

## Memorandum

To : Mr. Harry M. Schueller, Chief  
Division of Water Rights  
California State Water Resources Control Board  
901 P Street  
Sacramento, CA 95812-2000

Date : November 30, 1998

From : Department of Fish and Game

Subject : Request for Consultation for Placement of Dredged Material in the San Francisco Bay Region

This memorandum responds to your request for consultation (October 21, 1998) with the Department of Fish and Game under the California Endangered Species Act (CESA) for the Final Policy Environmental Impact Statement/Programmatic Environmental Impact Report (FEIS/EIR) concerning development of a Long-Term Management Strategy (LTMS) for the Placement of Dredged Material in the San Francisco Bay Region. CESA provides that it is the policy of the State to conserve, protect, restore, and enhance any endangered or threatened species and its habitat. As mandated by CESA, our review focused on whether your proposed placement of dredge material in San Francisco Bay would jeopardize the continued existence of any endangered or threatened species, or result in the destruction or adverse modification of habitat essential to the continued existence of those species, and would propose reasonable and prudent alternatives consistent with conserving the species or its habitat, which would prevent jeopardy. CESA also provides that it is the policy of the State that all State agencies shall seek to conserve endangered and threatened species and shall utilize their authority in furtherance of the purposes of CESA. In addition, the following comments and recommendations also apply to all other fish and wildlife species and their habitats in order to prevent them from becoming endangered, as well as to assure protection of these resources as required under other provisions of State and Federal law.

The Programmatic Environmental Impact Report describes a long-term management strategy for the dredging and disposal of dredged material over the next 50 years. The document has been prepared by the LTMS agencies to evaluate alternative long-term management approaches. Selection of a long-term strategy or overall policy approach for managing dredge material is different than evaluating a specific project. The EIR evaluates a no-project action of a policy or programmatic nature. It also describes three alternatives including the ocean disposal site, disposal within San Francisco Bay, and upland/wetland reuse disposal sites. Three federally-designated in-Bay disposal sites are currently available: Carquinez Strait (SF-9), San Pablo Bay (SF-10), and Alcatraz Island (SF-11). The purpose of the proposed action

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is to distribute the dredge material among the three disposal sites in a manner that minimizes environmental impacts and maximizes environmental benefits in an economically sound manner. A second purpose is to identify guidelines to be used during project planning to avoid or reduce potential environmental harm while conducting necessary dredging and disposal activities. The guidelines are discussed in terms of policy-level mitigation measures common to all alternatives. The EIR presents the overall management approach the LTMS agencies propose to follow, as opposed to identifying all of the specific measures that may be needed to fully implement the preferred approach. The LTMS agencies have selected a long-term approach that emphasizes beneficial reuse and ocean disposal of dredged material, with limited in-Bay disposal.

The LTMS Planning Area encompasses the Pacific Ocean's continental shelf and slope, San Francisco Bay, and that portion of the Sacramento-San Joaquin Delta west of Sherman Island. It also includes the wetlands and low upland areas that form a margin around the Bay and its tributaries. This geographic area defines the region where dredged material disposal and beneficial reuse sites are located and where additional disposal or reuse may be feasible.

San Francisco Bay supports a strikingly complex array of biological resources. Virtually all areas of the Bay and Delta support commercially and/or recreationally important fisheries. In general, dredging and dredge material disposal can disturb or bury benthic organisms, affect fishing success by temporarily increasing suspended sediment near the disposal site, and release contaminants bound to the sediments which are disturbed by dredging and disposal operations. The disposal effects of dredged material result from burial of benthic habitats, changing the composition of the substrate, and adversely impacting water quality. In locations where high levels of disposal occur (such as the federally authorized site adjacent to Alcatraz Island), there is a risk of affecting the benthos in other areas as a result of sediment transport processes. Disruption of the benthic and near-bottom waters at and immediately adjacent to disposal sites, and disruption of sensitive habitats and key migratory corridors are of greatest concern. Impacts to fish may include, but are not limited to, interference with migration, degradation of water quality, habitat loss or degradation, and interference with foraging opportunities and food resources. To ameliorate these effects, the FEIS/EIR (Chapter Five) describes mitigation measures that apply to dredge material disposal at the three placement environments. The Department recommends that these measures be incorporated into regulatory actions during the permitting process for individual projects, as they apply to specific environments, to alleviate adverse effects of the proposed dredging activities to listed species. However, additional site-specific measures will be necessary, prior to disposal at any wetland creation/beneficial reuse site, to protect species listed under the CESA. The lead agency will need to contact the Department at that time to address these issues.

Appendix J provides information about the affected listed species and potential effects. Prior to final adoption of this document, the Department recommends that the following changes be made to correct Table J-1 (corrected information is in bold



type): Riparian brush rabbit is listed as **State Endangered** (listed 5-29-94), Winter-run chinook salmon **State Endangered** (listed 9-22-89), Spring-run chinook salmon **State Candidate Endangered** (listed 6-27-97), Adobe sanicle **State Rare** (listed 8-81), Alameda manzanita **State Endangered** (listed 11-79), Burke's goldfields **State Endangered** (listed 9-79), California sea blite **not listed**, Delta coyote-thistle **State Endangered** (listed 8-81), Hickman's cinquefoil **State Endangered** (listed 9-79), Marin dwarf-flax **State Threatened** (listed 6-92), Marin bent grass **State Rare** (listed 11-78), Mount Diablo bird's beak **State Rare** (listed 11-78), Northcoast semaphore grass **State Rare** (listed 11-79), Rock sanicle **State Rare** (listed 7-82), Sacramento Orcutt grass **State Endangered** (listed 6-79), San Bruno Mountain manzanita **State Endangered** (listed 9-79), San Francisco lessingia **State Endangered** (listed 1-90), San Francisco popcornflower **State Endangered** (listed 9-79), Sebastopol meadow foam **State Endangered** (listed 11-79), Soft bird's beak **State Rare** (listed 7-79), Sonoma sunshine **State Endangered** (listed 2-92), and Tiburon paintbrush **State Threatened** (listed 1-90). Several of the species on the list are afforded additional State special protection as described within the Department of Fish and Game Code (Sections 5050, 3511, 5515, and 4700) as either fully protected or protected. The fully protected designation does not authorize the take<sup>1</sup> or possession of any such designated species at any time and no permits may be issued for that purpose. Protected species may not be taken or possessed at any time except under special permit for the Department issued pursuant to Section 650 and 670.5 of the California Code of Regulations, Title 14.

Pursuant to Fish and Game Code Section 2090, regarding potential effects to threatened and endangered species, the Department finds that the proposed mitigation measures would provide adequate protection to those listed species in habitats influenced by the proposed dredging activities. The Department recommends, pursuant to Section 2091, that the aforementioned reasonable and prudent alternatives (recommendations) be stipulated and implemented to mitigate or alleviate the effects of the proposed dredging activities, and to avoid jeopardizing the continued existence of any endangered or threatened species. However, the proposed dredging activities are not likely to jeopardize any listed species provided that the recommendations are adhered to and fully implemented. These recommendations also would minimize the likelihood of any taking of listed species incidental to the proposed activities. In accordance with Section 2095, the Department adopts the National Marine Fisheries Service Biological Opinion dated August 19, 1998 as written findings required pursuant to Section 2090.

Thank you for your concern for threatened and endangered species in California. As always, Department personnel are available to discuss our concerns and recommendations in greater detail. To arrange for discussion, please contact

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<sup>1</sup>Take is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." FGC Section 86

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Deborah Johnston, Environmental Specialist, 20 Lower Ragsdale Drive, Suite 100,  
Monterey, CA 93940, telephone (831) 649-7141.

Sincerely,



Donald L. Lollock, Chief  
Scientific Division  
Office of Spill Prevention  
and Response

cc: Ms. Janet Whitlock  
U.S. Environmental Protection Agency  
San Francisco, California

Ms. Karen Mason  
U.S. Army Corps of Engineers  
San Francisco, California

Mr. Jack Gregg  
San Francisco Bay Regional Water  
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Oakland, California

Mr. John Webber  
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and Development Commission  
San Francisco, California

Ms. Deborah Johnston  
Department of Fish and Game  
Monterey, California

# Revised Appendix J Tables



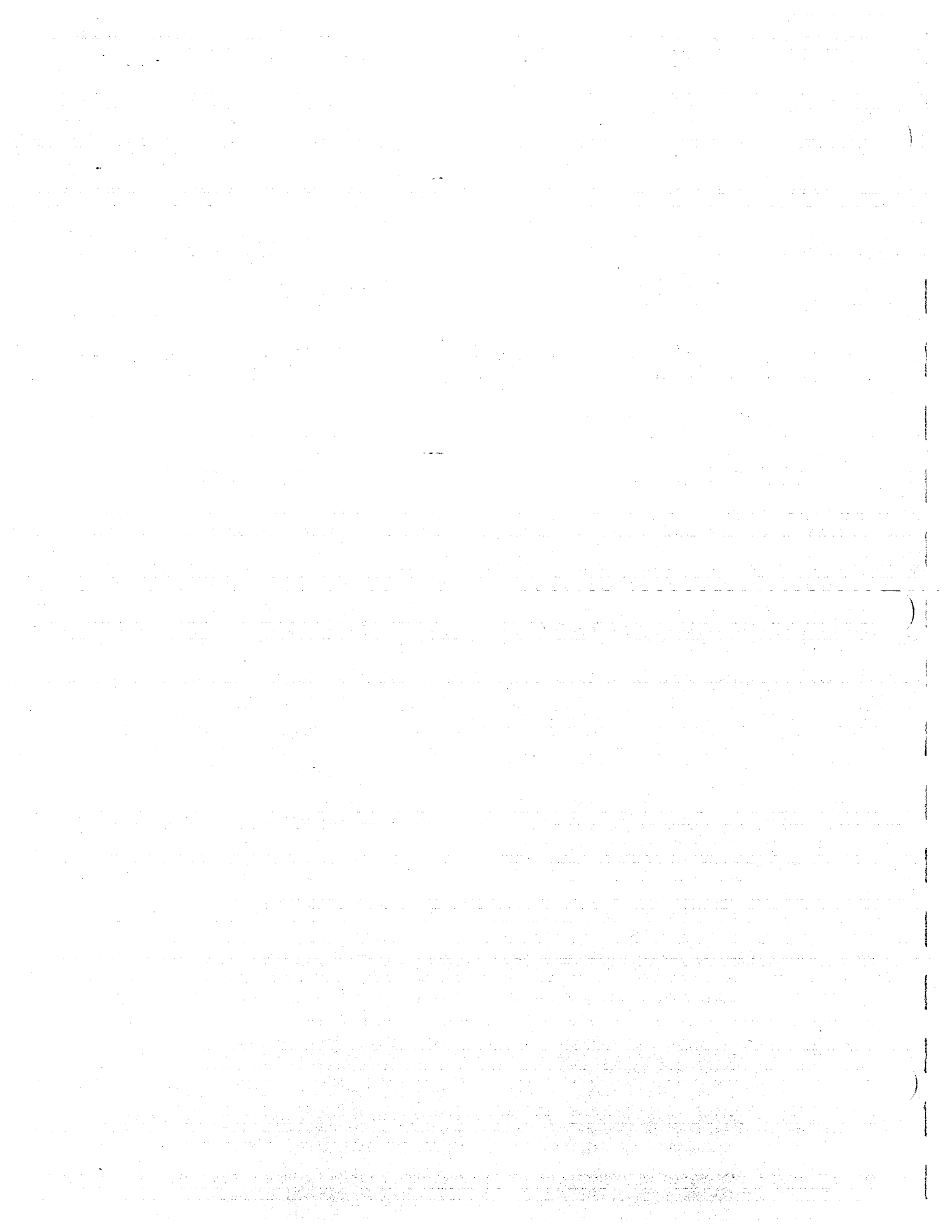




Table J-1. *S* of Concern  
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Common Name	Scientific Name	Status	Comments
<b>Mammals</b>			
Alameda Island mole	<i>Scapanus latimanus parvus</i>	FSC, SSC	No occurrences in CNDDB. <i>S. latimanus</i> habitat is soft soil in valleys and mountain meadows in several biotic communities from the Lower Sonoran to the Hudsonian life zones.
*Berkeley kangaroo rat	<i>Dipodomys heermanni berkeleyensis</i>	FSC	Habitat is >50'. Found in Briones Valley and east Oakland. (PE-LS1992).
*Fringed myotis bat	<i>Myotis thysanodes</i>	FSC	Upper Sonoran life zones in open woods. Range is all along Pacific coast.
*Greater western (California) mastiff bat	<i>Eumops perotis californicus</i>	FSC	Alameda (Tracy - cliffs), San Benito, and Mariposa counties south in arid/semiarid lowlands.
*Long-eared myotis bat	<i>Myotis evotis</i>	FSC	Mostly in woods in Upper Sonoran, Transition, and Canadian life zones. Pacific coast range and Sierra Nevada.
*Long-legged (hairy-winged) myotis bat	<i>Myotis volans</i>	FSC	Open forest in upper Sonoran and Transition life zones.
*Pacific western big-eared bat	<i>Plecotus townsendii townsendii</i>	FSC, SSC	Oak woodland, pasture, grassy hillsides. Petaluma River, Marin. (PE-LS1992)
*Point Reyes jumping mouse	<i>Zapus trinotatus orarius</i>	FSC, SSC	No occurrences in CNDDB. <i>Zapus trinotatus</i> found chiefly in meadows in the forests of redwood, fir, spruce, and hemlock. Range extends south from Washington to north of San Francisco Bay.
*Point Reyes mountain beaver	<i>Aplodontia rufa phaea</i>	FSC, SSC	Riparian stream habitat with dense vegetation - Drakes Bay & Double Point (Marin).
Riparian brush rabbit	<i>Sylvilagus bachmani riparius</i>	FPE, SE	Habitat is valley floor riparian and floodplain - only in San Joaquin and Stanislaus counties (Ripon Quad).
Salt marsh harvest mouse	<i>Reithrodontomys raviventris</i>	FE, SE	Tidal salicornia (salt and brackish marsh) habitat; 129 occurrences.
Salt marsh vagrant shrew	<i>Sorex vagrans halicoetes</i>	FSC, SSC	Tidal salt marsh (Redwood Point, Mountain View, San Quentin, Richmond).
*San Francisco dusky-footed woodrat	<i>Neotoma fuscipes annectens</i>	FSC, SSC	No occurrences in CNDDB. <i>N. fuscipes</i> range does not include San Francisco Bay area or Central Valley, according to Ingles.
*San Joaquin pocket mouse	<i>Perognathus inoratus</i>	FSC	Grassy or weedy fine-textured soil in the Lower and Upper Sonoran life zones of the San Joaquin and Salinas valleys.
San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	FE, SE	Grazed grassland, agricultural land, valley/coastal mountain interface zone. Primarily northwest San Joaquin valley.
San Joaquin Valley (riparian) woodrat	<i>Neotoma fuscipes riparia</i>	FPE, SSC	Valley floor, riparian floodplain in San Joaquin (Corral Hollow Creek).
*Small-footed myotis bat	<i>Myotis ciliolabrum</i> (formerly <i>M. subulatus</i> )	FSC	Arid uplands.
Suisun ormate shrew	<i>Sorex ornatus sinuosus</i>	FSC, SSC	Grizzly Island, Mare Island, Napa, Benicia (PE-LS1987). <i>S. ornatus</i> habitat is streams and brush-covered hillsides.
*Yuma myotis bat	<i>Myotis yumanensis</i>	FSC	Chiefly open woods, suboreal zones throughout state.

Table J-1. Species of Concern  
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Common Name	Scientific Name	Status	Comments
<b>Birds</b>			
Alameda (South Bay) song sparrow	<i>Melospiza melodia pusilla</i>	FSC	Salt marsh habitat.
Aleutian Canada goose	<i>Branta canadensis leucopareia</i>	FT	Wetlands, grasslands, cultivated fields.
American peregrine falcon	<i>Falco peregrinus anatum</i>	FE, SE	High cliffs, banks, dunes, near water (Oakland airport).
Bald eagle	<i>Haliaeetus leucocephalus</i>	FT, SE	Coast, rivers, large lakes in open areas.
*Bell's sage sparrow	<i>Amphispiza belli belli</i>	FSC, SSC	Coast of California.
Black rail	<i>Laterallus jamaicensis</i>	FSC, ST	Salt, brackish, and freshwater marsh habitat. Pickleweed habitat.
California clapper rail	<i>Rallus longirostris obsoletus</i>	FE, SE	Salt and brackish marshes; fresh water marshes in southwest.
California least tern	<i>Sterna antillarum (= abtifrons) browni</i>	FE, SE	Salt marshes and salt ponds, open flat beaches, river and lake margins, near shallow water.
California brown pelican	<i>Pelecanus occidentalis californicus</i>	FE, SE	Open coastal habitat.
*Ferruginous hawk	<i>Buteo regalis</i>	FSC, SSC	Open country, usually prairies, plains, badlands.
*Harlequin duck	<i>Histrionticus histrionicus</i>	FSC, SSC	Coastal islets, winters along North American coasts.
*Little willow flycatcher	<i>Empidonas trailii brewsteri</i>	FSC, SE	
*Marbled murrelet	<i>Brachyramphus marmoratus</i>	FT, SE	Conifer forests near coast, inland lakes, coastal waters, nests inland; feeds on crustaceans and fish.
*Mountain plover	<i>Charadrius montanus</i>	FSC, SSC	
*Northern spotted owl	<i>Strix occidentalis caurina</i>	FT	Old growth forest above 200 feet.
Salt marsh common yellowthroat	<i>Geothlypis trichas sinuosa</i>	FSC, SSC	Fresh, salt, and brackish water marshes.
San Pablo (Suisun) song sparrow	<i>Melospiza melodia samuelis</i>	FSC, SSC	Marsh habitat.
Swainson's hawk	<i>Buteo swainsoni</i>	FSC, ST	Migratory, wintering in Delta, rarely nesting.
Tricolored blackbird	<i>Agelaius tricolor</i>	FSC, SSC	Fresh water marshes, croplands, nest near/over water.
Western burrowing owl	<i>Athene cucularia hypugea</i>	FSC, SSC	
Western snowy plover	<i>Charadrius alexandrinus nivosus</i>	FT, SSC	Sandy beaches on marine and estuarine shores.
White-faced ibis	<i>Plegadis chiti</i>	FSC, SSC	Marshes, swamps, ponds, rivers, mostly freshwater habitat.
<b>Reptiles</b>			
*Alameda whipsnake (striped racer)	<i>Masticophis lateralis euryxanthus</i>	FPE, ST	Oak woodlands, canyons, hillsides above 500 feet. East Oakland and Contra Costa County areas (Mt. Diablo/Las Trampas).
California horned lizard	<i>Phrynosoma coronatum frontale</i>	FSC, SSC	Grazed grassland in San Joaquin/Tracy area; 3 of 5 occurrences in San Joaquin delta area.
San Francisco garter snake	<i>Thamnophis sirtalis tetrataenia</i>	FE, SE	Mostly freshwater pond/reservoir habitat, treefrog diet, in hills of San Mateo County (CNDDB). Also at low elevation near San Francisco Airport.
*San Joaquin whipsnake	<i>Masticophis flagellum ruddocki</i>	FSC, SSC	Zero occurrences in CNDDB.
Giant garter snake	<i>Thamnophis gigas</i>	FT, ST	Ten of 94 occurrences in Delta area - Jersey and Liberty islands; occurs Fresno to Sacramento.
Green turtle	<i>Chelonia mydas</i>	FT	Rare visitor to Central California waters.
Leatherback turtle	<i>Dermochelys coriacea</i>	FE	Rare visitor to Central California waters.
Loggerhead turtle	<i>Caretta caretta</i>	FT	Rare visitor to Central California waters.
Northwestern pond turtle	<i>Clemmys marmorata marmorata</i>	FSC, SSC	Riparian creek-sides, floodplains, estuarine environments.

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Common Name	Scientific Name	Status	Comments
Olive (Pacific) Ridley sea turtle	<i>Leptochelys olivacea</i>	FT	Rare visitor to Central California waters.
*Silvery legless lizard	<i>Anniella pulchra pulchra</i>	FSC, SSC	Zero occurrences in CNDDB.
*Southwestern pond turtle	<i>Clemmys marmorata pallida</i>	FSC, SSC	Oak woodland, riparian habitat all outside area (Southern California).
California red-legged frog	<i>Rana aurora draytoni</i>	FT, SSC	Grazed grasslands, ponds.
California tiger salamander	<i>Ambystoma californiense</i>	FC, SSC	Stock ponds in annual grasslands of valley-foothill hardwood habitats. Sonoma, Petaluma River area.
*Foothill yellow-legged frog	<i>Rana boylei</i>	FSC, SSC	Mostly in foothills (Austin Creek, Russian River, Rohnert Park - Sonoma; and Saint Helena - Napa County).
*Northern red-legged frog	<i>Rana aurora aurora</i>	FSC, SSC	Bog habitat in redwood forest; all 19 occurrences in Humboldt area.
*Western spadefoot toad	<i>Sacchiopus hammondi</i>	FSC, SSC	Pond habitat.
Coho salmon		Fish	
Delta smelt	<i>Oncorhynchus kisutch</i>	FT	Historically known from San Pablo Bay tributaries.
Green sturgeon	<i>Hypomesus transpacificus</i>	FT, ST	
Kern Brook lamprey	<i>Acipenser medirostris</i>	FSC, SSC	
Longfin smelt	<i>Lampetra hobbii</i>	FSC, SSC	
Pacific lamprey	<i>Spirinchus thaleichthys</i>	FSC, SSC	
River lamprey	<i>Lampetra tridentata</i>	FSC	
Sacramento splittail	<i>Lampetra ayresi</i>	FSC, SSC	
Steelhead trout (coastal central California)	<i>Pogonichthys macrolepidons</i>	FPT, SSC	
Steelhead trout (Central Valley)	<i>Oncorhynchus mykiss</i>	FT	Includes all SF Bay steelhead except Central Valley (Sacramento, San Joaquin rivers) stocks.
Tidewater goby	<i>Oncorhynchus mykiss</i>	FPE	Includes steelhead of Sacramento, San Joaquin rivers, still under review by NMFS.
Spring-run chinook salmon	<i>Eucyclogobius newberryi</i>	FE, SSC	
Fall/late fall-run chinook salmon	<i>Oncorhynchus tshawytscha</i>	FPE, SCE	
Winter-run chinook salmon	<i>Oncorhynchus tshawytscha</i>	FPT	
*Antioch cophuran robberfly	<i>Oncorhynchus tshawytscha</i>	FE, SE	
*Antioch Dunes anthicid beetle		Invertebrates	
	<i>Cophura hurdi</i>	FSC	One specimen known - Antioch dunes (LS-1939).
	<i>Anthicus antiochensis</i>	FSC	Antioch dunes preserve area. PE (LS-1953). No appropriate sites for rehandling or disposal facilities.
*Antioch efferian robberfly	<i>Efferia antiochi</i>	FSC	One specimen known - Antioch dunes (LS-1959).
*Antioch mutillid wasp	<i>Myrmosula pacifica</i>	FSC	Antioch dunes, Sacramento/San Joaquin Delta area. No appropriate sites for rehandling or disposal facilities.
*Antioch sphecoid wasp	<i>Philanthus nasalis</i>	FSC	One specimen known - Antioch dunes (LS-1952).
*Bay checkerspot butterfly	<i>Euphydryas editha bayensis</i>	FT	Found on native grasslands, outcrops of serpentine soil - hillsides of San Mateo county and inland, east of Mount Diablo.

Table J-1. Species of Concern  
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Common Name	Scientific Name	Status	Comments
Plants (continued)			
Ferris's milk-vetch	<i>Astragalus tener</i> var. <i>ferrisiae</i>	FSC	One of 10 occurrences in vernal meadow southeast of Dixon (rest Northern California).
*Fountain thistle	<i>Cirsium fontinale</i> var. <i>fontinale</i>	FE, SE	Crystal Springs Reservoir, San Mateo.
Fragrant fritillary	<i>Fritillaria liliacea</i>	FSC	Located >40 feet elevation in coastal prairie, open grassland, including Jepson Prairie Preserve. (Point Reyes, Pulgas Ridge, Potrero Hills [San Francisco], Mills College [Oakland]).
(?)Gardner's yampah	<i>Perideridia gairdneri</i> ssp. <i>gairdneri</i>	FSC	Zero occurrences in CNDDB.
Heartscale	<i>Atriplex cordulata</i>	FSC	Alkaline meadow at edge of marsh. Approximately 5 of 40 occurrences in area (Dozier, Solano). Most in south.
*Hickman's cinquefoil	<i>Potentilla hickmanii</i>	FPE, SE	Ocean bluff habitat (1 of 3 sites Half Moon Bay - rest Monterey).
Hispid bird's-beak	<i>Cordylanthus mollis</i> ssp. <i>hispidus</i>	FSC	Tidal zone of Suisun Marsh; also alkaline grassland and alkaline scrub from Central Valley to Southern California.
Hoover's button-celery	<i>Eryngium aristulatum</i> var. <i>hooveri</i>	FSC	Zero occurrences in CNDDB.
*Interior California larkspur	<i>Delphinium californicum</i> ssp. <i>interius</i>	FSC	Zero occurrences in CNDDB.
*Kellogg's (wedge-leaved) horckelia	<i>Horkelia cuneata</i> ssp. <i>sericea</i>	FSC	Coniferous forests, coastal scrub.
*Large-flowered fiddleneck	<i>Amsinckia grandiflora</i>	FE, SE	Annual upland grassland. LLL and Black Diamond Mine are sites.
Legenere	<i>Legenere limosa</i>	FSC	Vernal pool 2.4 miles south of Napa Hospital, and east side of Highway 29 (Suscol Ridge) at around 40 feet elevation.
*Little mousetail	<i>Myosurus minimus</i> ssp. <i>apus</i>	FSC	All 17 occurrences in CNDDB.
*Marin checkermallow	<i>Sidalcea hickmanii</i> ssp. <i>viridis</i>	FSC	Zero occurrences in CNDDB.
*Marin dwarf-flax (western-flax)	<i>Hesperolinon congestum</i>	FT, ST	Grassy serpentine slopes of Marin, Petaluma River, Crystal Springs Road, San Mateo; Presidio, San Francisco; found at elevations >140 feet.
Marin bent grass	<i>Agrostis balsdalei</i> var. <i>marinensis</i>	SR	Napa River, Cuttings Wharf.
Marin knotweed	<i>Polygonum marinense</i>	FSC	One occurrence at Presidio Swamp, Fort Point (San Francisco).
Marsh sandwort	<i>Arenaria patudicola</i>	FE, SE	Fresh, brackish, and salt water marsh vegetation in littoral zone with strong tidal influence. Mare Island is saltiest location, also found along Napa River (south of Rotto Landing).
Mason's lilaeopsis	<i>Lilaeopsis masonii</i>	FSC, SR	Hillsides and dunes greater than 100 feet in elevation, San Francisco location.
*Mission Delores campion	<i>Silene verecunda</i> ssp. <i>verecunda</i>	FSC	Coastal scrub (>100 feet), San Bruno Mountain and Montara Mountain.
*Montara manzanita	<i>Arctostaphylos montaraensis</i>	FSC	Serpentine grasslands in Santa Rosa hills and Oakland hills (800 feet).
*Most beautiful (uncommon) jewelflower	<i>Streptanthus albidus</i> ssp. <i>peramoenus</i>	FSC	Not in CNDDB.
Mount Diablo bird's beak	<i>Cordylanthus nidularius</i>	FSC, SR	Hillsides on Mount Diablo.
*Mount Diablo jewelflower	<i>Streptanthus hispidus</i>	FSC	Rocky, serpentine slopes on Mount Diablo.
*Mount Diablo phacelia	<i>Phacelia phacelitoides</i>	FSC	

Table J-1. Species of Concern  
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Common Name	Scientific Name	Status	Comments
Invertebrates (continued)			
*Bridges' coast range shoulderband snail	<i>Helminthoglypta nickliniana bridgesi</i>	FSC	Open hillsides with tall grass/weeds in Contra Costa and Alameda counties. Found at Marsh Creek Canyon near Mount Diablo
*Bumblebee scarab beetle	<i>Lichnanthe ursina</i>	FSC	Habitat is sand dunes along outer coast.
California freshwater shrimp	<i>Syncaris pacifica</i>	FE, SE	Fourteen occurrences - all in Napa, Sonoma, Marin counties.
*Callippe silverspot butterfly	<i>Speyeria callippe callippe</i>	FPE	Hillsides on San Bruno Mountain, >200 feet.
Cervo aegialian scarab beetle	<i>Aegialia concinna</i>	FC1	Sandy substrates (one occurrence).
Conservancy fairy shrimp	<i>Branchinecta conservatio</i>	FE	Zero occurrences in CNDDB.
Curved-foot hygrotes diving beetle	<i>Hygrotes curvipes</i>	FSC	One occurrence in aquatic, shallow muddy pool at Oakley (east of Antioch).
Delta green ground beetle	<i>Elaphrus viridus</i>	FT	Grassland and vernal pool habitat. Two occurrences in Solano County (Dozier and Elmira Quads).
*Globose dune beetle	<i>Coelus globosus</i>	FSC	Eight occurrences all in Southern California.
*Hurd's metapogon robberfly	<i>Metapogon hurdi</i>	FSC	Zero occurrences in CNDDB.
Lang's metalmark butterfly	<i>Apodemia mormo langei</i>	FE	Antioch sand dunes.
*Leech's skyline diving beetle	<i>Hydroporus leechi</i>	FSC	Zero occurrences in CNDDB.
*Longhorn fairy shrimp	<i>Branchinecta longiantenna</i>	FE	Freshwater pond habitat. Two of seven occurrences in Alameda & Contra Costa counties. Wind energy development threatens.
Marin elfin butterfly	<i>Incisalia mossii</i>	FSC	Not found in CNDDB.
Middlekauf's shieldback katydid	<i>Idiostatus middlekaufi</i>	FSC	One occurrence in Antioch dunes.
*Mission blue butterfly	<i>Icaricia icariodes missionensis</i>	FE	Occur on slopes and hillsides in San Mateo and San Francisco counties.
*Molestan blister beetle	<i>Lytta molesta</i>	FSC	Two occurrences - one southwest of Modesto (Westley), other Sequoia National Park.
*Molestan blister beetle	<i>Lytta molesta</i>	FSC	Seasonally found in Central Valley from Contra Costa to Kern counties; one of 11 occurrences in Brentwood.
Myrtle's silverspot butterfly	<i>Speyeria zerene myrtilae</i>	FE	Zero occurrences in CNDDB.
Opler's longhorn moth	<i>Adella oplerella</i>	FSC	Zero occurrences in CNDDB.
Ricksecker's water scavenger beetle	<i>Hydrochara rickseckeri</i>	FSC	One of 4 occurrences in Jepson Prairie Preserve (not much known).
Sacramento anthicid beetle	<i>Anthicus sacramento</i>	FSC	Found in sand among dredge spoil.
*San Bruno elfin butterfly	<i>Incisalia mossii bayensis</i>	FE	Found on hillsides and ridgetops; San Mateo County; San Bruno Mountains, Whiting ridge.
San Francisco lacewing	<i>Nothochrysa californica</i>	FSC	Zero occurrences in CNDDB.
San Joaquin dune beetle	<i>Coelus gracilis</i>	FSC	One of 5 occurrences in Antioch Dunes (1974) - rest in Fresno and Kings canyon.
Sonoma arctic skipper	<i>Carterocephalus palaemon</i> ssp.	FSC	Zero occurrences in CNDDB.
*Valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	FT	Riparian habitat, mostly higher elevations. Of 124 occurrences, several in Yolo and San Joaquin counties.
*Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	FT	Vernal pool habitat - upland. Twelve occurrences - Madera to Sacramento counties.
Vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	FE	One of 4 occurrences at Kesterson, confluence of Salt Slough and San Joaquin River.



Table J-1. S of Concern  
(page 7 of 8)

Common Name	Scientific Name	Status	Comments
Plants (continued)			
*Mount Tamalpais thistle	<i>Cirsium hydrophilum</i> var. <i>vasevi</i>	FSC	Hillside of Mount Tamalpais.
Northcoast (Point Reyes) bird's-beak	<i>Corólyanthus maritimus</i> ssp. <i>palustris</i>	FSC	38 occurrences mostly Drakes Bay & north, also Alameda Marsh, Tiburon, Palo Alto.
*Northcoast semaphore grass	<i>Pleuropogon hooverianus</i>	FSC, SR	Grassy flats, under redwood trees, mostly north of area.
*Northern California black walnut	<i>Juglans californica</i> var. <i>hindsii</i>	FSC	Riparian forests, riparian woodlands.
*Pallid manzanita (Alameda manzanita)	<i>Arctostaphylos pallida</i>	FPT, SE	Oakland, Berkeley hills, >1,100 feet (L.S.-1991).
*Palmate-bracted bird's-beak	<i>Corólyanthus palmatus</i>	FE, SE	Alkali sink habitat from Fresno, south, to Woodland, north.
Papoose spikeweed (Congdon's tarplant)	<i>Hemizonia parryi</i> ssp. <i>congdonii</i>	FSC	Grasslands (<100m) (L.S.-1986). 1 of 24 occurrences - Benicia along I-680, rest in Santa Clara and south.
*Point Reyes horkelia	<i>Horkelia marinensis</i>	FSC	Located on Point Reyes peninsula (>40 feet).
*Presidio clarkia	<i>Clarkia franciscana</i>	FE, SE	Coastal scrub/grasslands in Presidio, San Francisco and Oakland hills (>75 feet in elevation).
*Presidio manzanita	<i>Arctostaphylos hookeri</i> ssp. <i>ravenii</i>	FE, SE	Serpentine slopes of South San Francisco and Presidio (PE, L.S.-1989) (7 occurrences).
*Recurved larkspur	<i>Delphinium recurvatum</i>	FSC	Alkaline soils and swales. Two of 21 occurrences around Clifton Court Forebay, rest in Southern California.
Robust spineflower	<i>Chorizanthe robusta</i>	FE	Coastal dune/scrub (30-150 feet). Alameda, Colma (San Francisco).
*Rock sanicle	<i>Sanicula saxatilis</i>	FSC, SR	Talus slopes below chaparral, Mount Diablo and Lick Observatory.
*Sacramento Orcutt grass	<i>Orcuttia viscida</i>	FPE, SE	Vernal pool, grasslands. Eight occurrences mostly Buffalo Creek, Sacramento.
*San Bruno Mountain manzanita	<i>Arctostaphylos imbricata</i>	FSC, SE	Brushy slopes of San Bruno Mountain (>700 feet) (4 occurrences).
*San Francisco gumplant	<i>Grindelia hirsutula</i> var. <i>maritima</i>	FSC	Cliffy coastal scrub plant community, open slopes in San Francisco (>100 feet) (15 occurrences).
*San Francisco lessingia	<i>Lessingia germanorum</i>	FPE, SE	Found at elevations >80 feet in Daly City and the Presidio area.
San Francisco Bay spineflower	<i>Chorizanthe cuspidata</i> var. <i>cuspidata</i>	FSC	Zero occurrences in CNDDB.
*San Francisco manzanita	<i>Arctostaphylos hookeri</i> ssp. <i>franciscana</i>	FSC	Serpentine slopes (>300 feet). Last seen 1942, Presidio Ave.
*San Francisco owl's clover	<i>Triphysaria floribunda</i>	FSC	Found at elevations >100 feet at Point Reyes National Seashore, San Bruno Mountain, Lake Merced, and the Presidio.
*San Francisco popcornflower	<i>Plagiobothrys diffusus</i>	FSC, SE	Found at elevations >200 feet in Presidio. Last seen - 1933.
*San Mateo thornmint	<i>Acanthomintha duttonii</i>	FE, SE	Found at Crystal Springs Reservoir.
San Mateo tree lupine	<i>Lupinus arboreus</i> var. <i>eximius</i>	FSC	Not in CNDDB.
*San Mateo woolly sunflower	<i>Eriophyllum latilobum</i>	FE, SE	Grassy hillsides in San Mateo between I-280 and Mermer Road (2 occurrences).
*Santa Cruz microseris	<i>Microseris (Stebbinoseris) decipiens</i>	FSC	All 16 occurrences in Santa Cruz County.
*Santa Cruz tarweed	<i>Holocarpha macradenia</i>	FC, SE	Uplands: coastal, prairie, foothill, grassland. Most 39 occurrences in Santa Cruz County.
Sebastopol meadow foam	<i>Limnanthes vincularis</i>	FE, SE	Vernal pools, Sonoma County.
Showy Indian clover	<i>Trifolium amoenum</i>	FPE	Found at elevations 20-65 feet, Napa Junction and Buchli Station Road (L.S.-1952).

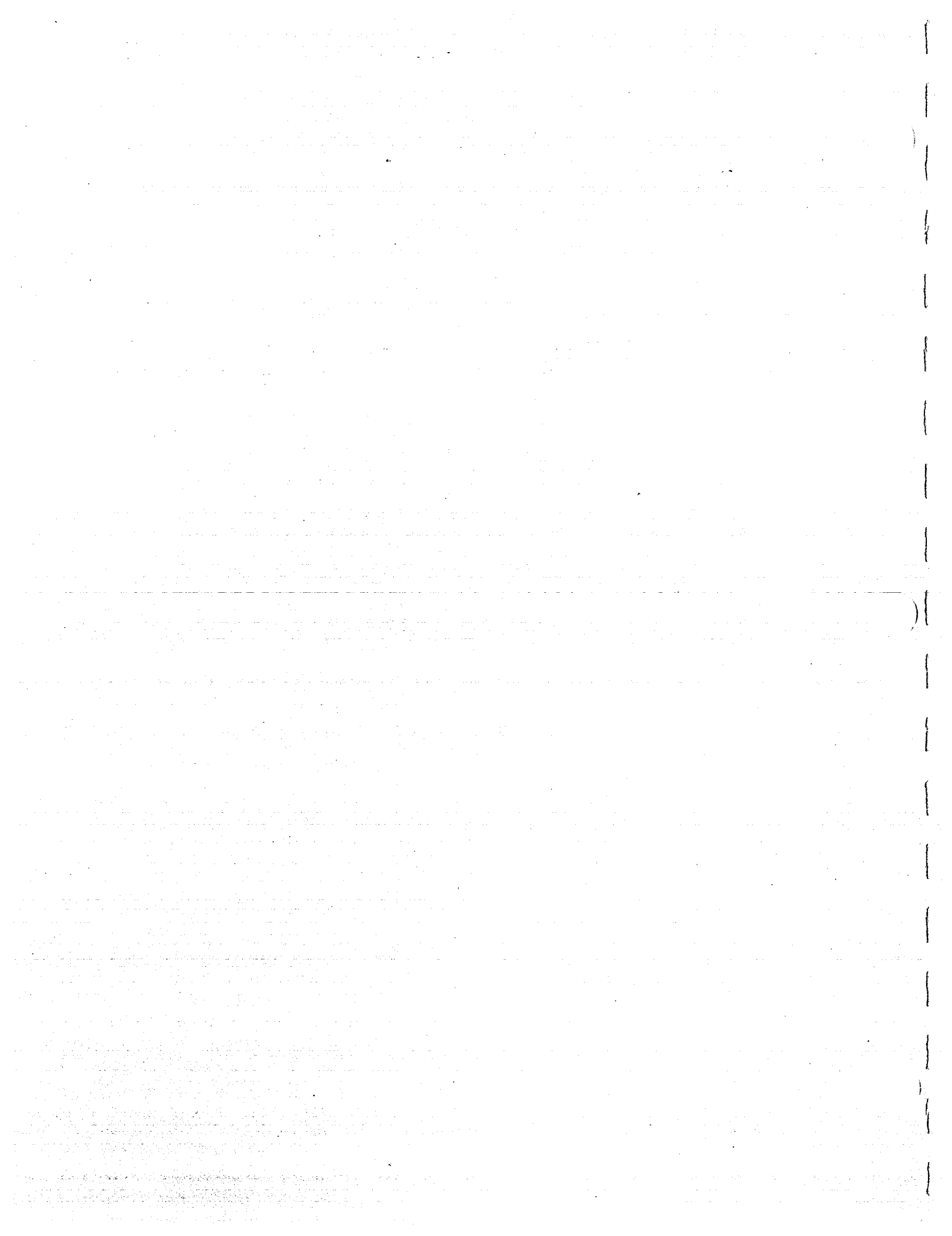
Table J-1. Species of Concern  
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Common Name	Scientific Name	Status	Comments
Plants (continued)			
*Slough thistle	<i>Cirsium crassicaule</i>	FSC	Two sites near San Joaquin River (rest of 17 occurrences in Kern County).
Soft bird's beak	<i>Cordylanthus mollis</i> ssp. <i>mollis</i>	FE, SR	Coastal salt marsh habitat. Point Pinole Regional Shoreline (Contra Costa County), Jersey Island, Grizzly Island.
*Sonoma ceanothus	<i>Ceanothus sonomensis</i>	FSC	Southwest-facing slopes in Sonoma (15 occurrences).
*Sonoma spineflower	<i>Chorizanthe valida</i>	FE, SE	Present at Point Reyes National Seashore >40 feet.
*South Bay clarkia	<i>Clarkia concinna</i> ssp. <i>automixa</i>	FSC	Zero occurrences in CNDDB.
Suisun Marsh aster	<i>Aster lentus</i>	FSC	Nearshore marsh vegetation, grows along bank or shore in tidally influenced coastal and valley freshwater marshes. Northeast of Fagan Slough, Jersey Island.
Suisun thistle	<i>Cirsium hydrophilum</i> var. <i>hydrophilum</i>	FE	Dense salt marsh vegetation, Grizzly Island.
*Tamalpais lessingia	<i>Lessingia micradenia</i> var. <i>micradenia</i>	FSC	Zero occurrences in CNDDB.
*Tamalpais manzanita	<i>Arctostaphylos hookeri</i> ssp. <i>montana</i>	FSC	Serpentine slopes of Mount Tamalpais.
*Tamalpais streptanthus	<i>Streptanthus batrachopus</i>	FSC	Hillside, ridges of Mount Tamalpais.
*Tiburon jewelflower	<i>Streptanthus niger</i>	FE, SE	Serpentine outcrops, cliffs, grasslands along Tiburon ridge.
Tiburon mariposa lily	<i>Catochortus tiburonensis</i>	FT, ST	Serpentine grassland habitat - one occurrence.
Tiburon paintbrush	<i>Castilleja affinis</i> ssp. <i>neglecta</i>	FE, ST	Serpentine grassland habitat. Six occurrences from Napa (American Canyon) to Tiburon.
Tiburon tarweed	<i>Hemizonia multicaulis</i> ssp. <i>vernalis</i>	FSC	Not in CNDDB.
*Two-carpeled dwarf-flax	<i>Hesperolinon bicarpellatum</i>	FSC	Zero occurrences in CNDDB.
*Valley sagittaria (Sanford's arrowhead)	<i>Sagittaria sanfordii</i>	FSC	Vernal marsh and muddy slough habitat (south and north of Central Valley - too far east of area).
Valley spearscale (San Joaquin saltbush)	<i>Atriplex joaquiniana</i>	FSC	Coastal prairie, alkaline-saline flat (Montezuma area). Also northeast of Slaughterhouse Point, Napa River.
*White-rayed pentachaeta	<i>Pentachaeta bellidiflora</i>	FE, SE	Grassy slopes in Marin, Greenbrae, and Larkspur and east edge of San Bruno Mountain.



Table J-1. *Species of Concern*  
(page 9 of 8)

Common Name	Scientific Name	Status	Comments
<p><b>Key:</b></p> <ul style="list-style-type: none"> <li>* Indicates species not in the LTMS Planning Area.</li> <li>FE: Federally listed Endangered</li> <li>FT: Federally listed Threatened</li> <li>FC: Federal Candidate</li> <li>FPE: Federally proposed for listing as Endangered</li> <li>FPT: Federally proposed for listing as Threatened</li> <li>FSC: Federal Species of Concern (former candidate)</li> <li>SE: State-listed Endangered</li> <li>ST: State-listed Threatened</li> <li>SR: State-listed Rare</li> <li>SCE: State Candidate Endangered</li> <li>SSC: State-listed Species of Special Concern</li> <li>PE: Presumed Extinct</li> <li>CNDDDB: California Natural Diversity Database</li> <li>LS 1992: Last seen 1992</li> </ul>			



**Table J-2. Areas and Times of Restricted DREDGING Activity in the San Francisco Bay/Delta Estuary for Species of Special Concern**

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*LTMS Policy EIS Record of Decision, March 24, 1999*

<i>Species</i>	<i>Rank (1)</i>	<i>Critical Location</i>	<i>Potential Impacts</i>	<i>Dredging Restriction (2)</i>	<i>Period of Restriction</i>
Chinook Salmon (ADULTS)	1	P inole Shoal (San Pablo Bay), Suisun Bay channel	Interference with migration; degradation of water quality	Restrict dredging in these areas during period of restriction. Otherwise, individual Consultation with NMFS is REQUIRED.	January 1 - May 31
		East of Sherman Island, along migratory corridors to and from the Sacramento River	Interference with migration; degradation of water quality	Restrict dredging in these areas during period of restriction. Otherwise, individual Consultation with NMFS is REQUIRED.	November 1 - May 15
Chinook Salmon (JUVENILES)	1	SF Bay Bridge upstream to Sherman Island, including stoughs	Direct habitat loss or degradation; water quality degradation; interference with foraging or food resources; entrainment by dredge	Restrict dredging in these areas when species is present. Otherwise, see Consultation and Permit requirements: A, B (re. entrainment); C, D (re. habitat loss), and E (re. habitat/water quality degradation).	January 1 - May 31
		East of Sherman Island, along migratory corridors to and from the Sacramento River	Direct habitat loss or degradation; water quality degradation; interference with foraging or food resources; entrainment by dredge	Restrict dredging in these areas when species is present. Otherwise, see Consultation and Permit requirements: A, B (re. entrainment); C, D (re. habitat loss), and E (re. habitat/water quality degradation).	October 1 - May 31
Steelhead Trout	1	SF Bay Bridge upstream to Sherman Island, including stoughs	Interference with migration; degradation of water quality; direct habitat loss or degradation; interference with foraging or food resources	Restrict dredging in these areas during period of restriction. Otherwise, individual Consultation with NMFS is REQUIRED.	January 1 - May 31

**Table J-2. Areas and Times of Restricted DREDGING Activity in the San Francisco Bay/Delta Estuary for Species of Special Concern**

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*LTIMSPolicy EIS Record of Decision, March 24, 1999*

Species	Rank (1)	Critical Location	Potential Impacts	Dredging Restriction (2)	Period of Restriction
Steelhead Trout (continued)	1	Napa River, Petaluma River, Sonoma Creek	Habitat degradation; adverse effects on life stages	Restrict dredging in these areas during period of restriction. Otherwise, individual Consultation with NMFS is REQUIRED.	October 15 - July 31
		Central San Francisco Bay	Interference with migration; degradation of water quality; direct habitat loss or degradation; interference with foraging or food resources	Restrict dredging in these areas when species is present, otherwise, individual Consultation with NMFS and CDFG is REQUIRED. Otherwise, see Consultation and Permit requirements: A, B (re. entrainment); C, D (re. habitat loss) and E (re. habitat/water quality degradation).	January 1 - May 31
		East of Sherman Island, along migratory corridors to and from the Sacramento River	Interference with migration; degradation of water quality; direct habitat loss or degradation; interference with foraging or food resources	Restrict dredging in these areas during period of restriction. Otherwise, individual Consultation with NMFS is REQUIRED.	October 1 - May 31
Delta Smelt	1	Suisun Bay including marshes, from Carquinez Bridge east to Collinsville	Direct entrainment by dredge; spawning ground habitat degradation	NOTE: Formal ESA Consultation is REQUIRED for any dredging project in this area, at any time.	January 1 - December 31 (all year)
		Southern Delta (see Figure J-1)	Direct entrainment by dredge; spawning ground habitat degradation	Restrict dredging in these areas when species is present. Otherwise, see Consultation and Permit requirements: A, B (re. entrainment); E (re. habitat degradation).	February 1 - June 30
		Central Delta (see Figure J-1)	Direct entrainment by dredge; spawning ground habitat degradation	Restrict dredging in these areas during period of restriction. Otherwise, individual Consultation with FWS and CDFG is REQUIRED.	December 1 - June 30

**Table J-2. Areas and Times of Restricted DREDGING Activity in the San Francisco Bay/Delta Estuary for Species of Special Concern**

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*LTMSP Policy EIS Record of Decision, March 24, 1999*

<i>Species</i>	<i>Rank (1)</i>	<i>Critical Location</i>	<i>Potential Impacts</i>	<i>Dredging Restriction (2)</i>	<i>Period of Restriction</i>
Delta Smelt (continued)	1	Northern Delta (see Figure J-1)	Direct entrainment by dredge; spawning ground habitat degradation	Restrict dredging in these areas during period of restriction. Otherwise, individual Consultation with FWS and CDFG is REQUIRED.	September 15 - July 31
Sacramento Splittail (JUVENILES)	2	North San Pablo Bay, Napa and Petaluma Rivers	Direct entrainment by dredge	Restrict dredging in these areas during period of restriction. Otherwise, individual confrencing (consultation if species is listed as endangered) with FWS and CDFG is REQUIRED.	February 1 - July 31
		Suisun Bay including marshes, from Carquinez Bridge east to Collinsville	Direct entrainment by dredge	NOTE: ESA confrencing (consultation if species is listed as endangered) is REQUIRED for any dredging project in this area, at any time.	January 1 - December 31 (all year)
Longfin Smelt	3	Delta	Direct entrainment by dredge	Restrict dredging in these areas during period of restriction. Otherwise, confrencing (consultation if species is listed as endangered) with FWS and CDFG is REQUIRED.	December 1 - October 31
		San Pablo Bay	Direct entrainment of juveniles by dredge	Restrict dredging in these areas as much as possible during period of restriction.	February 1 - July 31
		Suisun Bay including marshes, from Carquinez Bridge east to Collinsville	Direct entrainment by dredge; spawning ground habitat degradation	Restrict dredging in these areas as much as possible during period of restriction.	December 1 - August 31
		Western (= Northern) Delta (see Figure J-1)	Direct entrainment by dredge; spawning ground habitat degradation	Restrict dredging in these areas as much as possible during period of restriction.	December 1 - February 28

**Table J-2. Areas and Times of Restricted DREDGING Activity in the San Francisco Bay/Delta Estuary for Species of Special Concern**

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LTIMSPolicy EIS Record of Decision, March 24, 1999

Species	Rank (1)	Critical Location	Potential Impacts	Dredging Restriction (2)	Period of Restriction
Pacific Herring	3	Historical spawning areas in Central San Francisco Bay and Richardson Bay (see Figure J-2)	Interference with spawning activity; reduced hatching success and larval survival	Restrict dredging in these areas when species is present; see Consultation and Permit requirement G.	December 1 - February 28
Recreational marine fishes	3	None for dredging	None for dredging	None for dredging	N/A
Dungeness Crab	4	Shallow berthing areas and channels, North San Francisco Bay and San Pablo Bay	Direct entrainment by dredge of early juvenile stages	Consultation and Permit requirements A and B apply when juveniles are present	May 1 - June 30
California Least Tern	1	All eelgrass beds from San Francisco Bay east through Suisun Marsh (Figure J-3)	Loss of eelgrass bed foraging habitat	Consultation with FWS and CDFG is REQUIRED for any direct or indirect impacts to this habitat	January 1 - December 31 (all year)
		Coastal waters and sloughs within 1 mile of the coastline from Berkeley Marina south through San Lorenzo Creek.	Turbidity effects on foraging success	Restrict dredging within 3 miles of active nesting areas during Tern foraging period, and when prey species are at critical life stages (see Consultation and Permit Requirement G).	March 15 - July 31
		Coastal waters, sloughs, and salt ponds in South San Francisco Bay south of the Highway 92 bridge.	Turbidity effects on foraging success	Restrict dredging when foraging Tern are present (see Consultation and Permit Requirement G)	June 1 - September 7
California Clapper Rail	1	In and adjacent to tidal salt marshes throughout San Francisco Bay and Suisun Marsh	Destruction of breeding and nesting habitat, and/or loss of upland refugial cover	Consultation with FWS and CDFG is REQUIRED for projects that will result in direct habitat loss; see Consultation and Permit requirements D and F.	January 1 - December 31 (all year)
		In and adjacent to tidal salt marshes throughout San Francisco Bay and Suisun Marsh	Disturbance during breeding season (without direct habitat loss)	Restrict dredging in these areas when species is present; see Consultation and Permit requirements D and F.	February 1 - August 31

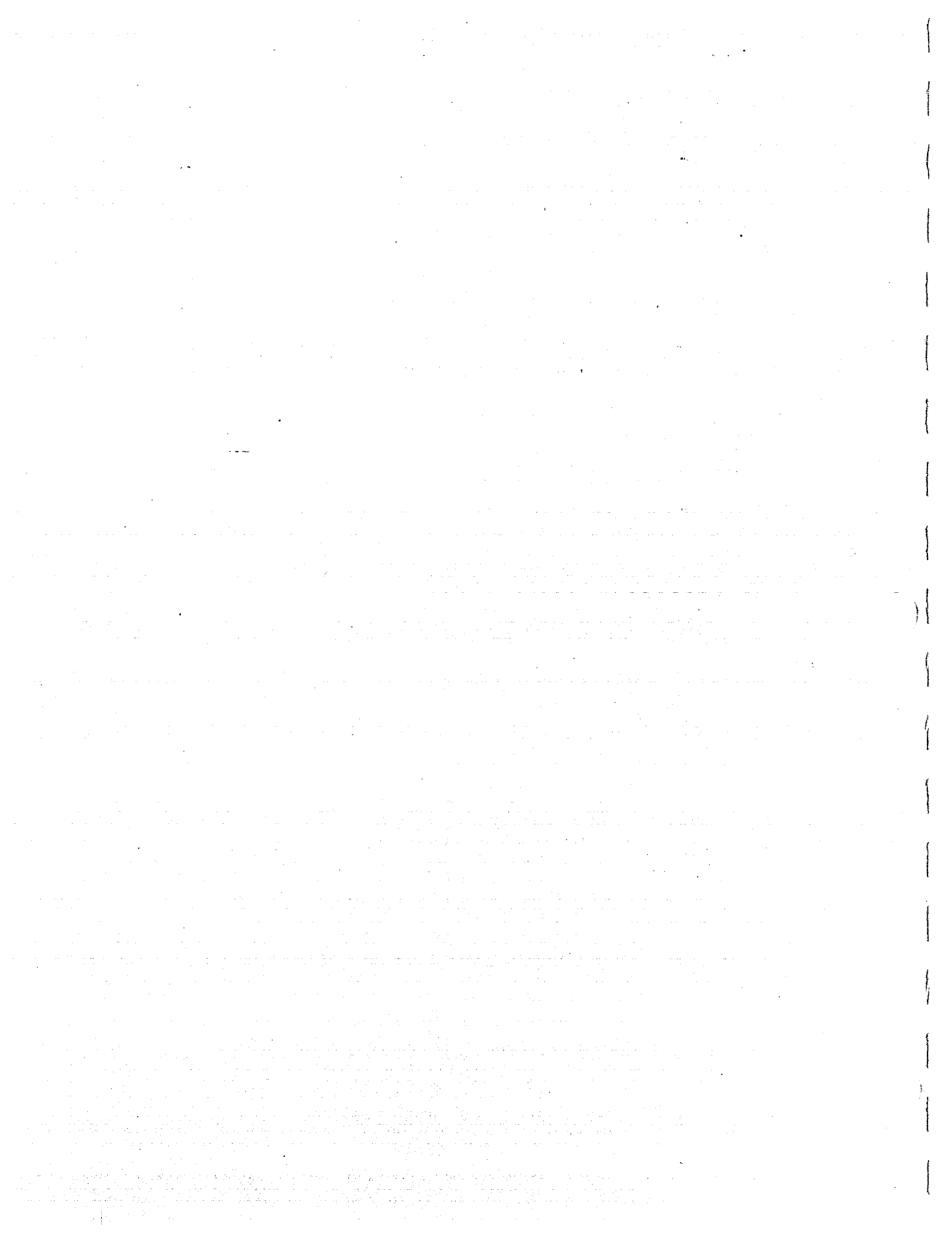
**Table J-2. Areas and Times of Restricted DREDGING Activity in the San Francisco Bay/Delta Estuary for Species of Special Concern**

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<i>L.T.M.S. Policy EIS Record of Decision, March 24, 1999</i>					
<i>Species</i>	<i>Rank (1)</i>	<i>Critical Location</i>	<i>Potential Impacts</i>	<i>Dredging Restriction (2)</i>	<i>Period of Restriction</i>
Western Snowy Plover	1	South San Francisco Bay, San Pablo Bay	Loss of mudflat foraging habitat (new-work projects)	NOTE: Consultation is REQUIRED with FWS and CDFG for any new-work projects that will cause a direct loss of mudflat habitat in these areas (LTMS working to conduct "programmatic consultation" for inclusion in a future LTMS Management Plan).	January 1 - December 31 (all year)
California Brown Pelican	1	Significant roost sites at: Alameda breakwater, Angel Island; Brooks Island, and Sisters Island	Disturbance of individual and large communal roosts	No dredging within 300 feet of known night-time communal roost sites during the time period between one hour before sunset to sunrise.	July 1 - September 30
Salt Marsh Harvest Mouse	1	In and adjacent to diked and tidal salt marshes throughout San Francisco Bay and Suisun Marsh east to Collinsville	Loss of salt marsh habitat and adjacent upland refugial cover	NOTE: Consultation is REQUIRED with FWS and CDFG for any project that will cause a direct loss of salt marsh habitat in these areas.	January 1 - December 31 (all year)

*Notes*

1. Refer to Table J-4 for definitions of species ranks and for consultation and permit requirements identified under *Dredging Restriction*.
2. The term "RESTRICT" in this column means that dredging or disposal activities generally will not be authorized during periods of restriction unless approved via a project-specific consultation conducted by or for the applicant, except as noted under the specified consultation and permit requirements (see Table J-4). The term "MINIMIZE DISPOSAL" in this column means that the L.T.M.S. agencies will ensure that no more disposal than necessary occurs at the times and sites listed, (1) through management limitations placed on the disposal sites themselves, and/or (2) through project-specific review.





**Table J-3. Areas and Times of Restricted DISPOSAL Activity in the San Francisco Bay/Delta Estuary for Species of Special Concern**

(page 1 of 4)

LTMS Policy EIS Record of Decision, March 24, 1999

Species	Rank (1)	Critical Location	Potential Impacts	DISPOSAL Restriction (2)	Period of Restriction (3)
Chinook Salmon (ADULTS)	1	SF-16 (Suisun Bay disposal site) and SF-9 (Carquinez Strait disposal site)	Degradation of water quality; interference with migration	Minimize disposal at these sites during period of restriction	January 1 - May 31
		Aquatic disposal east of Sherman Island, along migratory corridors to and from the Sacramento River	Degradation of water quality; interference with foraging habitat and food resources	Restrict disposal to the extent feasible in these areas during period of restriction. Otherwise, Consultation and Permit Requirements A, B, C, D and E apply.	October 1 - May 31
Chinook Salmon (JUVENILES)	1	SF-16 (Suisun Bay disposal site) and SF-9 (Carquinez Strait disposal site)	Degradation of water quality; interference with foraging habitat and food resources	Minimize disposal at these sites during period of restriction.	January 1 - May 31
		East of Sherman Island, along migratory corridors to and from the Sacramento River	Degradation of water quality; interference with foraging habitat and food resources	Restrict disposal to the extent feasible in these areas during period of restriction. Otherwise, Consultation and Permit Requirements A, B, C, D and E apply.	October 1 - May 31
Steelhead Trout	1	SF-9, SF-10 (San Pablo Bay), & SF-11 (Alcatraz) disposal sites	Degradation of water quality; interference with foraging habitat and food resources	Minimize disposal at these sites during period of restriction.	January 1 - October 31
		East of Sherman Island, along migratory corridors to and from the Sacramento River	Degradation of water quality; interference with foraging habitat and food resources	Restrict disposal to the extent feasible in these areas during period of restriction. Otherwise, Consultation and Permit Requirements A, B, C, D and E apply.	October 1 - May 31
Delta Smelt	1	All Delta critical habitat (see Figure J-4)	Spawning ground habitat degradation	Formal Consultation with FWS and CDFG is REQUIRED for any aquatic disposal outside of levees in this area, at any time. No restrictions on upland disposal relative to this species.	January 1 - December 31 (all year)
Sacramento Splittail	2	SF-16, SF-9, SF-10, SF-11, and SF-8 (San Francisco Bar Channel) disposal sites	None	None	N/A

**Table J-3. Areas and Times of Restricted DISPOSAL Activity in the San Francisco Bay/Delta Estuary for Species of Special Concern**

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LTMS Policy EIS Record of Decision, March 24, 1999

Species	Rank (1)	Critical Location	Potential Impacts	DISPOSAL Restriction (2)	Period of Restriction
Sacramento Splittail (continued)	2	North San Pablo Bay, Napa and Petaluma Rivers, Suisun Bay (all), other than SF-8, SF-9, SF-10, SF-11, SF-16	Habitat degradation	Formal conferencing (consultation if listed) with FWS and CDFG is REQUIRED for any aquatic disposal outboard of levees in this area, at any time. No restrictions on upland disposal relative to this species.	January 1 - December 31 (all year)
Longfin Smelt	3	San Pablo Bay (other than SF-10) and Suisun Bay (other than SF-16) including marshes from Benicia Bridge east to Collinsville, and Western (= Northern) Delta (see Figure J-1)	Spawning ground habitat degradation	Minimize disposal in these areas as much as possible.	January 1 - December 31 (all year)
Pacific Herring	3	None	None	None	N/A
Recreational marine fishes	3	SF-10 and SF-11 disposal sites	Habitat degradation	Minimize disposal at these sites during peak sportfishing season.	May 1 - October 31
Dungeness Crab	4	None	None	None	N/A
California Least Tern	1	All eelgrass beds from San Francisco Bay east through Suisun Bay (see Figure J-3)	Potential direct habitat loss of eelgrass habitat associated with in-Bay disposal	None at SF-8, SF-9, SF-10, SF-11, SF-16. However, Consultation with FWS and CDFG is REQUIRED for other nearshore, upland, or beneficial use disposal activities that may affect eelgrass habitat.	January 1 - December 31 (all year)
Delta Smelt	1	Coastal waters, sloughs and salt ponds in San Francisco Bay, or within 3 miles of the NAS Alameda nesting site.  Suisun Bay including marshes, from Carquinez Bridge east to Collinsville (other than SF-16)	Habitat degradation associated with in-Bay disposal  Rearing and limited spawning habitat degradation	None at SF-8, SF-9, SF-10, SF-11, SF-16. However, Consultation with FWS and CDFG is REQUIRED for other nearshore, upland, or beneficial use disposal activities that may affect eelgrass habitat.  Formal Consultation with FWS and CDFG is REQUIRED for any aquatic disposal in this area, at any time.	January 1 - December 31 (all year)

**Table J-3. Areas and Times of Restricted DISPOSAL Activity in the San Francisco Bay/Delta Estuary for Species of Special Concern**

(page 3 of 4)

		<i>LTMSP Policy EIS Record of Decision, March 24, 1999</i>			
Species	Rank (1)	Critical Location	Potential Impacts	DISPOSAL Restriction (2)	Period of Restriction
Delta Smelt (continued)	1	Coastal waters, sloughs, and salt ponds within 3 miles of nesting area at NAS Alameda (see Consultation and Permit Requirement 1 for other possible restriction areas)	Potential direct habitat loss associated with nearshore or upland disposal or beneficial use projects	None at SF-8, SF-9, SF-10, SF-11, SF-16. However, Consultation with FWS and CDFG is REQUIRED for other nearshore, upland, or beneficial use disposal activities that may affect this habitat.	January 1 - December 31 (all year)
		Coastal waters, sloughs, and salt ponds in South San Francisco Bay	Potential direct habitat loss associated with nearshore or upland disposal or beneficial use projects	None at SF-8, SF-9, SF-10, SF-11, SF-16. However, Consultation with FWS and CDFG is REQUIRED for other nearshore, upland, or beneficial use disposal activities that may affect this habitat.	January 1 - December 31 (all year)
California Clapper Rail	1	In and adjacent to tidal salt marshes throughout San Francisco Bay and Suisun Marsh	Potential direct habitat loss associated with nearshore or upland disposal or beneficial use projects	None at SF-8, SF-9, SF-10, SF-11, SF-16. However, Consultation with FWS and CDFG is REQUIRED for other nearshore, upland, or beneficial use disposal activities that may affect this habitat.	January 1 - December 31 (all year)
Western Snowy Plover	1	South San Francisco Bay, San Pablo Bay	Potential direct habitat loss associated with nearshore or upland disposal or beneficial use projects	None at SF-8, SF-9, SF-10, SF-11, SF-16. However, Consultation with FWS and CDFG is REQUIRED for other nearshore, upland, or beneficial use disposal activities that may affect this habitat.	January 1 - December 31 (all year)
California Brown Pelican	1	Significant roost sites at: Alameda breakwater, Angel Island, Brooks Island, and Sisters Island	Disturbance of individuals at large communal roosts	No disposal within 300 feet of known roost sites when species is present	April 1 - November 30

**Table J-3. Areas and Times of Restricted DISPOSAL Activity in the San Francisco Bay/Delta Estuary for Species of Special Concern**

(page 4 of 4)

*LTMS Policy EIS Record of Decision, March 24, 1999*

<i>Species</i>	<i>Rank (1)</i>	<i>Critical Location</i>	<i>Potential Impacts</i>	<i>DISPOSAL Restriction (2)</i>	<i>Period of Restriction</i>
Salt Marsh Harvest Mouse	1	In and adjacent to tidal salt marshes throughout San Francisco Bay and Suisun Marsh east to Collinsville	Potential direct habitat loss associated with nearshore or upland disposal or beneficial use projects	None at SF-8, SF-9, SF-10, SF-11, SF-16. However, Consultation with FWS and CDFG is REQUIRED for other nearshore, upland, or beneficial use disposal activities that may affect this habitat.	January 1 - December 31 (all year)

*Notes:*

1. Refer to Table J-4 for definitions of species' ranks and for consultation and permit requirements identified under *Disposal Restriction*.
2. The term "RESTRICT" in this column means that dredging or disposal activities generally will not be authorized during periods of restriction unless approved via a project-specific consultation conducted by or for the applicant, except as noted under the specified consultation and permit requirements (see Table J-4). The term "MINIMIZE DISPOSAL" in this column means that the LTMS agencies will ensure that no more disposal than necessary occurs at the times and sites listed, (1) through management limitations placed on the disposal sites themselves, and/or (2) through project-specific review.

**Table J-4. Legend for Tables J-2 and J-3**

<i>Species Ranking</i>	<i>Consultation and Permit Requirements (Dredging and Disposal Restrictions)</i>	
<p>1. Federal or state-listed endangered or threatened species. Consultation is required with USFWS, and possibly CDFG, if dredging or disposal is proposed during the period of restricted activity in critical locations.</p>	<p>A. Clamshell dredging shall be required whenever practicable in areas within 250 feet of a shoreline OR in depths less than 20 feet.</p>	<p>E. Best Management Practices to reduce turbidity (including silt curtains or other physical or operational measures) shall be required for these projects.</p>
<p>2. Species proposed for listing under the federal ESA, candidate for listing under the California ESA, or CDFG Species of Special Concern for which impacts from dredging or disposal could pose significant problems to existing or future population levels.</p>	<p>B. If hydraulic dredging in depths less than 20 feet, dredge head must be maintained at or below substrate surface. Head may not be raised more than 3 feet off bottom for flushing; shut off pump when raising head more than 3 feet off bottom (e.g., at end of dredging).</p>	<p>F. Restriction applies within the identified critical period and within 250 feet of emergent vegetation. USFWS and CDFG must be contacted in these circumstances.</p>
<p>3. Status reviews are being conducted. Species with established recreational or commercial value or ecological function for which impacts from dredging or disposal may pose significant problems to existing or future population levels.</p>	<p>C. For new-work projects where eelgrass will be unavoidably affected, a compensatory mitigation plan must be submitted and approved by USFWS, NMFS, CDFG, USACE, and EPA prior to permitting.</p>	<p>G. If dredging must be conducted during this period, CDFG must be contacted and the permittee must provide an observer to identify herring spawning activity. Dredging must stop immediately if herring are within 200 m of the work site, and may not until hatch-out is complete (approximately 10-14 days)</p>
<p>4. Species with established recreational or commercial value or ecological function for which impacts from dredging or disposal should pose only minor problems to existing or future population levels.</p>	<p>D. If project will cause unavoidable direct or indirect effects to submerged or emergent aquatic vegetation, compensatory mitigation at 3:1 ratio is required for lost functions and values. Other proposed ratios require consultation with USFWS and CDFG.</p>	<p>H. Other historically used nesting areas include Bair Island, Oakland Airport, Alvarado salt ponds, PG&amp;E Pittsburg, and Port Chicago. Contact USFWS to determine whether species may be present; if present, dredging restriction in Table applies.</p>

