
APPENDIX C
BIOLOGICAL RESOURCES STUDY

RECLAMATION

Managing Water in the West

Biological Report

**For the Salton Sea Shallow Water
Habitat Pilot Project**



Biological Report

For the Salton Sea Shallow Water Habitat Pilot Project

Prepared by:

Tetra Tech, Inc.
180 Howard Street, Suite 250
San Francisco, CA 94105

Prepared for:



Bureau of Reclamation
Lower Colorado Regional Office
Salton Sea Restoration Project
P.O. Box 61470
Boulder City, NV 89006-1470

June 2005

Table of Contents

Biological Setting	1
Vegetation Communities and Habitats	1
Wildlife Resources	3
Impact Analysis.....	11
References Cited	13

Tables

Table 1 Bird Species Identified During Site Visit	4
Table 2 Likelihood of Occurrence of Federal and state-listed or species of concern within the ROI	6

Figure

Figure 1 - Project Location Map	2
--	----------

Appendix

Appendix A – Letter of listed species from US Fish and Wildlife Service

BIOLOGICAL SETTING

The project area contains terrestrial and aquatic habitats. The proposed project footprint includes a 120-acre portion of land and existing dikes west of Davis Road and north of the Alamo River on the southeastern shore of the Salton Sea (Figure 1).

For the purpose of this biological analysis, the region of influence (ROI) is considered the project area, which is the project footprint, plus a 50-meter buffer on all sides. The project occurs within the Niland USGS 7.5 minute quadrangle. Information regarding biological resources at this site and in the ROI was obtained by conducting a search of the California Department of Fish and Game's (CDFG) California Natural Diversity Data Base (CNDDDB) (CDFG 2005), by obtaining a list of Proposed, Threatened, or Endangered Species potentially occurring in the ROI from the U.S. Fish and Wildlife Service, by reviewing existing literature, and by having a Tetra Tech biologist conduct a site reconnaissance visit and general biological survey on April 6, 2005.

The site consists of approximately 120 acres, including approximately 114 acres for the ponds, 3 acres for the proposed berms, 3 acres for the proposed pump station, and 0.26 acres for the proposed pipeline. Existing ponds would be divided into a series of four smaller ponds by installation of berms.

Vegetation Communities and Habitats

The following vegetation types were observed in the ROI during the biological survey conducted at the site on April 6, 2005, and are defined in accordance with Sawyer and Keeler-Wolfe (CNPS 1995).

Tamarisk Series

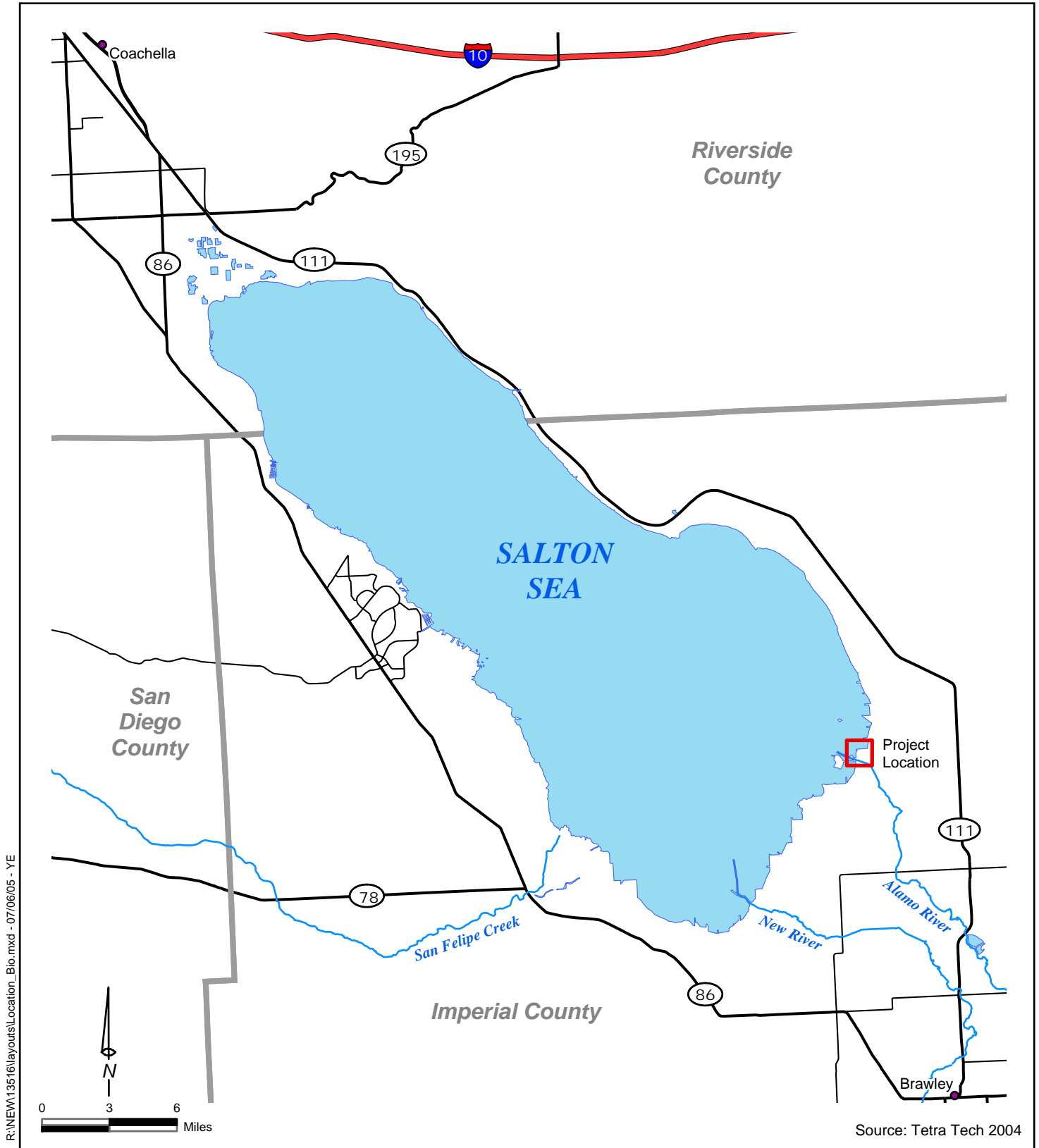
Salt cedar (*Tamarix chinensis* or *Tamarix ramossissima*) is the dominant plant form in the area. Salt cedar lines most of the waterways found adjacent to the Salton Sea in the ROI. Although not found at the edge of the sea itself, salt cedar was observed growing in dense stands around sloughs, irrigation ditches, and along the Alamo River. Co-dominant with this species is common reed (*Phragmites australis*). Other species observed in this habitat included various types of saltbush (*Atriplex* spp.). This is the primary habitat type found along the access roads and pipeline routes.

Iodine Bush Series

Areas with a slightly raised elevation are present immediately to the east of the ROI, across Davis Road. This area was formerly inundated by the Salton Sea, but has been exposed by the receding waters. Soils in these areas appear to be highly alkaline and support a narrow range of plant species. These areas were characterized by iodine bush (*Allenrolfea occidentalis*) and saltgrass (*Distichlis spicata*). Very little of this habitat type would be affected by the proposed project.

Mudflats

Areas of open water and mudflats constitute much of the habitat in the Salton Sea area, and are found in the ROI. Mudflats differ from open water habitat in that open water habitat is more or less permanently flooded and may support submerged or emergent



Project Location Map
Shallow Habitat Project

Southeastern California

R:\NEW\13516\layouts\Location_Bio.mxd - 07/06/05 - YE

vegetation, whereas mudflats are unvegetated areas that are periodically flooded and exposed. Mudflats are good habitat to support wildlife species, such as shorebirds and invertebrates. This habitat type occurs in the ROI only at the location of the proposed pump station.

Salt Pond and Berm

Most of the ROI is unvegetated former salt pond habitat surrounded by berms. High concentrations of salt in the soil are indicated by a salt crust on the top of the soil. These soils are too saline for all but the most halophytic species (plant species with physiological adaptations to salty soils). A few individual specimens of saltbush (*Atriplex* spp.) were observed in the area, but these covered less than one percent of the surface area of the salt ponds.

Waterbodies

The entire project area is mapped as “Waters of the United States” (Waters), as it is below the -220 foot contour that was determined to define the water line of the Salton Sea, and there is no vegetation. Open water of the Salton Sea is included as regulated Waters of the US and therefore any aquatic portion or waterbody in the ROI would be considered Waters, as opposed to wetlands. Wetlands are areas of land that are either permanently or seasonally wet and support specially-adapted vegetation. There is no jurisdictional wetland existing in the ROI.

The portion of the ROI that would comprise the proposed wetland is in the former bed of the Salton Sea, and has been separated from the sea by earthen berms. At the time of the site survey, the area contained standing water accumulated during recent heavy rains, but typically the area is dry.

The Alamo River runs close to the ROI, and is separated from the proposed sump installation area by an elevated road. Habitat in and along the Alamo River is of low value due to poor water quality and a lack of diverse vegetation, thus does not provide suitable habitat for wildlife species.

Wildlife Resources

General Wildlife Species

Wildlife species seen in the ROI during the recent site visit are listed in Table 1. Animal abundance and diversity are closely linked with the habitat types present, though abundance and distribution may also vary by seasons.

Most of the bird species seen in the ROI are considered to be resident species habituated to low quality habitat. Poor habitat conditions, limited foraging, high average temperatures, sparse precipitation, and limited vegetation cover all limit the number of species and size of populations in the ROI. Most of the avian wildlife species observed in the ROI were seen on mudflats or very shallow habitat at the edge of the sea. Wildlife seen here included stilts, ducks, and killdeer. Raccoon tracks were seen here as well.

Table 1
Bird Species Identified During Site Visit

Scientific Name	Common Name
<i>Recurvirostra Americana</i>	American avocet
<i>Himantopus mexicanus</i>	Black-necked stilt
<i>Bucephala albeola</i>	Bufflehead
<i>Aythya valisineria</i>	Canvasback
<i>Sterna forsteri</i>	Forster's tern
<i>Callipepla gambelii</i>	Gambel's quail
<i>Ardea herodias</i>	Great blue heron
<i>Casmerodius albus</i>	Great egret
(<i>Larus spp.</i>)	Gulls
<i>Charadrius vociferous</i>	Killdeer
<i>Anas platyrhynchos</i>	Mallard
<i>Egretta thula</i>	Snowy egret
<i>Pelecanus erythrorhynchos</i>	White pelican

Other avian wildlife species not sighted may occur, such as the western grebe (*Aechmophorus occidentalis*), the eared grebe (*Podiceps nigricollis*), the ring-billed gull (*Larus delawarensis*), the northern shoveler (*Anas clypeata*), the long-billed dowitcher (*Limnodromus scolopaceus*), the ruddy duck (*Oxyura jamaicensis*), and cormorants (*Phalacrocorax spp.*).

The terrestrial portions of the ROI may support wildlife but offer limited foraging habitat and are not expected to support nesting due to the high level of disturbance of the habitat. Several reptile species could occur in the ROI, including the side-blotched lizard (*Uta stansburiana*), the western whiptail (*Cnemidophorus tigris*), the zebra-tailed lizard (*Callisaurus draconoides*), the long-tailed brush lizard (*Urosaurus graciosus*), the desert horned lizard (*Phrynosoma platyrhinos*), and the desert iguana (*Dipsosaurus dorsalis*). All of these species are common and widely distributed throughout the Salton Sea Basin.

A variety of mammal species is found in the surrounding habitat as well, and could occasionally transit through portions of the ROI. These include the desert pocket mouse (*Perognathus penicillatus*), the pocket mouse (*P. longimembris*), the desert kangaroo rat (*Dipodomys deserti*), Merriam's kangaroo rat (*D. merriami*), the black-tail jackrabbit (*Lepus californicus*), Audubon's cottontail rabbit (*Sylvilagus audubonii*), the mule deer (*Odocoileus hemionus*), and the coyote (*Canis latrans*). These mammalian species prefer scrub habitat so most likely are not present in, but could infrequently transit through the ROI.

Special Status Wildlife Species and Critical Habitat

The Endangered Species Act (ESA) (16 USC 1532 et seq.), was enacted to provide a program for the preservation of endangered and threatened species and to protect the ecosystems on which these species depend for their survival. All federal agencies are required to implement protection programs for designated species and to use their authority to further the purposes of the ESA.

The US Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) branch of the National Oceanic and Atmospheric Administration (NOAA Fisheries Service) are the primary agencies responsible for implementing the ESA. The USFWS is responsible for on-land and freshwater aquatic species, while NOAA Fisheries Service is responsible for all other aquatic species.

An endangered species is in danger of extinction throughout all or a significant portion of its range. A threatened species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Proposed have been formally submitted to Congress for official listing as threatened or endangered. In addition, the USFWS has identified species that are candidates for listing as a result of identified threats to their continued existence. The “candidate” designation includes those species for which the USFWS has sufficient information on hand to support proposals to list as endangered or threatened, but have not yet been proposed.

The ESA also calls for conserving what is termed critical habitat—the areas of land, water, and air space that an endangered species needs for survival. Critical habitat also includes such things as food and water, breeding sites, cover or shelter, and sufficient habitat area to provide for normal population growth and behavior. One of the primary threats to many species is the destruction or modification of critical habitat by uncontrolled land and water development.

The CDFG’s Habitat Conservation Division maintains lists of state protected species through the CNDDDB. The CNDDDB’s mission is to track the location and condition of California’s many species of rare and sensitive plants, animals, and natural communities (e.g., marshes, riparian systems, and desert scrub). The CNDDDB includes in its inventory all federal and state-listed plants and animals, species that are candidates for listing, species of special concern, and those species that are considered “sensitive” by government agencies and the conservation community.

CNDDDB was searched for records of special status species that could potentially occur or have been sighted in the project vicinity. The USFWS also was contacted to identify potential special status species likely to be present in the area; the USFWS response is provided in Appendix A. Sensitive species occurring in the Niland quadrangle (which includes the ROI) are listed in Table 2.

The ROI does not contain the necessary elements required to support any special status plant species. The potential for sensitive species to occur within the ROI was evaluated using USFWS and CNDDDB lists for the USGS 7.5 Niland Quadrangle, which contains the ROI, and the presence of suitable habitat within the ROI (Table 2).

Table 2
Likelihood of Occurrence of Federal and state-listed or species of concern within the ROI

Common Name (<i>Scientific Name</i>)	Federal*/State Status*/CNPS	Likelihood of Occurrence in the Project ROI	Notes
Plants			
Abrams's spurge <i>Chamaesyce abramsiana</i>	-/-/2	U	Mohave and Sonoran Scrub habitat not found in project ROI.
Fish			
desert pupfish <i>Cyprinodon macularis</i>	E/E/-	P	Pupfish inhabit desert ponds, springs, marshes and streams in southern California and have been recorded within the Niland quadrangle. Suitable desert pupfish habitat occurs within the ROI.
razorback sucker <i>Xyrauchen texanus</i>	E/E,FP/-	U	The highly saline waters of the ROI are not suitable to support this species.
Reptiles			
Colorado river toad <i>Bufo alvarius</i>	-/SC/-	U	The highly saline waters of the ROI are not suitable to support this species.
Birds			
Bald eagle (<i>Haliaeetus leucocephalus</i>)	T/E,FP/-	P	Foraging habitat present, but no suitable nesting habitat within the ROI.
black skimmer <i>Rynchops niger</i>	-/SC/-	P	Nests on gravel bars, low islets, and sandy beaches, in unvegetated sites. Nesting colonies. Known to nest along the north and south ends of the Salton Sea. Nesting habitat present.
black-tailed gnatcatcher <i>Poliophtila melanura</i>	-/SC/-	U	Not likely to occur due to the presence of salt-cedar.
California brown pelican <i>Pelecanus occidentalis</i>	E/E,FP/-	P	Foraging habitat but no suitable nesting habitat within the ROI.
California least tern <i>Sterna antillarum browni</i>	E/E,FP /-	P	The bare and sparsely vegetated habitats within the ROI could be suitable nesting habitat for this species, but are considered marginal due to the salt encrusted soil and exposure to predation. May forage in the ROI if nesting in or around the ROI.

Table 2
Likelihood of Occurrence of Federal and state-listed or species of concern within the ROI (*continued*)

Common Name (<i>Scientific Name</i>)	Federal*/State Status*/CNPS	Likelihood of Occurrence in the Project ROI	Notes
Crissal thrasher (<i>Toxostoma crissale</i>)	-/SC/-	U	Nests in vegetation along streams/washes that may be dense enough in certain areas of the ROI to support this species.
gull-billed tern (<i>Sterna nilotica</i>)	-/SC/-	P	Known to occur in open sandy areas within the project quadrangle.
Least Bell's vireo (<i>Vireo bellii pusillus</i>)	E/E/-	P	Nests in dense brush near water. The ROI contains some brush and is considered marginally suitable nesting habitat for this species.
mountain plover <i>Charadrius montanus</i>	SC/SC/-	P	Mudflats in the ROI may support this species.
Southwestern willow flycatcher (<i>Empidonax traillii eximius</i>)	E/E/-	P	The ROI contains brush, salt cedar and standing water suitable to support this species nesting requirements.
yellow warbler <i>Dendroica petechia brewsteri</i>	-/SC/	U	Limited suitable habitat, such as willow plants, found within the ROI.
Yuma clapper rail (<i>Rallus longirostris yumanensis</i>)	E/T/-	U	ROI lacks dense marshy areas or stands of cattails or tule.
Mammals			
American badger <i>Taxidea taxus</i>	-/-/-	U	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Need sufficient food, friable soils and open, uncultivated ground. Limited suitable habitat within the ROI.

Notes: CNDDDB 2005, USFWS 2005
 CNPS = California Native Plant Society
 *Status explanations:

Federal

- E = Listed as endangered according to the federal Endangered Species Act.
 T = Listed as threatened according to the federal Endangered Species Act.
 SC = Species of concern; species for which existing information indicates listing may be warranted but for which substantial biological information to support a proposed rule is lacking.
 -- = No status.

State

- E = Listed as endangered according to the California Endangered Species Act.
 SC = Species of concern; species for which existing information indicates listing may be warranted but for which substantial biological information to support a proposed rule is lacking.
 FP = Fully protected by the State of California
 -- = No status.

California Native Plant Society

- 2 = List 2 species: rare, threatened, or endangered in California but more common elsewhere.

Likelihood of Occurrence

- P = Possible
 U = Unlikely

Sources: CDFG 2005; USFWS 2005

There are six federal- and California-listed species that could utilize the ROI, and three California species of concern. These species are discussed in further detail below.

Desert Pupfish

The desert pupfish (*Cyprinodon macularis*) is a federally- and California-listed endangered species. Historically, desert pupfish occurred in the lower Colorado River in Arizona and California, from about Needles downstream to the Gulf of Mexico and into its delta in Sonora and Baja. In California, pupfish inhabited springs, seeps, and slow-moving streams in the Salton Sink basin, and backwaters and sloughs along the Colorado River.

The Salton Sea, its slow moving tributary streams, irrigation drains, and shoreline pools supported large pupfish populations until sharp declines began in the mid to late 1960s. CDFG surveys (Nicol et al. 1991; Black 1980) determined that desert pupfish populations are currently found in drains directly discharging to the Salton Sea, in shoreline pools of the Salton Sea, and in several artificial refugia. Pupfish are not known to occur in the New or Alamo Rivers because of the high sediment loads, excessive velocities, and the presence of predators.

Habitat potential: Pupfish have not been reported in the Alamo River, although USFWS maintains pupfish study areas in the general vicinity.

Bald eagle

The Bald eagle (*Haliaeetus leucocephalus*) is a federally threatened and California-listed endangered and fully protected species. Most of California's breeding population of bald eagles is comprised of yearlong residents, with some additional populations migrating to California to winter (Thelander et al. 1994). Bald eagles require large bodies of water or free-flowing rivers with abundant fish for feeding and also require places to perch (Zeiner et al. 1990b). Bald eagles breed February through July and build nests in old growth or dominant live trees (Zeiner et al. 1990b).

Habitat potential: Bald eagles may use the ROI for foraging, but limited perching habitat is found within the immediate area. No suitable nesting trees are present.

California brown pelican

The California brown pelican (*Pelecanus occidentalis californicus*) is a federally- and California-listed endangered and California fully protected species. Brown pelicans are found in estuarine, marine subtidal, and marine pelagic waters throughout coastal California (Thelander et al. 1994). Brown pelicans feed on small surface-schooling fish, primarily anchovy (Zeiner et al. 1990). They rest temporarily on the water or isolated rocks but roost off the water. Roosting requires a dry location near food and a buffer from predators and humans. Nesting normally begins in the spring but varies according to colony and year. Breeding occurs from March to early August, with eggs being laid from March to June. The young fledge at thirteen weeks but continue to stay in the care of their parents up until four or five months (Thelander et al. 1994). California brown pelicans migrate from their breeding zones in the Channel Islands and Mexico to

disperse throughout coastal California as early as mid-May. Most individuals return to breed by the following March.

Habitat potential: In recent years this species has been found to breed in the Salton Sea and to inhabit the Sea year round. This species nests on the ground or in small bushes and trees on small islands or other protected habitats. The ROI contains suitable foraging habitat but there are no islands for pelicans to breed.

California least tern

The federal- and California-listed endangered California least tern (*Sterna antillarum browni*) is a migratory species. They are found in California and Baja California from April to September (Thelander et al. 1994), which is their breeding season. Least terns nest in open sandy or gravelly shores near their feeding grounds. Adults roost on the ground and fish in shallow estuaries, river mouths, lagoons, and other shallow habitats. They are opportunistic feeders and have been known to eat more than 50 types of fish, including anchovies, shiner surfperch, and topsmelt (Thelander et al. 1994).

Courtship takes place away from the nest colony on open beaches and tidal flats. Incubation can take up to 28 days and the young fledge by the time they are 28 days old (Zeiner et al. 1990).

Habitat potential: California least terns are known to breed at the Salton Sea in small numbers. The mudflats found within the habitat are considered to be only marginally suitable breeding habitat for this colonial nester, because of their size, accessibility to predators and the poor surrounding water quality.

Least Bell's Vireo

The least Bell's vireo (*Vireo bellii pusillus*) is a federally- and California-listed endangered species that is endemic to California and northern Baja California. The least Bell's vireo inhabits riparian vegetation such as willows, baccharis, cottonwood and wild blackberry (Zeiner et al. 1990). It is a migratory bird, spending its winters in Mexico and returning to breed and spend March through August in California. Nests are made in small trees or shrubs, located about 1 meter above the ground (Thelander et al. 1994), and peak egg laying occurs from May to June (Zeiner et al. 1990). The least Bell's vireo feed on insects that they pick off of tree and bush foliage.

The least Bell's vireo was once an abundant species in California but has had its population decrease dramatically due to loss of habitat. Riparian habitat, which is critical to the survival of the vireo, has been disturbed by human activities such as flood-control projects, livestock grazing, urban development, agriculture and recreational activities (Thelander et al. 1994). Encroachment has caused the least Bell's vireo to live in increasingly marginal; this has habitat which led to decreases in reproductive success due to the proximity of cowbirds which are brood parasites (meaning they place their own eggs in other songbird nests to be reared, often displacing the songbird's own eggs in the process).

Habitat potential: The availability of scrub and aquatic habitat within the ROI may be sufficient to support breeding least Bell's vireos.

Southwestern Willow flycatcher

The Southwestern willow flycatcher is a federally- and California-listed endangered species. It is generally found in riparian vegetation consisting of willow thickets with an overstory of cottonwoods or tamarisk. This migratory flycatcher subspecies was historically a common summer resident along streams and rivers throughout southern California. The breeding range of the willow flycatcher included primarily expanses of willow riparian habitat. The species has now been eliminated as a breeding bird from most of its former range in California. Only small, scattered populations remain in isolated stretches of stream courses along the Kern, Santa Margarita, San Luis Rey, and Santa Ynez rivers in southern California. The smallest of these populations consists of about five pairs and the largest of about 50 pairs. Nesting takes place in willows and shrubby plants that border streams, ponds, and wet meadows (Thelander et al. 1994) and is concentrated in May and June (Zeiner et al. 1990a). Flycatchers feed on flying insects and occasionally on berries and seeds.

Loss and degradation of riparian habitat is the principal reason for the decline of the willow flycatcher population and the decrease in geographic range of the species. Livestock grazing has damaged both the habitat and nests of breeding birds. Nest parasitism by brown-headed cowbirds has probably also contributed to population reductions. In 1997, the USFWS designated about 72,000 acres in portions of six counties in southern California as critical habitat (USFWS 1997).

Habitat potential: The lack of willows as well as vegetative diversity in this area, makes the ROI less than preferred habitat for the Southwestern willow flycatcher; however, but the area is marginally suitable habitat this species. The probability of southwestern willow flycatchers utilizing this site is low; however, the willow flycatcher has been recorded within the Niland quadrangle (CNDDDB 2005) and is likely to be the subspecies *extimus*, based on subspecies distribution within California and other portions of the U.S. Although the flycatcher sometimes nests in habitats dominated by tamarisk (which is found at the project site), other components of its habitat, such as clean water, do not exist at the project site. The ROI is considered marginally suitable breeding habitat.

California species of concern

The black skimmer (*Rynchops niger*), gull-billed tern (*Sterna nilotica*), and mountain plover (*Charadrius montanus*) are California species of concern that could use the project ROI.

The black skimmer is found primarily on coastal waters, including bays, estuaries, lagoons and mudflats in migration and winter (NatureServe 2005) but is also found in lakes and other inland waters. This species has been recorded in the Niland quadrangle in which the ROI exists (CNDDDB 2005). It is known to rest on mudflats and to nest in association with terns on beaches, the wrack or drift of salt marshes, and on dredged material sites (NatureServe 2005).

The gull-billed tern is known to nest on sandy shores of saline lagoons and marshes. Within the Niland quadrangle a gull-billed tern colony was recorded within a flooded impoundment containing several remnant earthen levees that serve as the nesting substrate (CNDDDB 2005).

The mountain plover was proposed for listing as a threatened species in 1999 but was withdrawn from listing in September 2003. This species inhabits areas with low growing vegetation, bare ground and flat topography and prefers grazed areas and areas with burrowing rodents (CNDDDB 2005). It breeds from late April through June, with a peak in late May. Ground-dwelling insects such as grasshoppers constitute the majority of its diet.

Critical Habitat

There is no federally designated critical habitat within the ROI.

Impact Analysis

Alternative A –No Action Alternative

Direct and Indirect Effects

Implementing the No Action Alternative would result in no improvements for habitat in the ROI. Over time, adverse impacts on fish and avian resources in the ROI would occur due to several factors.

There would most likely continue to be a decrease in habitat value over time due to the increase in saline conditions in the Salton Sea. Although such an effect is occurring independently of this project, the goal of this project is to develop an understanding of how to create attractive saline, shallow water habitat as part of the larger Salton Sea Restoration Project. There would be a continued concentration of minerals and contaminants in the ROI. The increase in concentration of salts and contaminants would impact wildlife species that spend time in waters of the Salton Sea. Because of the link between environmental quality and disease spread, there could be increases in bird losses from disease under the No Action Alternative. As avian species are concentrated into decreasing areas of suitable habitats both in and around the Sea, avian diseases that spread readily in dense population conditions could further affect birds in the area. In addition, the aquatic prey base would be lost as the salinity level increases, further stressing those species that depend on foraging in the area.

These combined effects would result in minor to moderate adverse impacts over time, due to an overall continued decline in habitat value for both plant and wildlife species.

Mitigation

No measures are proposed.

Alternative B – Proposed Action**Direct and Indirect Effects**

Implementing Alternative B would result in minor short term adverse impacts on biological resources that would mainly occur during implementation periods. However, these would be outweighed by the overall benefits that would result from the project action during the life span of the project.

The project would avoid impacts on birds by avoiding project activities during the spring and most of summer when they are breeding and which is their most sensitive life stage. The project would not effect terrestrial vegetation or negatively effect terrestrial habitat. Construction and earthmoving would not involve the riparian corridor or surrounding brush.

The project would avoid negatively impacting desert pupfish by avoiding pupfish. This would be achieved by limiting project activities to those areas where pupfish are unlikely to occur and by blocking pupfish access to the project area by using gravel filters. No degradation of existing pupfish habitat would occur.

The proposed system that would be implemented under Alternative B would be operated and monitored for at least two full breeding seasons and would provide better habitat to biological resources during that time than that which exists now. Additionally, some lingering effects of the improved habitat may persist after these two seasons, resulting in beneficial impacts as long as the enhanced habitat is present. In the long term, the ROI would revert back to its existing condition resulting in impacts such as those described above under the No Action Alternative.

Habitat in and along the Alamo River is currently of low value (as described in the Affected Environment section) and would only be minimally impacted by the proposed project. Any adverse effects would occur primarily in the form of short term construction noise generated during excavation. Also in the short term, the bed of the Salton Sea would be marginally adversely affected by installation of the proposed pumping station and sump.

There would be beneficial impacts on biological resources while the project is underway. The net impact of the proposed project on wildlife species would be positive due to the resulting increase of foraging, resting, and potentially breeding habitat generated by the project. This would in turn provide greater use of aquatic portions of the ROI. Pelagic bird species, such as cormorants (*Phalacrocorax* spp.), may benefit by the additional perching options that the aboveground pipeline would provide. They could use the pipeline for perch sites to dry and preen their feathers. Aquatic wildlife could benefit from the increase in distribution of oxygenated and the reduction in the salinity levels (15 to 20 parts per thousand in the ponds versus 44 ppt in the Sea) under Alternative B.

While some minor adverse impacts may occur in the short term, these would be outweighed by the overall beneficial impacts that would result from the project action during the life span of the project, and for a period of time following.

Mitigation

No measures are proposed.

REFERENCES CITED

- Black, Glenn F. Status of the desert pupfish, *Cyprinodon macularius* (Baird and Girard), in California. 1980. California. 80. Calif. : State of California, the Resources Agency, Dept. of Fish and Game. Inland fisheries endangered species program special publication; 80-1.
- CDFG. 2005. California Department of Fish and Game. California Natural Diversity Database. Updated 2005. Sacramento, CA.
- CNPS (California Native Plant Society). 1995. A Manual of California Vegetation by Sawyer, J.O. and T. Keeler-Wolfe. Sacramento, CA.
- NatureServe. 2005. NatureServe Explorer: An online encyclopedia of life [web application]. Version 1.8. NatureServe, Arlington, Virginia. Internet Web site: <http://www.natureserve.org/explorer>. Accessed on July 6, 2005.
- Nicol, K., S. Lau, and C. Boehm. 1991. A distribution survey of desert pupfish (*Cyprinodon macularius*) around the Salton Sea, California. Final Report for Section 6, Project No. EF90XII-1. California Department of Fish and Game Inland Fisheries Division.
- Thelander, Carl. G., et al. 1994. *Life On the Edge: A Guide to California's Endangered Natural Resources*. Biosystems Books. Santa Cruz, California.
- USFWS. 1997. Endangered and Threatened Wildlife and Plants; Final Determination of Critical Habitat for the Southwestern Willow Flycatcher. Federal Register. Vol . 2, No 140, Tuesday July 22, 1997.
- USFWS. 2005. Letter of listed species potentially occurring within the USGS Niland Quadrangle, Imperial County, California. May 17, 2005.
- Zeiner, David C., William F. Laudenslayer, Jr., Kenneth E. Mayer, Marshall White. 1990. *California's Wildlife Volume II, Mammals*. California Department of Fish and Game. November 1990.

Appendix A

Letter of listed species from US Fish and Wildlife Service



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Ecological Services
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road
Carlsbad, California 92009

In Reply Refer To:
FWS-IMP-4472.1

MAY 17 2005

Ms. Cheryl Rodriguez
Bureau of Reclamation
500 Fir Street
Boulder City, Nevada 89005

Re: Request for Proposed, Threatened, or Endangered Species Potentially Occurring Within the USGS Niland Quadrangle, Imperial County, California

Dear Ms. Rodriguez:

In response to your request on May 16, 2005, the U.S. Fish and Wildlife Service (Service) is providing you with the attached list of species that may occur within or near the Niland Quadrangle. The list is to assist you in evaluating whether or not proposed projects may affect listed species. Please note that this is not a comprehensive list. We recommend that you seek assistance from a biologist familiar with the area and with the listed species to more definitively assess the potential for direct, indirect and cumulative impacts likely to result from proposed activities. Please contact the California Department of Fish and Game if you need information regarding State-listed and sensitive species that may occur in the area.

If it is determined that the proposed project may affect a listed or proposed species you should initiate consultation (or conference for proposed species) with the Service pursuant to section 7 of the Endangered Species Act of 1973, as amended (Act). Informal consultation may be used to exchange information and resolve conflicts with respect to listed species prior to a written request for formal consultation.

Comments on Section 1 of the Draft Environmental Assessment/Finding of No Significant Impact will be provided under a separate cover. Should you have any questions regarding the species listed or your responsibilities under the Act, please contact Kurt Roblek of my staff at (760) 431-9440.

Sincerely,

Therese O'Rourke
Assistant Field Supervisor

Ms. Cheryl Rodriguez (FWS-IMP-4472.1)

2

**Proposed, Threatened, or Endangered Species
Potentially Occurring in the
Niland Quadrangle**

Common Name	Scientific Name	Status
Southwestern willow flycatcher	<i>Epidonax traillii extimus</i>	E
Bald eagle	<i>Haliaeetus leucocephalus</i>	T
California brown pelican	<i>Pelecanus occidentalis</i>	E
Yuma clapper rail	<i>Rallus longirostris yumanensis</i>	E
California least tern	<i>Sterna antillarum browni</i>	E
Least Bell's vireo	<i>Vireo bellii pusillus</i>	E
Desert pupfish	<i>Cyprinodon macularis</i>	E

Status

E = Endangered; T = Threatened