RECLAMATION
Managing Water in the West

DRAFT
ENVIRONMENTAL ASSESSMENT
AND
FINDING OF NO SIGNIFICANT IMPACT

ACQUISITION OF SITE 902
SUISUN MARSH, SOLANO COUNTY, CALIFORNIA

U.S. Department of the Interior
Bureau of Reclamation
Mid Pacific Region
Sacramento, California

February 2009

United States Department of Interior
Bureau of Reclamation
Mid-Pacific Region
Sacramento, CA

FINDING OF NO SIGNIFICANT IMPACT

ACQUISITION OF SITE 902
SUISUN MARSH, SOLANO COUNTY, CALIFORNIA

Recommended: _____

Natural Resources Specialist — Date
Mid-Pacific Regional Office

Concur: _____

Project Management Branch Chief — Date
Mid-Pacific Regional Office

Approved: _____

Regional Resources Manager — Date
Mid-Pacific Regional Office

Finding of No Significant Impact

ACQUISITION OF SITE 902,
SUISUN MARSH, SOLANO COUNTY, CALIFORNIA

The U.S. Bureau of Reclamation (Reclamation) proposes to provide funding to the State of California Department of Water Resources (DWR) for the purchase of individual ownership 902 in Suisun Marsh, Solano County, California. Title will be transferred to the State of California and the lands held and managed by DWR. The property will be protected in perpetuity to provide habitat with multi-species benefits, including those for federally listed species associated with the property.

A draft environmental assessment (EA) was prepared that evaluates the potential environmental impacts, beneficial and adverse, associated with the proposed action and a no action alternative. The draft EA is attached for reference.

In accordance with the National Environmental Policy Act of 1969, as amended, Reclamation has found that the approval of the proposed action will not result in a significant adverse impact on the environment. Therefore, an environmental impact statement is not required. Reclamation's finding that implementation of the proposed action will result in no significant impact to the quality of the human environment is supported by the following factors:

1. Existing land and water management will not change. The exterior levee is currently breached and tidal inundation of the site occurs daily. This property has frequently and will continue to flood with or without the proposed action.

2. Reclamation is completing Endangered Species Act (ESA) Section 7 informal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed action. Service concurrence with Reclamation's determination that the Proposed Action is not likely to adversely affect any special status species or critical habitats will be obtained prior to finalization of the EA and Finding of No Significant Impact (FONSI).

3. Because the proposed action would not involve land or water management changes, and the property is currently subject to tidal inundation, the proposed action will not have significant impacts to water quality. With a significant portion of Property 902 at intertidal elevation, this property is expected to sustain rapid colonization of emergent vegetation that will mediate intertidal water exchange that would otherwise promote salinity mixing. Thus, it is anticipated that future tidal inundation of the site will have insignificant impacts on Delta salinities.

4. The proposed undertaking will not involve any ground-disturbing activities and will not change inundation or drainage patterns; therefore, no impacts to cultural resources will occur as a result of the proposed action. The proposed undertaking is not the type of activity that has the

potential to affect historic properties as defined in the regulations at 36 CFR Part 800.3(a)(1). As a result, Reclamation has no further obligations under Section 106 of the NHPA.

5. The proposed action will not affect any Indian Trust Assets.

6. Implementing the proposed action will not disproportionately affect minorities or low-income populations and communities.

7. The proposed action will not result in any land or water management changes and will not significantly contribute to a cumulative impact on any resource category.

DRAFT
ENVIRONMENTAL ASSESSMENT

ACQUISITION OF SITE 902,
SUISUN MARSH, SOLANO COUNTY, CALIFORNIA

U.S. Department of the Interior
BUREAU OF RECLAMATION
Mid-Pacific Regional Office
Sacramento, California

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1. Introduction

In 1971, the State Water Resources Control Board (SWRCB) adopted Water Right Decision 1379, which rescinded D-1275 and D-1291, and established new water quality requirements for the Delta and Suisun Marsh. In August 1978, the SWRCB issued Water Right Decision 1485 (D-1485), which established conditions on the water rights permits of the U.S. Bureau of Reclamation (Reclamation) for the Central Valley Project (CVP) and of the California Department of Water Resources (DWR) for the State Water Project (SWP). Order Number 7 of D-1485 included three elements which provide for the protection of the Suisun Marsh (Marsh) and required the permittees (DWR and Reclamation) to develop a plan in cooperation with other agencies that would ensure that the water quality standards adopted by the State Water Quality Control Board for full protection of the Marsh are met. The first element required the development of a plan that must include appropriate environmental documentation, a water quality monitoring network, physical facilities, operation and management procedures, and assurance to restore and maintain the Marsh as a brackish water marsh capable of producing high quality feed and habitat for waterfowl and other Marsh–related wildlife when suitable management practices are followed. The second element required the full implementation of the plan and its water quality standards by October 1, 1984. The third element was construction of the initial facilities in the Marsh. These were constructed to comply with the requirements of D-1485, the Plan of Protection for the Suisun Marsh and its accompanying Environmental Impact Report, which was completed in February, 1984. The Plan of Protection presented an approach for the construction and evaluation of additional water conveyance facilities, in addition to the initial facilities, to meet the water quality standards for the Marsh.

In December 1978, the Suisun Resource Conservation District (SRCD) (representing the Suisun Marsh private landowners), the California Department of Fish and Game (DFG), signed a contract with DWR to provide partial mitigation for the effects of increased salinity levels of water available to certain managed wetlands. This partial mitigation was to be achieved through the construction of certain initial facilities that would be operated and considered in the development of the Plan of Protection. These initial facilities included the Roaring River Distribution System, the Morrow Island Distribution System, the Goodyear Slough Outfall facility and the establishment of a Marsh-wide network of water quality monitoring compliance stations. These facilities were the foundation of the Plan of Protection for achieving established water quality objectives and protecting the beneficial uses of the Marsh. In 1980, Reclamation received Federal authorization to participate in an agreement to mitigate for the adverse effects of the CVP on the Marsh. In 1988, Phase II of the Plan of Protection was implemented with the construction of the Suisun Marsh Salinity Control Gates.

In March 1987, SRCD, DFG, Reclamation and DWR negotiations culminated in the signing of the Suisun Marsh Preservation Agreement (SMPA). Concurrently, DFG, DWR and Reclamation also signed the Suisun Marsh Monitoring Agreement and the Suisun Marsh Mitigation Agreement. The primary objective of the SMPA was to assure that a dependable water supply was maintained to mitigate the adverse effects on the Marsh of the CVP and SWP and a portion of adverse effects of upstream diversions. This agreement also defines Marsh water quality standards similar to D-1485, with the exception of variance in these standards in a series of dry

and critical water years. These increases in salinity during dry periods as defined by the SMPA are known as Deficiency Standards. Under the SMPA, Reclamation is a cost sharing partner with DWR for the planning, design, construction and operation and maintenance of the Initial Facilities.

One of the Initial Facilities is Morrow Island Distribution System (MIDS). MIDS was constructed primarily to channel drainage water from the adjacent managed wetlands for discharge into Suisun Slough and Grizzly Bay. This approach increases circulation and reduces salinity in Goodyear Slough (GYS). In 1997, DWR performed a maintenance dredging project at MIDS.

The U.S. Fish and Wildlife Service (Service) issued biological opinion (BO) 1-1-96-F-84 for effects of the project for maintenance dredging of this interior (non-tidal) channel on the endangered salt marsh harvest mouse (*Reithrodontomys raviventris halicoetes*), the threatened delta smelt (*Hypmesus transpacificus*), its critical habitat, and the proposed as threatened Sacramento splittail (*Pogonichthys macrolepidotus*), which is currently reclassified as a species of special concern. The Terms and Conditions of the Incidental Take Statement in the BO were implemented with one exception. To minimize take of special status fish species, nondiscretionary Term and Condition 3 of the Incidental Take Statement in the BO required the installation of a fish screen on the Goodyear Slough diversion structure. In June 1997, the Service approved Reclamation's requested amendment to the BO to allow additional time to design and obtain permits for the fish screen, or to develop a Service approved conservation alternative. Subsequent time extensions from the Service have been granted both informally and formally.

In September 2004, DWR began a two-year fish entrainment study at the MIDS intake. This study was designed, in coordination with Service and National Marine Fisheries Service (NOAA Fisheries) staff, to evaluate the entrainment losses of special status fishes at the MIDS intake. During development and implementation of this study, informal approval was given to extend compliance with Term and Condition 3 until completion of the diversion study. A final report was completed and submitted to the Service and NMFS in June 2007. The MIDS study found that entrainment of federally listed special status fishes was exceptionally low (2 Chinook salmon and no delta smelt). Consequently, screening MIDS would likely have negligible benefits to sensitive fish populations.

Fish screens are expensive to install and maintain, especially in the corrosive tidal environment of the brackish Suisun Marsh, and evidence suggests that diversions in backwater areas such as the Marsh have low or no impact on fish populations. A fish screen installed in a low energy slough would require periodic maintenance dredging, which would in turn be potentially detrimental to aquatic habitat. Therefore, due to the low special status species entrainment in conjunction with the high cost and low species benefits of fish screen installation, Reclamation is proposing an alternative conservation measure to fulfill the remaining obligation under Term and Condition 3 of the BO. This alternative is expected to yield multiple benefits for multiple species through food web augmentation as well as enhancement and expansion of tidal marsh habitat in a region of the Marsh that will result in greater net benefits than fish screen installation. Property 902 is near Chipps Island, the location of X2, and Honker Bay.

Reclamation proposes acquisition of Individual Ownership 902 in the Marsh to meet Term and Condition 3 of the referenced BO. Individual Ownership 902 is an approximately 130 acre parcel located in the southeast portion of the Marsh along Honker Bay (Figure 1). Title would be acquired by the State of California and the lands would be held by DWR. Reclamation would provide partial funding for the acquisition of the property, which would be protected in perpetuity to benefit the special status species associated with the property.

1.1Purpose and Need

Reclamation has an outstanding obligation under Term and Condition 3 of the Incidental Take Statement in BO 1-1-96-F-84, as amended, to install a fish screen at the Morrow Island Distribution System intake structure or implement a Service approved alternative conservation measure. The purpose of Reclamation's proposed contribution of funding for DWR's acquisition of Property 902 would be to fulfill the outstanding obligation by implementing an alternative conservation measure of acquiring and protecting in perpetuity aquatic habitat for special status fish species impacted by MIDS maintenance activities.

2. ALTERNATIVES

2.1. NO ACTION

Under the no action alternative, Reclamation would not provide Federal funds towards the acquisition of Property 902. The property would not be acquired by the State of California. The exterior levee was breached in 2005, repaired in 2006, and breached again in 2007. The exterior levee is currently breached and tidal inundation of the site occurs daily. It is uncertain whether or not it would be economically sustainable for the current landowner to continue to repair levee breaches and return to managing the site as seasonal wetland for waterfowl use. Therefore, the no action would likely result in intermittent, leading to likely permanent, tidal inundation of the property.

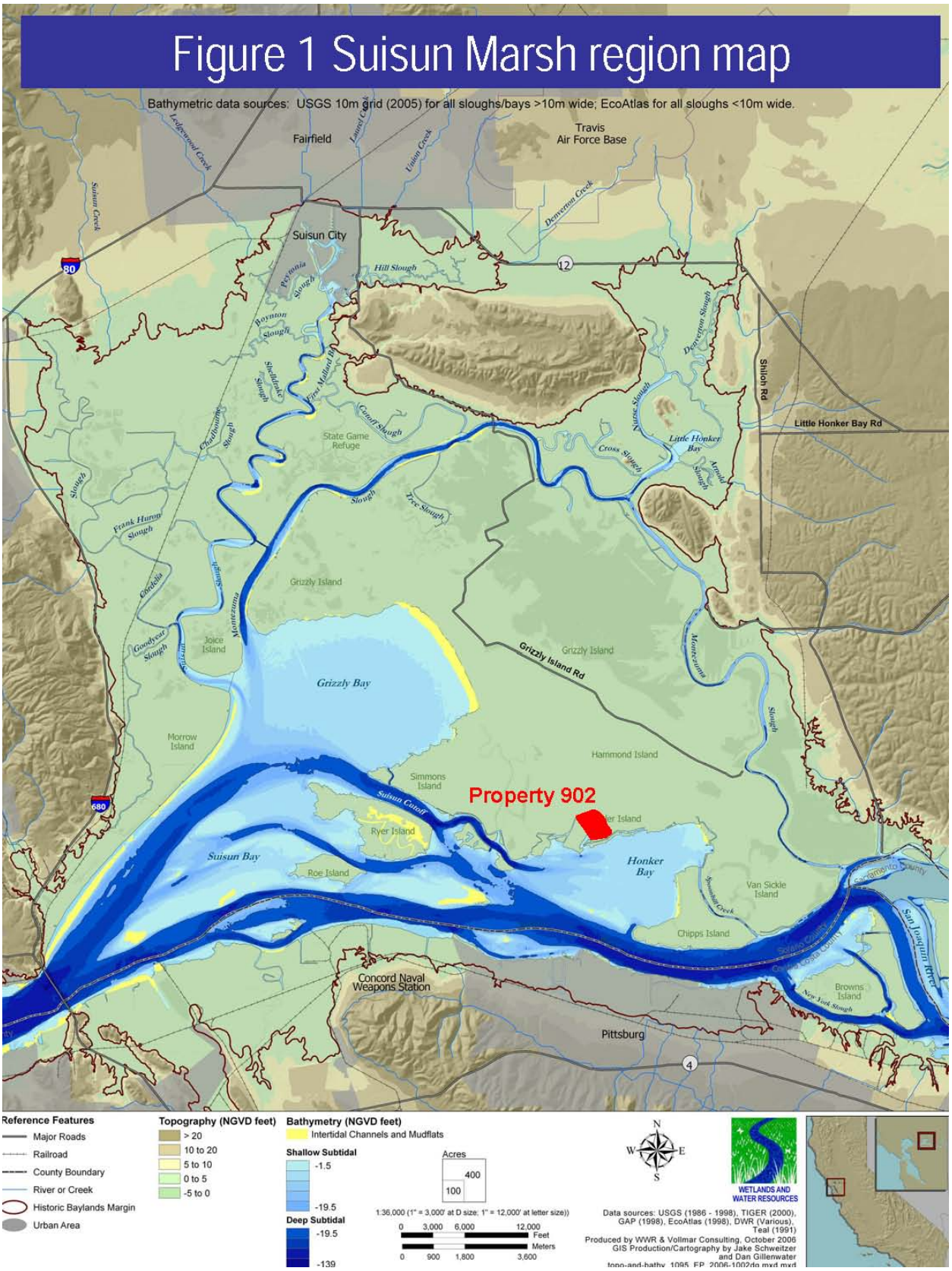
Figure 1 Suisun Marsh region map
Bathymetric data sources: USGS 10m grid (2005) for all sloughs/bays >10m wide; EcoAtlas for all sloughs <10m wide.
Fairfield
Travis Air Force Base
Suisun City
Hill Slough
State Game Refuge
Grizzly Island
Grizzly Bay
Joice Island
Morrow Island
Simmons Island
Ryer Island
Roe Island
Suisun Bay
Suisun Cutoff
Property 902
Honker Bay
Hammond Island
Van Sickle Island
Chipps Island
Browns Island
Concord Naval Weapons Station
Pittsburg
Little Honker Bay
Little Honker Bay Rd
Shiloh Rd
Grizzly Island Rd
Reference Features
Major Roads
Railroad
County Boundary
River or Creek
Historic Baylands Margin
Urban Area
Topography (NGVD feet)
> 20
10 to 20
5 to 10
0 to 5
-5 to 0
Bathymetry (NGVD feet)
Intertidal Channels and Mudflats
Shallow Subtidal
-1.5
-19.5
Deep Subtidal
-19.5
-139
Acres
400
100
1:36,000 (1" = 3,000' at D size; 1" = 12,000' at letter size))
0 3,000 6,000 12,000 Feet
0 900 1,800 3,600 Meters
N
W
E
S
WETLANDS AND WATER RESOURCES
Data sources: USGS (1986 - 1998), TIGER (2000), GAP (1998), EcoAtlas (1998), DWR (Various), Teal (1991)
Produced by WWR & Vollmar Consulting, October 2006
GIS Production/Cartography by Jake Schweitzer and Dan Gillenwater
topo-and-bathy_1095_FP_2006-1002dg.mxd.mxd

2.2 PROPOSED ACTION

Reclamation proposes providing funding for DWR's acquisition of Individual Ownership 902 in the Marsh to meet Term and Condition 3 of the referenced BO. Property 902 is an approximately 130 acre parcel located in the southeast portion of the Marsh along Honker Bay. DWR would provide the additional funding to acquire the property. Fee Title would be acquired by the State of California and the land would be held by DWR for the benefit of special status species associated with the property. DWR would pursue additional outside funding for any biological monitoring required by regulatory agencies.

3. Affected Environment and Environmental Consequences

3.1 Land and Water Use

Affected Environment

Historically, the Suisun Bay and Marsh included about 68,000 acres of tidal wetlands. From the mid-1880s to the early 1900s, over 90 percent of these wetlands were reclaimed for agriculture. Agricultural production and success was limited due to increased salinity in the Suisun Bay/Marsh region. Today, most of the levees originally constructed for agricultural reclamation now form part of the infrastructure for managing water levels in seasonal nontidal (managed) wetlands.

Property 902 is an approximately 130 acre parcel located in the southern Marsh adjacent to Honker Bay. The property is bordered on the west by Property 901, on the east by Property 903, on the north by Property 807, and on the south by Honker Bay (Figure 2). Property 901 had an exterior levee breach in 1998. Property 903 has 2,730 lineal feet of interior levee which borders Property 902 on the east side, and 1,790 lineal feet of interior levee which borders Property 807 on the north side.

Property 902 has 4,660 lineal feet (about 1 mile) of exterior levees. The exterior levees are within jurisdiction of Reclamation District 2130, and qualify for funding under the AB 360 levees program. Portions of the exterior levee on Property 902 have overtopped and breached several times over the last five years. In January of 2006 the exterior levees on Reclamation District 2130 suffered significant damage, and a significant breach occurred on Property 902. Numerous attempts were made to repair the levee in 2006 and the levee was finally repaired in the fall of 2006. On January 4th, 2008 (Figure 2) the exterior levee failed again at a new location. The exterior levee is currently breached and tidal inundation of the site occurs daily. Due to the level of levee system disrepair and the exorbitant cost of improving the levees, future failures are a virtual certainty.

No Action

It is uncertain whether or not it would be economically sustainable for the current landowner to continue to repair levee breaches and return to managing the site as seasonal wetland for waterfowl use. Therefore, the no action would likely result in intermittent, and possibly permanent, tidal inundation of the property.

Proposed Action
Under the proposed action, the property would be held in fee title by the State of California and the land would be held and protected by DWR in perpetuity for the benefit of special status species associated with the property.

3.2 Vegetation and Wildlife

Affected Environment
The loss of natural flows and topographic features has led to the loss of significant tidal marsh habitats in the Suisun Marsh, including a reduction of natural tidal sloughs and emergent tidal wetlands. These habitats are critical spawning and rearing habitats for many aquatic species, including federal special status species, such as delta smelt, as well as State special status species, such as longfin smelt (*Spirinchus thaleichthys*). The loss of tidal access has hindered the ecological processes and functions critical for sustaining a healthy aquatic ecosystem and has created a lack of support for the Bay-Delta aquatic foodweb, contributing to unhealthy fish populations.

These natural sloughs also provided important nesting and feeding habitat for avian species. Much of the remaining Suisun Marsh tidal acreage is fragmented and reduced to narrow strips between sloughs and levees and lacks any adjacent upland transition habitat. Reduction and fragmentation of marsh habitats has resulted in reduced populations of California black rail, salt marsh harvest mouse, and rare plants dependent on high tidal marsh and adjacent upland transition including Suisun thistle (*Cirsium hydrophilum var. hydrophilum*), soft bird's beak (*Cordylanthus mollis ssp. Mollis*), salt marsh bird's beak (*Cordylanthus maritimus ssp. Maritimus*), hispid bird's beak (*Cordylanthus mollis ssp. Hispidus*), delta tule pea (*Lathyrus jepsonii var. jepsonii*), Mason's lilaeopsis (*Lilaeopsis masonii*), Suisun Marsh aster (*Aster lentus*), alkali milk vetch (*Astragalus tener*), heartscale (*Atriplex cordulata*), brittlescale (*Atriplex depressa*), and valley spearscale (*Atriplex joaquniana*).

Property 902 lies adjacent to Honker Bay, a shallow estuarine shoal that has been shown to be part of an important low-salinity rearing area for several fishes including longfin smelt and delta smelt (Bennett et al. 2002). The spatial position of the estuary's low-salinity nursery habitat is regulated using "X2", the distance from the Golden Gate Bridge to where average salinity is 2 parts per thousand.

The current land elevation estimate from 2005 LiDAR data ranges indicates that about half the property is subtidal (0.01-0.9 ft) and half is intertidal (1.0 – 1.6 ft) (Figure 3). LIDAR surveys indicate that current elevations of this property make it a good candidate for tidal restoration. In addition, the current property owner reported that it is of an elevation such that dewatering would occur at low tide, supporting the establishment of emergent tidal wetland vegetation.

Wetland communities on the Property 902 site include freshwater and some brackish marsh areas. Dominant plant species recorded by DWR's 1999 vegetation map include: tule, California bulrush, alkali bulrush, three-corner bulrush, narrow leaved cattail, broad leaved cattail, pickleweed), and saltgrass. Vegetation is currently managed by applied water manipulations, mowing, discing, and by application of herbicides to control non-native invasive plant species. Suitable habitat conditions for the delta tule pea are present along the tidal fringe

habitat adjacent to levees on the slough side.

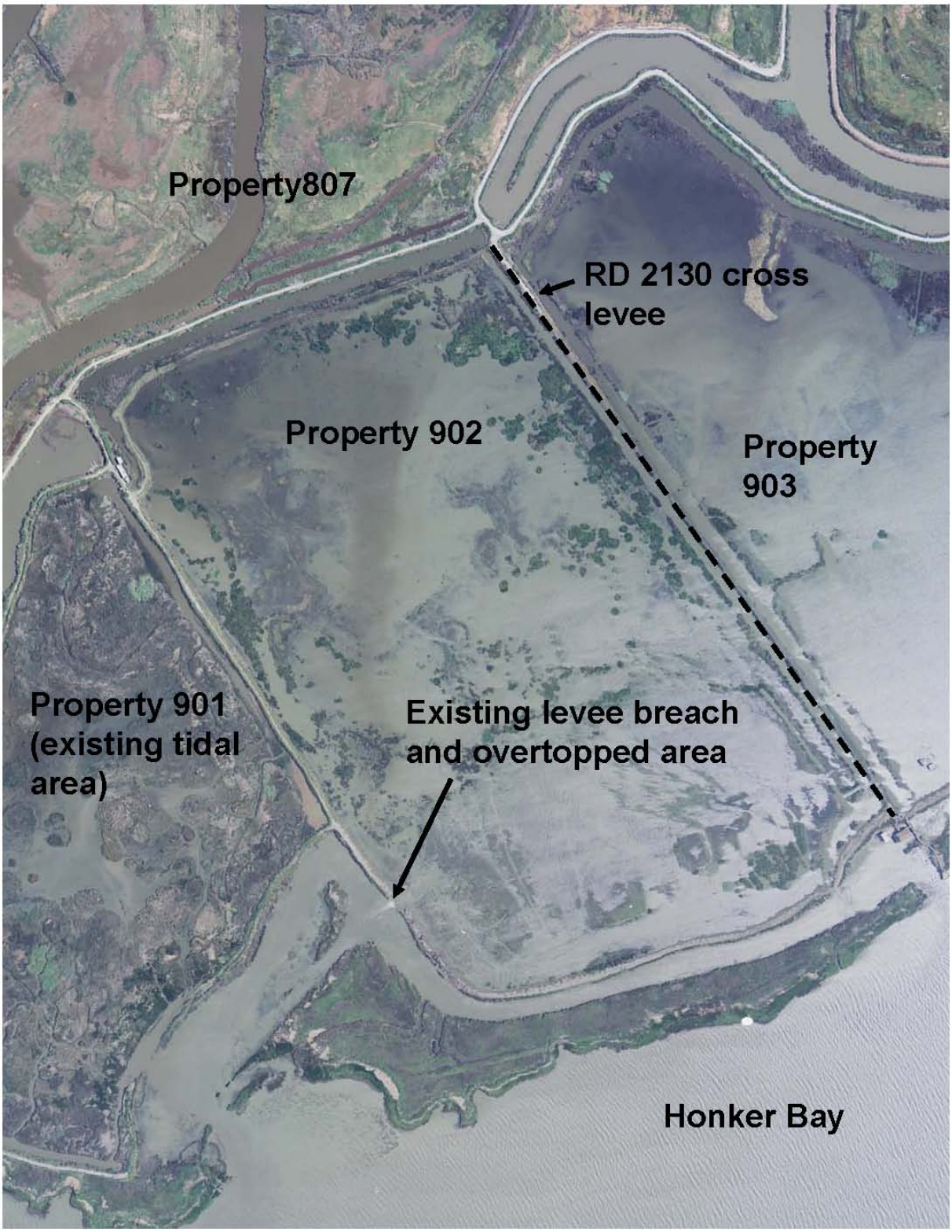

Figure 2. Property 902 and adjacent features.

A list of federally listed, proposed and candidate species potentially occurring in the project area was obtained on August 21, 2008 by accessing the U.S. Fish and Wildlife (FWS) Database (Appendix A). An updated list was obtained on January 28, 2009. The following special status species have the potential to occur in the project area.

Salt marsh harvest mouse (SMHM) are dependent on the thick, perennial cover of salt marshes and move in the adjacent grasslands only in the spring and summer when the grasslands provide maximum cover (Fisler, 1965). Their preferred habitats are the middle and upper portions of salt marshes; i.e., the pickleweed and peripheral halophyte zones and similar vegetation in diked wetlands adjacent to the bay (Shellhammer et al., 1982, 1988). Suitable SMHM habitat has been identified in the area of the acquisition. However, Property 902 is currently and has been subject to tidal inundation since January 2008.

The California clapper rail occurs primarily in emergent salt and brackish tidal marshlands of San Francisco Bay. Preferred habitat is subject to direct tidal circulation and is characterized by predominant coverage by pickleweed (*Salicornia virginica*) with extensive stands of Pacific cordgrass (*Spartina foliosa*) and, in the North Bay, *Scirpus robustus*, abundant high marsh cover, and an intricate network of tidal sloughs which provide abundant invertebrate populations (Harvey, 1988, Collins et al., 1994) as well as escape routes from predators (Zembal and Massey 1983, Foerster et al., 1990). DWR conducted clapper rail surveys throughout the Marsh between 1991 and 1994. During this period clapper rails were detected at several locations in the western marsh. However, no rails were detected east of Suisun Bay (DWR 1994). In 2002 DFG conducted clapper rail surveys throughout the Marsh. No clapper rails were detected in the vicinity of the proposed action (DFG 2003).

The California black rail prefers *Salicornia*-dominated marsh habitat (Cogswell and Christman, 1977). It is also known to occur in fresh, brackish, and salt marshes (Erhlich et al., 1988). In their survey of the San Francisco Bay during breeding seasons from 1986-88, Evens et al. (1991) found the birds occurred almost exclusively in marshlands with unrestricted tidal influence. This study found very few birds associated with diked wetlands, impounded, or partially tidal marshes. Moreover, Evens and his colleagues found that rails during the breeding season were almost exclusively associated with more mature, higher elevation marshes dominated by *Scirpus* and *Salicornia*. Breeding birds were often associated with marshes that had significant amounts of *Schoenoplectus* spp. Subsequent field work indicates that seasonal wetlands with muted tidal flow, especially those adjacent to tidally influenced marshes, may be utilized by rails in “wet” years when precipitation occurs late in the season and hydrates the substrate of marshes isolated from tidal influence, but supporting a dense cover of salt marsh vegetation; i.e., *Salicornia* (Evens, 2000). Black rail habitat is present in the proposed action area, but no black rails have been identified in the vicinity of the proposed action.

Delta smelt are listed as threatened under ESA. Critical habitat is designated from the Delta into the Sacramento River. Estuarine rearing habitat for juvenile and adult delta smelt is found throughout the waters of the lower Delta and Suisun Bay, where salinity is between 2 and 7 ppt. Delta smelt tolerate 0–19 ppt salinity. They typically occupy open shallow waters but also occur in the main channel in the region where fresh and brackish water mix. The zone may be

hydraulically conducive to their ability to maintain position and metabolic efficiency.

No Action
Under the no-action alternative, DWR and Reclamation would not acquire Property 902. It is uncertain whether or not it would be economically sustainable for the current landowner to continue to repair levee breaches and return to managing the site as seasonal wetland for waterfowl use. Therefore, the no action would likely result in intermittent, and possibly permanent, tidal inundation of the property.

Proposed Action
Springtime water management attempts to position X2 in the vicinity of the proposed land purchase. Thus, key native species like longfin smelt and delta smelt would have ready access to the site, or invertebrate productivity derived from the site, if connected to Honker Bay. This proposal provides an opportunity for expansion of aquatic habitat and increased primary productivity and food web support in a key location of the estuary immediately adjacent to X2.

Property 902 is also adjacent to a 78-acre parcel (Property 901) that has been open to tidal action for 10 years. Since the levee breached on Property 901, it has developed into a brackish emergent marsh (Figure 3). Given its location along the bay, it is likely that 902 would develop into similar habitat. Acquisition of property 902 would result in a 198-acre contiguous patch of restored tidal marsh, plus significant existing remnant fringing tidal marsh in the immediate vicinity.

The acquisition of the property under the proposed action would not adversely affect any special status species. The proposed action includes providing funding for acquisition only, with no changes in land or water management, and as the property is currently subject to tidal inundation, the proposed action would not adversely affect SMHM. The property would be protected in perpetuity to provide habitat with multi-species benefits, including those for federally listed species such as delta smelt.

Reclamation is completing ESA Section 7 informal consultation with the Service on the proposed action. Reclamation is also requesting an amendment to BO 1-1-96-F-84, as amended, to recommend the acquisition and protection of this site in perpetuity as an alternative conservation measure to fulfill Term and Condition 3 of the BO. Service concurrence with Reclamation's determination that the Proposed Action is not likely to adversely affect any special status species or critical habitats will be obtained prior to finalization of this EA.

3.3 Water Quality
Affected Environment
The reclamation of tidal wetlands has reduced the tidal prism and affected water quality in the Sacramento-San Joaquin Delta. The physical geometry and vegetation assemblages of the pre-altered Suisun Marsh likely created conditions which dissipated tidal range and reduced salinity intrusion in Suisun Bay and the Delta. Removal of lands from tidal action has increased the tidal prism and induced salt mixing.

No Action
It is uncertain whether or not it would be economically sustainable for the current landowner to continue to repair levee breaches and return to managing the site as seasonal wetland for waterfowl use. Therefore, the no action would likely result in intermittent, and possibly permanent, tidal inundation of the property.

Hydrodynamic modeling of tidal restoration of parcels in this region of the Marsh has shown significant potential to impact salinities in the western and southern Delta. However, with a significant portion of Property 902 at intertidal elevation, this property is expected to sustain rapid colonization of emergent vegetation that would mediate intertidal water exchange that would otherwise promote salinity mixing. Thus, it is anticipated that future tidal inundation of the site would have insignificant impacts on Delta salinities.

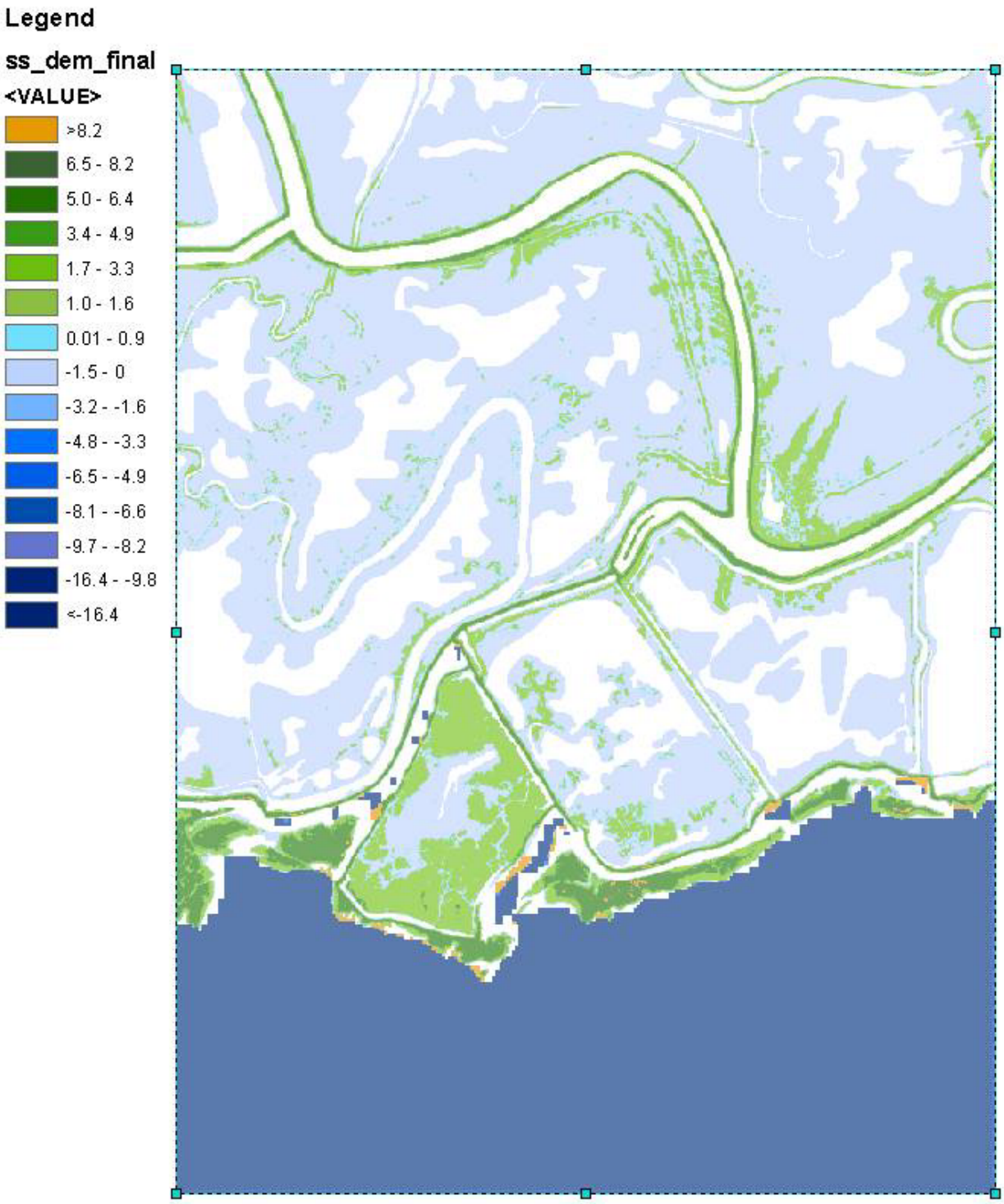

FIGURE 3

LAND ELEVATIONS FOR PROPERTIES 901 AND 902 FROM 2005 LiDAR DATA

Proposed Action
The proposed action would have potential water quality impacts similar to those described under the no action alternative.

3.4 Cultural Resources

Affected Environment
Cultural resources is a term used to describe both 'archaeological sites' depicting evidence of past human use of the landscape and the 'built environment' which is represented in structures such as dams, roadways, and buildings. The National Historic Preservation Act (NHPA) of 1966 is the primary Federal legislation which outlines the Federal Government's responsibility to cultural resources. Section 106 of the NHPA requires the Federal Government to take into consideration the effects of an undertaking on cultural resources listed on or eligible for inclusion in the National Register of Historic Places (National Register). Those resources that are on or eligible for inclusion in the National Register are referred to as historic properties.

The Section 106 process is outlined in the Federal regulations at 36 CFR Part 800. These regulations describe the process that the Federal agency (Reclamation) takes to identify cultural resources and the level of effect that the proposed undertaking will have on historic properties. In summary, Reclamation must first determine if the action is the type of action that has the potential to affect historic properties. If the action is the type of action to affect historic properties, Reclamation must identify the area of potential effects (APE), determine if historic properties are present within that APE, determine the effect that the undertaking will have on historic properties, and consult with the State Historic Preservation Office (SHPO), to seek concurrence on Reclamation's findings. In addition, Reclamation is required through the Section 106 process to consult with Indian Tribes concerning the identification of sites of religious or cultural significance, and consult with individuals or groups who are entitled to be consulting parties or have requested to be consulting parties.

No Action
Under the No Action Alternative, there will be no impacts to historic properties since there would be no action. Conditions related to historic properties would remain the same as existing conditions.

Proposed Action
Acquisition of Site 902 as described in the proposed action is administrative in nature and would not result in physical changes to current land use or additional surface disturbance. Therefore, the proposed action has no potential to affect historic properties pursuant to 36 CFR Part 800.3(a)(1).

3.5 Indian Trust Assets

Indian Trust Assets (ITAs) are legal interests in property or rights held in trust by the United States for Indian Tribes or individuals. Trust status originates from rights imparted by treaties, statutes, or executive orders. These rights are reserved for or granted to tribes. A defining characteristic of an ITA is that such assets cannot be sold, leased, or otherwise alienated without Federal approval.

Indian reservations, rancherias, and allotments are common ITAs. Allotments can occur both within and outside of reservation boundaries and are parcels of land where title is held in trust for specific individuals. Additionally, ITAs include the right to access certain traditional use areas and perform certain traditional activities.

It is Reclamation policy to protect ITAs from adverse impacts of its programs and activities whenever possible. Types of actions that could affect ITAs include an interference with the exercise of a reserved water right, degradation of water quality where there is a water right, impacts on fish and wildlife where there is a hunting or fishing right, or noise near a land asset where it adversely affects uses of the reserved land.

Environmental Consequences
No ITAs occur within the project area. The nearest ITA is Lytton Rancheria and it is 33 miles WNW from the proposed site. Under the proposed action, there would be no alterations of existing water rights. Therefore, no impacts to ITAs would occur as a result of the no action or proposed action alternatives.

3.6 Environmental Justice
Executive Order 12898 requires each Federal agency to achieve environmental justice as part of its mission, by identifying and addressing disproportionately high adverse human health or environmental effects, including social and economic effects, of its programs and activities on minority populations and low-income populations of the United States.

Environmental Consequences
The no action alternative and the proposed action would result in no significant changes in land use, agricultural communities or practices and would have no effect on low-income or minority individuals within the project area.

4. CUMULATIVE IMPACTS

Levee Modifications
DWR would work cooperatively with the Reclamation District to pursue levee modifications to expedite tidal marsh restoration. If the property remains subject to tidal action, and the existing interior cross levee with Property 903 is not improved, the levee would continue to overtop and flood the entire 2130 Reclamation District. Reclamation District 2130 has expressed interest in improving this interior levee in partnership with DWR under the Special Projects Program and is expected to submit a proposal once the future of Property 902 is certain. Additionally, the 1,790 lineal feet of interior levee on the north side of the parcel, Reclamation District 2127, (Parcel 807) may be enhanced, although this interior levee has shown structural integrity to withstand tidal pressure and failures during previous exterior levee failures on Property 902. These potential improvements in combination with interior levee improvements would reduce the potential for the proposed action to have impacts on Delta salinities. In addition, these potential levee improvements would significantly protect Delta water quality by reducing flood liability

and managed wetland habitat degradation to several thousand acres of adjacent diked managed wetlands on Grizzly, Simmons, Wheeler, and Van Sickle Islands, as well as, protecting the USBR/DWR Roaring River Facility from flood damage and levee failures.

Tidal Restoration in the Suisun Marsh Region
The Suisun Marsh Protection Plan, enacted in 1977, identifies tidal marsh restoration as an implementation measure to protect wildlife and its habitat in the Suisun Marsh. The CALFED Ecosystem Restoration Program Plan (ERPP) stated a goal of restoring tidal action to 5,000-7,000 acres in the Suisun Bay and Marsh (ERPP, 1999). This project is also consistent with the findings of the Regional Habitat Wetland Goals Project. The SMPA agencies are working collaboratively with the Service and other agencies to develop a regional plan that balances implementation of the CALFED Program, the SMPA, and other management and restoration programs within the Marsh. The agencies participate in the Suisun Marsh Charter Group (Charter Group), the SMPA Coordinators Group and the Environmental Coordination Advisory Team (ECAT). The proposed action has been coordinated with and would be consistent with the efforts of these groups.

Acquisition of seasonally managed wetlands in Suisun Marsh and their restoration to tidal emergent wetlands is expected to aid in the recovery of several special status species dependent on Suisun Bay by restoring their natural habitat within their current range. Some of the species that would likely benefit from tidal restoration of land in Suisun Marsh include: Suisun thistle, soft bird's beak, salt marsh bird’s beak, hispid bird’s beak, delta tule pea, Mason’s lilaeopsis, Suisun Marsh aster, alkali milk vetch, heartscale, brittlescale, valley spearscale, delta smelt, California clapper rail, California black rail, salt marsh harvest mouse.

5. CONSULTATION AND COORDINATION WITH OTHERS

Reclamation and DWR has coordinated and will continue to coordinate the proposed action with other members and advisors of ECAT, including SRCD, DFG, and FWS.

6. Compliance with Other Applicable Laws

Federal Endangered Species Act
Reclamation is completing ESA Section 7 informal consultation with the Service and NOAA Fisheries on the proposed action. Reclamation is also requesting an amendment to BO 1-1-96-F-84, as amended, to recommend the acquisition and protection of this site in perpetuity as an alternative conservation measure to fulfill Term and Condition 3 of the BO. Service concurrence with Reclamation’s determination that the Proposed Action is not likely to adversely affect any special status species or critical habitats will be obtained prior to finalization of this EA.

California Environmental Quality Act
In compliance with the California Environmental Quality Act, DWR has prepared an addendum to the Environmental Impact Report for the Suisun Marsh Plan of Protection.

7. References

Basey, H.E., and D Sinclear. 1980. Amphibians and reptiles. Pages 13-74 In J. Verner and A . Boss, tech. cords. California wildlife and their habits; western Sierra Nevada. U.S. Dep. Agric., For. Serv. (Berkeley CA) Gen. Tech Rep. PSW-37.

Bennett, WA,WJ Kimmerer, JR Burau. 2002. Plasticity in Vertical Migration by Native and Exotic Estuarine Fishes in a Dynamic Low-Salinity Zone. Limnology and Oceanography. 47(5):1496-1507.

Cogswell, H. 1977. Water birds of California. Illust. By G. Christman. Univ. of Ca. Press, Berkeley. 399pp.

California Department of Fish and Game. 2003. California Clapper Rail, California Black Rail Survey Report 2002. Sarah Estrella, DFG. January 13, 2003. Report to DWR. 17 p.

DWR. 1994. Summary of Sensitive Plant and Wildlife Resources in Suisun Marsh During Water Years 1984 – 1994. Brenda Grewell, DWR. December 14, 1994. Report to State Water Resources Control Board. 107 p.

DWR. 1999. California Department of Water Resources. Biological Assessment for Suisun Marsh Preservation Agreement as Modified by Amendment Three.

Erhlich, P., D.S. Dobkin and D. Wheye. 1988. The birder's handbook. Simon and Schuster, Inc., New York. 785 p.

Evens, J., G.W. Page, S.A. Laymon and R.W. Stallcup. 1991. Distribution, relative abundance and status of the California black rail in western North America. Condor 93: 952-966.

Foerster, K.S., J.E. Takekawa, and J.D. Albertson. 1990. Breeding density, nesting habitat, and predators of the California clapper rail. Unpubl. Rpt. No. SFBNWR-116400-90-1, prep. for San Francisco Bay Natl. Widl. Refuge, Fremont, Calif. 46pp.

Harvey, T. 1988. Breeding biology of the California clapper rail in South San Francisco Bay. Trans. of Western Sect. of the Wildlife Society 24: 98- 104.

Jassby, AD, WJ Kimmerer, SG Monismith, C Armor, JE Cloern, TM Powell, JR Schubel, TJ Vendlinski. 1995. Isohaline position as a habitat indicator for estuarine populations. Ecological Applications 5:272-289.

Matern, S., P. Moyle, and L. Pierce. 2002. Native and Alien Fishes in a California Estuarine Marsh: Twenty-One Years of Changing Assemblages. Transactions of the American Fisheries Society 131:797-816.

Suisun Resource Conservation District. 1998. 1988 Individual Ownership Adaptive Management Habitat Plan. 99 p.

Verner, J., E. Beeddy, S. Granholm, L. Ritter, and E. Toth. 1980. Birds. Pages 75-319 In J. Verner and A . Boss, tech. cords. California wildlife and their habits; western Sierra Nevada. U.S. Dep. Agric., For. Serv. (Berkeley CA) Gen. Tech Rep. PSW-37.

White, M., H. Barrett, A. Boss, T. Newman, T. Rahn, and D. Williams. 1980. Pages 321-424 In J. Verner and A. Boss, tech. cords. California wildlife and their habits; western Sierra Nevada. U.S. Dep. Agric., For. Serv. (Berkeley CA) Gen. Tech Rep. PSW-37.

Zembal, R. and B.W. Massey. 1983. To catch a clapper rail – twice. North American Bird Bander 8(4): 144-148.

APPENDIX
U.S. FISH AND WILDLIFE SPECIAL STATUS SPECIES LIST

U.S. Fish & Wildlife Service

Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 090128081115

Database Last Updated: January 15, 2009

Quad Lists

Listed Species

Invertebrates

- Branchinecta lynchi
  - vernal pool fairy shrimp (T)
- Desmocerus californicus dimorphus
  - valley elderberry longhorn beetle (T)
- Elaphrus viridis
  - delta green ground beetle (T)

Fish

- Acipenser medirostris
  - green sturgeon (T) (NMFS)
- Hypomesus transpacificus
  - Critical habitat, delta smelt (X)
  - delta smelt (T)
- Oncorhynchus mykiss
  - Central Valley steelhead (T) (NMFS)
  - Critical habitat, Central Valley steelhead (X) (NMFS)
- Oncorhynchus tshawytscha
  - Central Valley spring-run chinook salmon (T) (NMFS)

    - Critical habitat, winter-run chinook salmon (X) (NMFS)
    - winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

- Ambystoma californiense
    - California tiger salamander, central population (T)
- Rana aurora draytonii
    - California red-legged frog (T)

Reptiles

- Masticophis lateralis euryxanthus
    - Alameda whipsnake [=striped racer] (T)
- Thamnophis gigas
    - giant garter snake (T)

Birds

- Rallus longirostris obsoletus
    - California clapper rail (E)
- Sternula antillarum (=Sterna, =albifrons) browni
    - California least tern (E)

Mammals

- Reithrodontomys raviventris
    - salt marsh harvest mouse (E)

Plants

- Cordylanthus mollis ssp. mollis
    - soft bird's-beak (E)
- Oenothera deltoides ssp. howellii
    - Antioch Dunes evening-primrose (E)

Proposed Species

Amphibians

- Rana aurora draytonii
    - Critical habitat, California red-legged frog (PX)

Quads Containing Listed, Proposed or Candidate Species:

HONKER BAY (481C)

County Lists

No county species lists requested.

Key:

- (E) Endangered - Listed as being in danger of extinction.
- (T) Threatened - Listed as likely to become endangered within the foreseeable future.
- (P) Proposed - Officially proposed in the Federal Register for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
- Critical Habitat - Area essential to the conservation of a species.
- (PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.
- (C) Candidate - Candidate to become a proposed species.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) Critical Habitat designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, or may be affected by projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list.
See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

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 a project that may result in take, then that agency must engage in a formal consultation with the Service.
- During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.
- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.
- Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation

and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be April 28, 2009.