

State of California
THE RESOURCES AGENCY
Department of Fish and Game
Bay-Delta Project

Testimony on Listed and Candidate
Plants and Animals Potentially Impacted
by the Results of the
State Water Resources Control Board's
Bay-Delta Hearing

June 1987

INTRODUCTION

The State Water Resources Control Board's (SWRCB) decision regarding Delta water rights may affect plant and animal species in areas of California beyond the Delta, Suisun Marsh and San Francisco Bay. Secondary impacts may result from changes in operation of existing water facilities such as lakes Shasta, Oroville, and Berryessa. Furthermore, the use of the water made available to service areas south of the Delta may adversely affect species that will not tolerate urban and agricultural development made possible by the availability of this water.

Pursuant to the California Endangered Species Act (CESA) the SWRCB must provide the California Department of Fish and Game (DFG) with detailed information on the potential effects of its decision on threatened and endangered species. This information should include an analysis of alternatives designed to reduce or eliminate impacts to threatened and endangered species. The Board's staff has taken the initial step in complying with the CESA by requesting an informal consultation with DFG.

DFG has compiled a list of the most sensitive species which are characterized by 221 plant and animal species that are either state or federally listed as rare, threatened or endangered or federal candidate species. DFG has tentatively identified 15 species of birds, 12 species of mammals, 5 fishes, 4 amphibian species, 6 reptile species, 9 insect species, 4 gastropod species, and 166 species of plants. Appendix 1 contains these lists.

Species found only in the Suisun Marsh and San Francisco Bay are not included in this list. Those species will be covered in testimony for those specific areas.

DFG recommends that the SWRCB directs its staff to provide DFG with information on the species in the attached lists. This information should be in sufficient detail to allow DFG to determine, as required in the CESA, whether the Board's decision would jeopardize the continued existence of any threatened or endangered species or result in the destruction or adverse modification of habitat essential to the continued existence of the species.

APPENDIX 1

BIRDS

<u>Species</u>	<u>Status</u>
Aleutian Canada Goose (<u>Branta canadensis leucopareia</u>)	FE
California Condor (<u>Gymnogyps californianus</u>)	SE,FE
Bald Eagle (<u>Haliaeetus leucocephalus</u>)	SE,FE
American Peregrine Falcon (<u>Falco peregrinus anatum</u>)	SE,FE
Swainson's Hawk (<u>Buteo swainsoni</u>)	ST,FC
Light-Footed Clapper Rail (<u>Rallus longirstris levipes</u>)	SE,FE
California Black Rail (<u>Laterallus jamaicensis coturniculus</u>)	ST,FC
California Least Tern (<u>Sterna albifrons browni</u>)	SE,FE
California Yellow-billed Cuckoo (<u>Coccyzus americanus occidentalis</u>)	ST,FC
Least Bell's Vireo (<u>Vireo bellii pusillus</u>)	SE,FE
Belding's Savannah Sparrow (<u>Passerculus sandwichensis beldingi</u>)	SE,FC
California Black-tailed Gnatcatcher (<u>Polioptila melanura californica</u>)	FC
Salt Marsh Yellowthroat (<u>Geothlypis trichas sinuosa</u>)	FC
Tricolored Blackbird (<u>Agelaius tricolor</u>)	FC
White faced ibis (<u>Plegadis chihi</u>)	FC

MAMMALS

<u>Species</u>	<u>Status</u>
San Joaquin antelope squirrel (<u>Ammospermophilus nelsoni</u>)	ST,FC
Mohave ground squirrel (<u>Spermophilus mohavensis</u>)	ST
Morro Bay kangaroo rate (<u>Dipodomys heermanni morroensis</u>)	SE,FE
Giant kangaroo rat (<u>Dipodomys ingens</u>)	SE,FC
Stephen's kangaroo Rat (<u>Dipodomys stephensi</u>)	ST
Fresno kangaroo rat (<u>Dipodomys nitratoides exilis</u>)	SE
Tipton kangaroo rat (<u>Dipodomys nitratoides nitratoides</u>)	FC
San Joaquin kit fox (<u>Vulpes macrotis mutica</u>)	ST,FE
San Joaquin pocket mouse (<u>Perognathus inornatus inornatus</u>)	FC
Riparian woodrat (<u>Neotoma fuscipes riparia</u>)	FC
Owens Valley vole (<u>Microtus californicus vallicola</u>)	FC
White eared pocket mouse (<u>Perognathus alticola alticole</u>)	FC

FISHES

<u>Species</u>	<u>Status</u>
Owens Tui Chub (<u>Gila bicolor snyderi</u>)	FE,SE
Owens Pupfish (<u>Cyprinodon radiosus</u>)	SE,FE
Unarmored Threespine Stickleback (<u>Gasterosteus sculeatus williamsonii</u>)	SE,FE
Tidewater Goby (<u>Eucyclogobius newberryi</u>)	FC
Lahontan Cutthroat Trout (<u>Salmo clarki henshawi</u>)	FT

AMPHIBIANS

<u>Species</u>	<u>Status</u>
Tehachapi Slender Salamander (<u>Batrachoseps stebbinsi</u>)	ST
Shasta Salamander (<u>Hydromantes shastae</u>)	ST
California Tiger Salamander (<u>Ambystoma tigrinum californiense</u>)	FC
Limestone Salamander (<u>Hydromantes brunus</u>)	FC,ST

REPTILES

<u>Species</u>	<u>Status</u>
Coachella fringe-toed lizard (<u>Uma inornatus</u>)	SE,FT
Blunt-Nosed leopard lizard (<u>Gambelia silus</u>)	SE,FE
Alameda striped racer (<u>Masticophis lateralis euryxanthus</u>)	ST
Giant Garter snake (<u>Thamnophis couchi gigas</u>)	ST
San Diego horned lizard (<u>Phrynosoma coronatum blainvillei</u>)	FC
Southern rubber boa (<u>Charina bottae umbratica</u>)	FC,ST

INSECTS

<u>Species</u>	<u>Status</u>
Morrison's blister beetle (<u>Lytta morrisoni</u>)	FC
Valley elderberry longhorn beetle (<u>Desmocerus californicus dimorphus</u>)	FT
Globose dune beetle (<u>Coelus glogosus</u>)	FC
Molestan blister beetle (<u>Lytta molesta</u>)	FC
Callippe silverspot (<u>Speyeria callippe callippe</u>)	FC
San Joaquin dune beetle (<u>Coelus gracilis</u>)	FC
White sand bear scarab beetle (<u>Lichnanthe albopilosia</u>)	FC
Langes metalmark (<u>Apodemia mormo lagei</u>)	FE
Delta green ground beetle (<u>Elaphrus viridus</u>)	FT

GASTROPODS

<u>Species</u>	<u>Status</u>
Keeled sideband snail (<u>Monadenia circumcarinata</u>)	FC
Shasta sideband snail (<u>Monadenia troglodytes</u>)	FC
California brackish water snail (<u>Tryonia imitator</u>)	FC
Banded dune snail (<u>Helminthoglypta walkeriana</u>)	FC

PLANTS

<u>Species</u>	<u>Status</u>
California vervain (<u>Verbena californica</u>)	FC
Greenes orcutt grass (<u>Tuctoria greenei</u>)	FC,SR
Caper fruited tropidocarpum (<u>Tropidocarpum capparideum</u>)	FC
Showy Indian clover (<u>Trifolium amoenum</u>)	FC
Laynes butterweed (<u>Senecio layneae</u>)	FC,SR
Bearded allocarya (<u>Plagiobothrys hystriculus</u>)	FC
Merced phacelia (<u>Phacelia ciliata</u> var <u>opaca</u>)	FC
Fleshy owls clover (<u>Orthocarpus compestris</u> var <u>succulentus</u>)	FC,SE
Hairy orcutt grass (<u>Orcuttia pilosa</u>)	FC,SE
San Joaquin Valley orcutt grass (<u>Orcuttia inaequalis</u>)	FC,SE
Colusa grass (<u>Neostapfia colusana</u>)	FC,SE
Merced monardella (<u>Monardella leucocephala</u>)	FC
<u>Monardella douglasii</u> var <u>venosa</u>)	FC
Shaggy hair lupine (<u>Lupinus spectabilis</u>)	FC
Congdons lomatium (<u>Lomatium congdonii</u>)	FC
Contra costa goldfields (<u>Lasthenia conjugens</u>)	FC

Red Bluff rush (<u>Juncus leiospermus</u> var <u>leiospermus</u>)	FC
Brewers dwarf flax (<u>Hesperolinon breweri</u>)	FC
Diablo rock rose (<u>Helianthella castanea</u>)	FC
Diamond petaled california poppy (<u>Eschscholtzia rhombipetala</u>)	FC
Tuolumne fawn lily (<u>Erythronium tuolumnense</u>)	FC
Spiny sepaled coyote thistle (<u>Eryngium spinosepalum</u>)	FC
Delta coyote thistle (<u>Eryngium racemosum</u>)	FC, SE
Mt. Diablo buckwheat (<u>Eriogonum truncatum</u>)	FC
Mt. Hamilton coreopsis (<u>Coreopsis hamiltonii</u>)	FC
Pallids birds beak (<u>Cordylanthus tenuis</u> ssp <u>pallescens</u>)	FC
Hispid birds beak (<u>Cordylanthus mollis</u> ssp <u>hispidus</u>)	FC
Beaked Clarkia (<u>Clarkia rostrata</u>)	FC
Merced Clarkia (<u>Clarkia lingulata</u>)	SE
Mariposa Clarkia (<u>Clarkia biloba</u> ssp <u>australis</u>)	FC
Red hills soaproot (<u>Chlorogalum grandiflorum</u>)	FC
Hoovers spurge (<u>Chamaesyce hooveri</u>)	FC
Hoovers calycadenia (<u>Calycadenis hooveri</u>)	FC
Pleasant Valley mariposa lily (<u>Calochortus clavatus</u> var <u>avius</u>)	FC

Chinese camp brodiaea (<u>Brodiaea pallida</u>)	FC,SE
Rawhide hill onion (<u>Allium sanbornii</u> var <u>tuolumnense</u>)	FC
Brauntons milk vetch (<u>Astragalus brauntonii</u>)	FC
Ventura marsh milk vetch (<u>Astragalus pycnostachyus</u> var <u>lonosissimus</u>)	FC
Coastal dunes milk vetch (<u>Astragalus tener</u> var <u>titi</u>)	FC,SE
Dunns mariposa lily (<u>Calochortus dunnii</u>)	FC,SR
Peirsons morning glory (<u>Calystegia peirsonii</u>)	FC
Slenderhorned centrostegia (<u>Centrostegia leptoceras</u>)	CE
San Fernando Valley chorizanthe (<u>Chorizanthe parryi</u> var <u>fernandina</u>)	FC
One awned spine flower (<u>Chorizanthe rectispina</u>)	FC
Salt marsh birds beak (<u>Cordylanthus maritimus</u> ssp <u>maritimus</u>)	FE,SE
Beach spectacle pod (<u>Dithyrea maritima</u>)	FC
Many stemmed dudleya (<u>Dudleya multicaulis</u>)	FC
Conejo dudleya (<u>Dudleya parva</u>)	FC
Verity's dudleya (<u>Dudleya verityi</u>)	FC
Conejo buckwheat (<u>Eriogonum crocatum</u>)	FC,SR
Mexican fremontia (<u>Fremontodendron mexicanum</u>)	FC,SR

Ojai fritillary (<u>Fritillaria ojaiensis</u>)	FC
San Gabriel Bed straw (<u>Galium grande</u>)	FC
Los Angeles sunflower (<u>Helianthus nuttallii</u> ssp <u>parishii</u>)	FC
Santa susana tarweed (<u>Hemizonia minthornii</u>)	FC,SR
Orcutts linanthus (<u>Linanthus orcuttii</u>)	FC
Nevins barberry (<u>Mahonia nevinii</u>)	CE
Carmel Valley malacothrix (<u>Malacothrix saxatilis</u> var <u>arachnoidea</u>)	FC
Gambels watercress (<u>Nasturtium gambelii</u>)	FC
Piute Mtns. navarretia (<u>Navarretia setiloba</u>)	FC
Short joint beavertail (<u>Opuntia basilaris</u> var <u>brachyclada</u>)	FC
Santa Barbara false lupine (<u>Thermopsis macrophylla</u> var <u>agnina</u>)	FC,SR
Long Valley milkvetch (<u>Astragalus johannis-howellii</u>)	CR
Fish Slough milk vetch (<u>Astragalus lentiginosus</u> var <u>piscinensis</u>)	FC
Mono milk vetch (<u>Astragalus monoensis</u>)	FC,SR
Inyo Co. Mariposa lily (<u>Calochortus excavatus</u>)	FC
July gold (<u>Dedeckera eurekaensis</u>)	FC,SR
Mono buckwheat (<u>Eriogonum ampullaceum</u>)	FC

Boggs Lake hedge hyssop (<u>Gratiola heterosepala</u>)	FC,SE
Mono Lake Lysine (<u>Lupinus duranii</u>)	FC
Nevada Oryctes (<u>Oryctes nevadensis</u>)	FC
Owens Valley checkermallow (<u>Sidalcea covillei</u>)	FC,SE
Mt. Tamalpias manzanita (<u>Arctostaphylos montana</u>)	FC
Bakers blennosperma (<u>Blennosperma bakeri</u>)	FC
Soft birds beak (<u>Cordylanthus mollis</u> sp <u>mollis</u>)	FC,CR
Adobe lily (<u>Fritillaria pluriflora</u>)	FC
Legenere (<u>Legenere limosa</u>)	FC
Fremonts calycadenia (<u>Calycadenia fremontii</u>)	FC
Silky cryptantha (<u>Cryptantha crinita</u>)	FC
Cantelows lewisia (<u>Lewisia cantelowii</u>)	FC
Heckners leiwisia (<u>Lewisia cotyledon</u> var <u>heckneri</u>)	FC
Slender Orcutt grass (<u>Orcuttia tenuis</u>)	FC,SE
Lost Hills salt bush (<u>Atriplex vallicola</u>)	FC
California caulanthus (<u>Caulanthus californicus</u>)	FC
Swamp sandwort (<u>Arenaria paludicola</u>)	FC

Thread leaved brodiaea (<u>Brodiaea filifolia</u>)	FC,SE
Orcutts brodiaea (<u>Brodiaea orcuttii</u>)	FC
Paysons caulanthus (<u>Caulanthus simulans</u>)	FC
Peirson's spring beauty (<u>Claytonia lanceolata</u> var <u>peirsonii</u>)	FC
San Gabriel Mtn. dudleya (<u>Dudleya densiflora</u>)	FC
Santa Ana River eriastrum (<u>Eriastrum densifolium</u> ssp <u>sanctorum</u>)	SE
Johnstons buckwheat (<u>Eriogonum microthecum</u> var <u>johnstonii</u>)	FC
California bedstraw (<u>Galium californicum</u> ssp <u>primum</u>)	FC
Parish's bush mallow (<u>Malacothamnus parishii</u>)	FC
Purple monkey flower (<u>Mimulus purpureus</u> var <u>purpureus</u>)	FC
Hall's Monardella (<u>Monardella macrantha</u> var <u>hallii</u>)	FC
Pringle's monardella (<u>Monardella pringlei</u>)	FC
Rock Creek broom rape (<u>Orobanche valida</u> ssp <u>valida</u>)	FC
San Bernadino owls clover (<u>Orthocarpus lasiorhynchus</u>)	FC
San Bernadino bluegrass (<u>Poa atropurpurea</u>)	FC
Parish's checkermallow (<u>Sidalcea hickmanii</u> ssp <u>parishii</u>)	FC,SR
Bakersfield salt bush (<u>Atriplex tularensis</u>)	SE
Vaseks clarkia (<u>Clarkia tembloriensis</u> ssp <u>calientensis</u>)	FC

Red rock tarweed (<u>Hemizonia arida</u>)	FC,SR
Comanche Point Layia (<u>Layia leucopappa</u>)	FC
Bakersfield cactus (<u>Opuntia basilaris</u> var <u>treleasei</u>)	FC
Tulare pseudobahia (<u>Pseudobahia piersonii</u>)	CE
Hickman's Onion (<u>Allium hickmanii</u>)	FC
Hearst's manzanita (<u>Arctostaphylos hookeri</u> ssp <u>hearstiorum</u>)	FC,SE
Mono manzanita (<u>Arctostaphylos morroensis</u>)	FC
Santa Margarita manzanita (<u>Arcotosptaphylos pilosula</u> ssp <u>pilosula</u>)	FC
Shagbark manzanita (<u>Arctostaphylos rudis</u>)	FC
Silver leaved manzanita (<u>Arctostaphylos silvicola</u>)	FC
Dwarf golden star (<u>Bloomeria humilis</u>)	FC,SR
Arroyo de la Cruz mariposa lily (<u>Calochortus clavatus</u> ssp <u>recurvifolius</u>)	FC
San Luis mariposa lily (<u>Calochortus obispoensis</u>)	FC
Hardham's evening primrose (<u>Camissonia hardhamiae</u>)	FC
Soft leaved paint brush (<u>Castilleja mollis</u>)	FC
Hearst's ceanothus (<u>Ceanothus hearstiorum</u>)	FC,SR
Maritime ceanothus (<u>Ceanothus maritimus</u>)	FC,SR
Brewer's chorizantho (<u>Chorizantho breweri</u>)	FC

Charro Creek bog thistle (<u>Cirsium fontinale</u> var <u>obispoense</u>)	FC
La graciosa thistle (<u>Cirsium loncholepis</u>)	FC
Compact Cobweb thistle (<u>Cirsium occidentale</u> var <u>compactum</u>)	FC
Surf thistle (<u>Cirsium rhotophilum</u>)	FC
Pismo Clarkia (<u>Clarkia speciosa</u> ssp <u>immaculata</u>)	FC,SR
Pt. Reyes birds beak (<u>Cordylanthus maritimus</u> ssp <u>palustris</u>)	FC
San Luis serpentine dudleya (<u>Dudleya bettinae</u>)	FC
Indian knob mountain balm (<u>Eriodictyon altissimus</u>)	FC,SE
San Benito fritillary (<u>Fritillaria viridea</u>)	FC
Hardham's bedstraw (<u>Galium hardhamiae</u>)	FC
Jones layia (<u>Layia jonesii</u>)	FC
San Luis lupine (<u>Lupinus ludovicianus</u>)	Fc
Nipoma mesa Lupine (<u>Lupinus nipomensis</u>)	SE
Crisp monardella (<u>Monardella crispa</u>)	FC
San Luis Obispo manardella (<u>Manardella undulata</u> var <u>frutescens</u>)	FC
Short lobed broom rape (<u>Orobanche parishii</u> ssp <u>brachyloba</u>)	FC
Dudley's lousewort (<u>Pedicularis dudleyi</u>)	SR
Adobe sanicle (<u>Sanicula maritima</u>)	FC,SR

Cuesta Pass checker mallow (<u>Sidalcea hickmanii</u> ssp <u>anomala</u>)	FC,SR
Stebbins morning glory (<u>Calystegia stebbinsii</u>)	FC,SE
Contra Costa wall flower (<u>Erysimum capitatum</u> var <u>angustatum</u>)	FE,SE
Pine hill flannel bush (<u>Fremontodendron decumbens</u>)	FC,SR
Fragrant fritillary (<u>Fritillaria liliacee</u>)	FC
El Dorado Bedstraw (<u>Galium californicum</u> ssp <u>sierrae</u>)	FC,SR
Bibbee Peak rushrose (<u>Helianthemum suffrutescens</u>)	FC
Antioch dunes evening primrose (<u>Oenothera deltoides</u> var <u>howelii</u>)	FE,SE
Sacramento Orcutt grass (<u>Orcuttia viscida</u>)	FC,SE
Mucronate orcutt grass (<u>Tuctoria mucronata</u>)	FE,SE
El Dorado Co. mule ears (<u>Wyethia reticulata</u>)	FC
Mosquins Clarkia (<u>Clarkia mosquinii</u> ssp <u>mosquinia</u>)	FC
Shippee meadow foam (<u>Limnanthus floccosa</u> ssp <u>californica</u>)	FC,SE
Butte Co. checkermallow (<u>Sidalcea robusta</u>)	FC
San Francisco champion (<u>Silene verecunda</u> ssp <u>verecunde</u>)	FC
Indian Valley brodiaea (<u>Brodiaea coronaria</u> ssp <u>rosea</u>)	FC,SE
Brandegee's eriastrum (<u>Eriastrum brandegeae</u>)	FC
Tracy's eriastrum (<u>Eriastrum tracyi</u>)	FC,CR

Snow Mountain buckwheat (<u>Eriogonum nervulosum</u>)	FC
Kaweah brodiaea (<u>Brodiaea insignis</u>)	FC,SE
Tree anemone (<u>Carpenteria californica</u>)	SR
Mouse buckwheat (<u>Eriogonum nudum</u> var <u>murinum</u>)	FC
Spiny Sepaled coyote thistle (<u>Eryngium spinosepalum</u>)	FC
Striped Adobe lily (<u>Fritillaria striata</u>)	SE
Orange lupine (<u>Lupinus citrinus</u>)	FC
Kaweah monkey flower (<u>Mimulus norrisii</u>)	FC
Kecks checkermallow (<u>Sidalcea keckii</u>)	FC