

**BIOLOGICAL RESOURCES
TECHNICAL REPORT FOR THE
LA JOLLA SEPTAGE TREATMENT
SYSTEM IMPROVEMENT PROJECT,
LA JOLLA RESERVATION, CALIFORNIA**

Prepared for:

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1.0 INTRODUCTION

The La Jolla Band of Luiseño Indians have proposed construction of an expanded septage treatment (evaporation pond) system to replace an existing small septage evaporation pond. The proposed project is located within the La Jolla Indian Reservation (Reservation), which is situated in Pauma Valley, in the northern portion of San Diego County, California (Figure 1). The proposed action will provide additional needed disposal and treatment capacity for the Reservation's septic systems associated with a public campground and private homes.

The project will consist of four new ponds: two evaporation ponds, and two fermentation ponds. All new ponds will be approximately three feet deep. The existing evaporation pond will be retained as an emergency overflow pond.

The construction site is located on a hillside and consists of a small, graded knoll surrounded by moderately steep slopes (Figure 2). The project area will be regraded to expand the area for a series of larger sewage ponds. The fill produced as a result of regrading and pond excavation will be used on-site to construct berms surrounding each pond. Some soil may also be imported for berm construction. All excavation and fill materials will be contained on-site.

One gated unpaved road exists within the immediate area and provides access to the project site. This road ranges from 10 to 12 feet in width. This unpaved dirt road connects to the main La Jolla Campground Road, which intersects Highway 76. The project site is south and slightly west of the main campground and recreation areas.

The surveys and the subsequent report were conducted pursuant to the National Environmental Policy Act (NEPA) and in compliance with the U.S. Bureau of Indian Affairs (BIA) NEPA Handbook, 30 BIAM Supplement 1.

2.0 METHODS AND SURVEY LIMITATIONS

A biological survey was conducted by M. Alfaro and E. Woch of Tierra Environmental Services on November 30, 2005 between the hours of 1000 and 1200. Weather conditions consisted of partly cloudy skies, winds of 0-2 miles per hour, and air temperature ranging from 60° to 64° F. The survey was conducted during a time of year when most annual plant species are not present and many perennial forbs are partially or completely dormant. Secretive wildlife species that require long observation periods may not have been observed due to the limited survey time and constant movement of the survey team. In addition, nocturnal species were not observed because the survey was conducted during daylight hours.

Prior to the survey, a search was conducted of the California Natural Diversity Data Base (CNDDB; CDFG 2004) a computerized inventory of endangered, threatened, or rare species occurrences maintained by the California Department of Fish and Game (CDFG). The potential occurrence of reported species was assessed during the field survey and is addressed in this report. In addition,

Figure 1

Figure 2

a list of state and federal threatened, endangered, proposed threatened and proposed endangered species was previously solicited from the U.S. Fish and Wildlife Service (USFWS; Appendix A). The U.S. Environmental Protection Agency (EPA) is the lead agency for the project under NEPA and for consulting with the USFWS. The field survey focused on identifying the community types on the project sites and wildlife species dependent on them.

Vegetation communities were mapped in the field on a 1" = 250' aerial photograph of the project site. Nomenclature used in this report conforms to Holland (1986) for vegetation communities; Simpson and Rebman (2001) and Hickman (1993) for vegetation; Sibley (2000) for birds; Jameson and Peeters (1988) for mammals; Behler and King (1979) for reptiles and amphibians; and Powell and Hogue (1979) for insects.

3.0 PHYSICAL SETTING

The La Jolla Indian Reservation is located along the southern slopes of Palomar Mountain in a topographically diverse region including peaks and narrow river valleys. The San Luis Rey River bisects the Reservation (Figure 2). The elevation of the project site is approximately 2,400 MSL.

The project area totals approximately 2.0 acres and consists of a flat, graded area atop a small knoll bordered on three sides by 10-30 degree slopes. The project area was cleared of the original vegetation in the past and now supports non-native grassland, a small portion of southern mixed chaparral and ruderal vegetation. Slopes outside of the project area support southern mixed chaparral vegetation. It is assumed that prior to clearing, this vegetation community occurred throughout the project area. A small drainage supporting almost entirely upland vegetation lies adjacent to the project site. This drainage connects to a blue-line tributary of the San Luis Rey River. The project site lies approximately 1,000 feet south of the San Luis Rey River.

One soil series is reported as occurring on-site, the Boomer series (Bowman 1973). Boomer stony loam at 9 to 30 percent slopes (BrE) is reported as occurring on-site. Soils in the Boomer series consist of well drained, moderately deep to deep stony loams that have a stony clay loam subsoil. These soils formed in material derived from gabbro and occur on uplands with slopes ranging from 2 to 65 percent (Bowman 1973).

4.0 RESULTS

4.1 Botany

Two vegetation communities, southern mixed chaparral and non-native grassland, were observed within the project site (Figure 3). Although, the immediate vicinity does not support oak woodland, one mature oak and several immature oak trees occur within the project site. In addition, ruderal areas, and developed areas occur on and in the vicinity of the site. Areas outside of the project area also support southern mixed chaparral vegetation. A complete list of all plant species observed in the project area is included in Appendix B.

According to Holland (1986), non-native grassland has a dense to sparse cover of annual grasses with flowering culms 0.2-0.5 meters high. Germination occurs with the onset of the late fall rains; growth, flowering, and seed-set occur from winter through spring. Non-native grassland on-site consisted of areas dominated by non-native annual grasses including wild oat (*Avena* sp.) rip-gut grass, (*Bromus diandrus*), and deer grass (*Muhlenbergia rigens*). Native and non-native herbaceous species co-occur with grass species in non-native grassland. On-site, woody species include one mature Engleman's oak (*Quercus englemannii*) and several immature oaks (*Quercus* sp.). Herbaceous species included large-beak filaree (*Erodium botrys*), California aster (*Lesingia filanginifolia*), fascicled tarweed (*Deinandra fasciculata*), slender sunflower (*Helianthus gracilentus*), and western ragweed (*Ambrosia psilostachys*).

According to Holland (1986), southern mixed chaparral consists of broad-leaved sclerophyll shrubs, 2-4 meters tall, forming dense, often impenetrable vegetation dominated by scrub oak (*Quercus dumosa*), chamise (*Adenostoma fasciculatum*) and any one of several taxa of manzanita (*Arctostaphylos* sp.), and lilac (*Ceanothus* sp.). On-site, woody species included chaparral whitethorn, (*Ceanothus leucodermis*), cupleaf lilac (*Ceanothus crassifolius*), bigberry manzanita (*Arctostaphylos glauca*), hollyleaf redberry (*Rhamnus ilicifolia*), white sage (*Salvia apiana*), and California buckwheat (*Eriogonum fasciculatum*).

Ruderal vegetation describes areas that have been heavily disturbed in the past. Within the project area, ruderal areas consisted of thin cover dominated by weedy, non-native species including short pod mustard (*Hirschfeldiana incana*), Bermuda grass (*Cynodon dactylon*), and large-beak filaree.

4.2 Wildlife

This section discusses wildlife species that were observed in the project vicinity. As previously discussed, the biological survey was conducted during the winter and in the late morning when conditions for wildlife observations are not optimal. As a result, additional species, though present, may not have been observed. Wildlife species were detected with binoculars or by unaided visual observation. A complete list of all wildlife species observed is presented in Appendix C.

Birds observed included western scrub jay (*Aphelocoma californica*), oak titmouse (*Baeolophus inornatus*), lesser goldfinch (*Carduelis psaltria*), wrentit (*Chamaea fasciata*), spotted towhee (*Pipilo maculatus*), black phoebe (*Sayornis nigricans*), Bewick's wren (*Thryomanes bewickii*), and acorn woodpecker (*Melanerpes formicivorus*). Indicators such as burrows were used to determine the presence of unidentified small rodents.

4.3 Rare and/or Endangered and Sensitive Species

Plant and animal species are considered sensitive if they have been listed as such by federal or state resource agencies, or by special interest groups such as the California Native Plant Society (CNPS). The CDFG publishes the CNDDDB RareFind, a computerized inventory of information on the location and condition of California's rare, threatened, endangered, and sensitive plants, animals, and natural communities (CDFG 2004). No species were reported by the CNDDDB as occurring within

or immediately adjacent to the project area.

Figure3

The following species are listed as threatened or endangered by the USFWS (Appendix A) and were reported as potentially occurring on the Reservation: plant species, including Nevin's barberry (*Berberis nevinii*), San Bernardino bluegrass (*Poa atropurpurea*); wildlife species including Stephen's kangaroo rat (*Dipodomys stephensi*), arroyo toad (*Bufo californicus*), California red-legged frog (*Rana aurora draytonii*), mountain yellow-legged frog (*Rana muscosa*), southwestern willow flycatcher (*Empidonax traillii extimus*), least Bell's vireo (*Vireo bellii pusillus*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), quino checkerspot butterfly (*Euphydryas editha quino*), and Laguna Mountains skipper (*Pyrgus ruralis lagunae*).

There is no appropriate habitat for San Bernardino bluegrass, arroyo toad, California red-legged frog, mountain yellow-legged frog, western yellow-billed cuckoo, and Laguna Mountain's skipper on, or in the vicinity of the project site. Therefore these species will not be discussed further. The ecology and potential occurrence of other sensitive species that may occur within the project are discussed below. A summary of the ecology and potential occurrence for all species reported from the project area is presented in Table 1.

Nevin's Barberry

Federal Status: Endangered

State Status: Endangered

Nevin's barberry (*Berberis nevinii*), a member of the Berberidaceae or barberry family, is an erect evergreen shrub that ranges in height from one to four meters. Its leaves are crowded on short lateral stems and are composed of three to five leaflets. Leaflets are narrowly elliptic to lanceolate with flat to wavy margins. Flowers, when open, measure 3.5 to 6.5 centimeters (Hickman 1993). Nevin's barberry blooms from March to April. This species occurs in sandy or gravelly chaparral, cismontane woodland, coastal scrub and riparian scrub (CNPS 2001). In San Diego county, it may occur in the foothills of the Agua Tibia Wilderness Area close to the Dripping Springs Trail (Reiser 1994).

Nevin's barberry was not observed on-site, appropriate habitat for this species does not occur within the project area. Furthermore, this species was not observed in chaparral immediately adjacent to the site.

Stephen's Kangaroo Rat

Federal Status: Endangered

State Status: Threatened

The Stephen's kangaroo rat (*Dipodomys stephensi*) is a medium sized kangaroo rat with dark color, five toes on the hind feet, and a striped tail (Jameson and Peeters 1988). Preferred habitat occurs in non-native grasslands dominated by herbaceous annuals, predominately red-stemmed filaree (*Erodium cicutarium*). Some areas contain sparse elements of Riversidian sage scrub with aerial cover less than 30%. Soil type and topography occupied are variable. Long linear dirt roads at the base of hills serve as important refuges and movement corridors that has allowed many populations to persist (O'Farrel and Uptain 1989).

**TABLE 1. THREATENED, ENDANGERED OR RARE SPECIES POTENTIALLY OCCURRING WITHIN THE
LA JOLLA WASTEWATER TREATMENT PROJECT**

Species	Status ¹	Habitat ²	Presence/Description
Plants			
Nevin's barberry (<i>Berberis nevinii</i>)	federally enangered	Sandy or gravelly chaparral, cismontane woodland, coastal scrub and riparian scrub	Not detected. Low potential for occurrence; appropriate habitat does not occur on-site.
San Bernadino bluegrass (<i>Poa atropurpurea</i>)	federally endangered	Moist meadows and mesic seeps	Not detected. Low potential for occurrence; appropriate habitat does not occur on-site.
Wildlife			
arroyo toad (<i>Bufo californicus</i>)	federally endangered	Rivers with slow-moving water and shallow, gravelly pools adjacent to gravelly terraces	Not detected. Low potential for occurrence; no habitat occurs on-site.
California red-legged frog (<i>Rana aurora draytonii</i>)	federally threatened	Deep-water pools with shrubby or emergent vegetation and overhanging willows	Not detected. Low potential for occurrence; no habitat occurs on-site.
Mountain yellow-legged frog (<i>Rana muscosa</i>)	federally endangered	High elevation sunny streams with gravelly banks, isolated pools and undisturbed lake shores	Not detected. Low potential for occurrence; no habitat occurs on-site.
southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	federally endangered	Riparian habitats	Not detected; Low potential for occurrence; marginal habitat occurs on-site.
least Bell's vireo (<i>Vireo bellii pusillus</i>)	federally endangered	Dense willow woodland/scrub	Not detected; Low potential for occurrence; marginal habitat occurs on-site.
western yellow-billed cuckoo (<i>Coccyzus americanus occidentalis</i>)	federal candidate species	Riparian woodlands and dense brush	Not detected; Low potential for occurrence; appropriate habitat does not occur on-site.
Stephen's kangaroo rat (<i>Dipodomys stephensi</i>)	federally endangered	Non-native grasslands dominated by herbaceous annuals, especially red-stemmed filaree. Occasional in sparse Riversidian sage scrub.	Not detected. Low potential for occurrence; marginally suitable habitat occurs on-site.
Laguna Mountain's Skipper (<i>Pyrgus ruralis lagunae</i>)	federally endangered	Montane meadows	Not detected; Low potential for occurrence; appropriate habitat does not occur on-site.
Quino checkerspot butterfly (<i>Euphydryas editha quino</i>)	federally endangered	Sunny openings in chaparral and coastal sage shrublands. Primary larval hostplant, dot-seed plantain, rare on Chinese houses, snapdragon and Indian paint brush	Not detected. Low potential for occurrence; marginally suitable habitat occurs on-site.

¹ Status taken from California Department of Fish and Game (2004)

² Habitat taken from Hickman (1993) and CNPS (2001) for plants, Ehrlich (1988) and Unitt (1984) for birds, USFWS (1998) for invertebrates.

Although non-native grassland occurs on-site, the project area is surrounded by a large area of dense chaparral. The presence of grassland species on-site is the result of vegetation removal approximately seven to ten years ago. The project is isolated and not situated adjacent to a large area of suitable habitat. Thus Stephen's kangaroo rat is not expected to occur.

Quino Checkerspot Butterfly

Federal Status: Endangered

State Status: None

The Quino checkerspot butterfly (*Euphydryas editha quino*) is known to occur in sunny openings within chaparral and coastal sage shrublands in portions of Riverside and San Diego counties, California, and northwestern Baja California, Mexico (Federal Register 1997). This species has been threatened by habitat loss and degradation as a result of grazing, urban development, fire management, excessive collection and general human disturbance (Federal Register 1997).

The Quino checkerspot's primary larval hostplant, dot-seed plantain (*Plantago erecta*), is generally small, growing to between approximately 3 and 30 centimeters in height (Hickman 1993). It is easily displaced by non-native species that invade following disturbance from discing, grading or grazing (Federal Register 1997). Other known larval host plants include Chinese houses (*Collinsia concolor*), snapdragon (*Antirrhinum coulterianum*) and Indian paint brush (*Castilleja exserta*) (USFWS 1999).

In addition to specific larval host plant requirements, the Quino checkerspot is also associated with particular topographic features. It is known to prefer open or bare soils with moderate to heavy clay content or cryptogamic crusts (USFWS 1999). Ridges, rounded hilltops and generally, topographic diversity indicates suitable Quino checkerspot habitat.

Although the project area supports mostly open non-native grassland habitat, it is surrounded by dense chaparral habitat. The majority of the chaparral vegetation occurring within the project area was removed approximately 7 to 10 years ago. This isolated and marginal habitat is not expected to support the Quino checkerspot. In addition, the site is located outside of the USFWS recommended Quino survey areas. Therefore focused surveys for this species are not recommended.

4.4 Sensitive Habitats

Sensitive habitats include those communities considered unique because they host many species of plants and animals that are rare or substantially depleted. Habitats occurring within the project area, including non-native grassland, are not considered sensitive under NEPA.

The project area is dominated by exotic plant species. Therefore, sensitive habitats do not occur on site. However, it should be noted that a small drainage, connecting to a blue-line tributary of the San Luis Rey River, occurs adjacent to the project area.

5.0 Impacts

5.1 Sensitive Species and Habitats

The project area supports disturbed habitat of poor quality. Therefore, sensitive species are not expected to occur on site.

The 2.0 acre project site should provide adequate space for the 5 sewage treatment ponds described in this proposal. Construction will result in impacts to approximately 1.05 acre of non-native grassland, 0.51 acre of ruderal areas, 0.39 acre of developed areas, and 0.05 acre of southern mixed chaparral. Developed areas include existing unpaved roads and a graded pad area. Impacts resulting from the construction of the proposed waste water ponds is not expected to exceed 1.05 acres of non-native grassland, 0.05 acre of southern mixed chaparral, one mature oak tree, and several immature oaks.

It should be noted that no detailed construction drawings were provided for the preparation of this biological assessment. Based on the conceptual layout, the proposed project will occur on a mostly previously disturbed site and only a small area of southern mixed chaparral will be affected. However, impacts resulting from final project construction may vary from this conceptual design.

5.2 Conclusions

Proposed impacts to the habitats listed in Table 2 are not considered significant under the National Environmental Policy Act (NEPA). Therefore, no mitigation is required for impacts to biological resources.

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APPENDIX A. CORRESPONDENCE WITH THE U.S. FISH AND WILDLIFE SERVICE