STATION**

Docket No. 08-AFC-3

**PROOF OF SERVICE
(Revised 7/14/2010)**

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DECLARATION OF SERVICE

I, Teraja` Golston declare that on August 19, 2010, I served and filed copies of the attached (08-AFC-3) Marsh Landing - US Fish and Wildlife Service PMPD Comments, dated August 17, 2010. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: [<http://www.energy.ca.gov/sitingcases/marshlanding/index.html>].

The documents have been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(Check all that Apply)

For service to all other parties:

- sent electronically to all email addresses on the Proof of Service list;
- by personal delivery;
- by delivering on this date, for mailing with the United States Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date to those addresses **NOT** marked "email preferred."

AND

For filing with the Energy Commission:

- sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (*preferred method*);

OR

depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION

Attn: Docket No. 08-AFC-3
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.

Original Signature in Dockets

Teraja` Golston