

Responses to

California Energy Commission Staff
Data Requests 72-85

Dated March 9, 2004

on the

Application for Certification

for the

Roseville Energy Park

Roseville, California

03-AFC-01

Submitted to the
California Energy Commission

Submitted by
Roseville Electric

April 2004

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Introduction

Attached are Roseville Electric's responses to the second round of the California Energy Commission (CEC) Staff data requests for the Roseville Energy Park (REP) (03-AFC-01), Data Requests 72 through 85. The CEC Staff served these data requests on March 9, 2004, as part of the discovery process for the REP project. The responses in this submittal are formatted by individual discipline or topic area, each with its own title page, so that they can more easily be used and referred to separately as individual evidentiary exhibits during the Decision Phase. Within each discipline area, the responses are presented in the same order as by the CEC Staff and are keyed to the CEC Staff Data Request number. New or revised graphics or tables are numbered in reference to the data request number. (For example, Figure DR15-1 would be the first figure submitted in response to Data Request 15.)

Additional tables, figures, or documents submitted in response to a data request (supporting data, plans, folding graphics etc.) are found at the end of a discipline-specific section and are not sequentially page-numbered consistently with the remainder of the document, though they may have their own internal page numbering system.

Responses to
CEC Staff Data Requests

Data Requests 72-78: Biological Resources

Application for Certification

for the

Roseville Energy Park

Roseville, California

03-AFC-01

Submitted by

Roseville Electric

April 2004

Technical Area: Biological Resources (72-78)

Branchiopod survey results

72. *Please provide results for the 2004 wet season branchiopod surveys.*

Response: The 2004 wet season branchiopod survey shows that, of 30 seasonal swales and wetlands sampled, 1 of them contained the vernal pool fairy shrimp (*Branchinecta lynchi*), a species federally listed as threatened under the Endangered Species Act. This report is included as Appendix F of the Biological Assessment. The Biological Assessment is included here as Attachment BIO-1.

Wetland delineation

73. *Please provide a revised wetland delineation and aerial photograph(s) of the proposed project's wetland features.*

Response: See Attachment BIO-2 for a revised wetland delineation map on aerial photograph base and table of wetland features acreages.

CWA permit application

74. *Please provide a copy of the Clean Water Act, Section 404 permit application submitted to the USACE, along with supporting data.*

Response: The Clean Water Act, Section 404 permit application will be submitted once the U.S. Army Corps of Engineers has verified REP's wetland delineation map. The revised map is provided as Attachment BIO-2.

Biological Assessment

75. *Please provide a copy of the Biological Assessment submitted to the USFWS, CDFG, and NMFS.*

Response: See Attachment BIO-1.

Critical habitat

76. *Please provide a map, at suitable scale, illustrating the location of the proposed project in relation to the 32,134 Placer County acres designated as critical habitat for vernal pool fairy shrimp.*

Response: See Figure 7 (page 49) in the Biological Assessment (Attachment BIO-1).

Mitigation plan

77. *Using the USACE approved wetland delineation and the USFWS/staff approved Biological Assessment as guidelines, submit a proposal to mitigate the proposed projects impacts to the vernal pool system currently existing on the proposed site. Include in the proposal the proposed project's impacts to wetted and grassland areas within the 70-acre city owned parcel but outside the proposed 50-acre construction zone.*

Response: The vernal pool system and raptor foraging grassland mitigation proposal is included in the Biological Assessment (Attachment BIO-1).

Swainson's hawk

78. Per CDFG guidelines (impacts to active nests within 5 miles of project) propose mitigation for loss of Swainson's hawk foraging habitat caused by the proposed project.

Response: The Swainson's hawk foraging habitat mitigation proposal is included in the Biological Assessment (Attachment BIO-1).

ATTACHMENT BIO-1

**Biological Assessment
Roseville Energy Park**

Biological Assessment

for the

Roseville Energy Park

Placer County, California

Submitted to:

U.S. Army Corps of Engineers

Sacramento, California

Submitted by:

Roseville Electric

Roseville, California

Prepared by:



TETRA TECH FW, INC.
Sacramento, California

April 2004

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ABBREVIATIONS AND ACRONYMS

AFC	Application for Certification
BA	Biological Assessment
BMPs	Best Management Practices
CDFG	California Department of Fish and Game
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDDB	California Natural Diversity Database
CO	Carbon Monoxide
CNPS	California Native Plant Society
CTGs	combustion turbine-generators
EIR	Environmental Impact Report
ESU	Evolutionarily Significant Unit
HRSGs	Heat Recovery Steam Generators
kV	kilovolt
MW	Megawatt
MBTA	Migratory Bird Treaty Act
NOx	Nitrogen oxide(s)
PGWWTP	Pleasant Grove Waste Water Treatment Plant
RE	Roseville Electric
REP	Roseville Energy Park
SCR	selective catalytic reduction
STGs	steam turbine-generators
TDS	total dissolved solids
TtFW	Tetra Tech FW, Inc.
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
WRSP	West Roseville Specific Plan

1.0 INTRODUCTION

The City of Roseville's electric department, doing business as Roseville Electric (RE), proposes to construct, own, and operate an electrical generating plant in the City of Roseville, Placer County, California (Figure 1). The Roseville Energy Park (REP) will be a natural gas-fired 120 to 125 megawatt (MW) power plant. The project site is west of the limits of the City of Roseville, and is adjacent to and north of the Pleasant Grove Waste Water Treatment Plant (PGWWTP).

RE filed an Application for Certification (AFC) for the REP project with the California Energy Commission (CEC) on October 30, 2003, under Title 20 of the California Code of Regulations. Under the Warren-Alquist Act, the CEC AFC review process serves as an equivalent to the California Environmental Quality Act (CEQA) environmental review. The AFC for the REP project presents detailed information about the project and addresses the potential impacts in sixteen resource areas, including biological resources, from the construction and operation of the project (Roseville Electric 2003).

This Biological Assessment (BA) was prepared for the U.S. Army Corps of Engineers (USACE) in accordance with Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1536 [c]), and provides a discussion of the special status species evaluated for potential effects from the REP project. The REP project has the potential to affect a total of 10 special status species during construction or operation. These include 6 federally listed species, 1 state-listed species, and 3 federal species of concern, California species of special concern, or California Native Plant Society designated species.

1.1 PROJECT LOCATION

The REP is located along the margins of California's Central Valley, immediately west of the Sierra Nevada foothills region. The project site is situated approximately 6 miles from the center of the City of Roseville and 16 miles from the center of the City of Sacramento (Township 11N, Range 5E, Section 23, Pleasant Grove 7.5' quadrangle).

The project is situated within a 70-acre City of Roseville property. Construction of the REP and its electrical switchyard will take place on approximately 12 acres (REP power plant site); in addition, 24.75 acres of the City-owned property will be temporarily used for construction offices, laydown, and parking. The total project site construction zone will thus encompass 36.75 of the 70 acres (REP construction area). The REP construction area is bordered on the north by private property and Pleasant Grove Creek, on the east by an open parcel belonging to the City of Roseville, on the south by Phillip Road and the PGWWTP, and on the west by private property.

1.2 PROJECT DESCRIPTION

The REP will be a natural gas-fired, combined-cycle electrical generating facility rated at a nominal net generating capacity of 120 to 125 megawatts (MW), and with the ability to peak-fire

Figure 1

using duct burners to 160 MW (under hot ambient conditions). The REP power train will consist of 1) two General Electric LM6000 PC SPRINT or Siemens GTX100 combustion turbine-generators (CTGs), equipped with water injection (for the LM6000) or dry low-NO_x combustors (for the GTX100) to control oxides of nitrogen (NO_x) and evaporative coolers for reducing inlet air temperatures; 2) two heat recovery steam generators (HRSGs) with duct burners; 3) selective catalytic reduction (SCR) and oxidation catalyst equipment to control NO_x and carbon monoxide (CO) emissions, respectively; 4) a single condensing steam turbine generator (STG); 5) a deaerating surface condenser; 6) a mechanical draft cooling tower; 7) a zero-liquid discharge unit, and 8) associated support equipment.

In addition to the power plant, the project will entail:

- Approximately 40 feet of new recycled water supply pipeline that will cross Phillip Road from the PGWWTP to the REP plant site (see Figure 2).
- Approximately 800 feet of new sanitary wastewater discharge pipeline that will head east from the REP power plant site, paralleling Phillip Road on the north side of the road, to end at the City's Waste Water Treatment Plant Lift Station. The lift station is the entry point for all sanitary wastewater entering the PGWWTP.
- Approximately 720 feet of storm water outfall that will head east from the REP power plant site and discharge to an unnamed tributary to Pleasant Grove Creek. From the power plant site, the initial segment of the storm water outfall will consist of a new, 30-inch diameter pipeline. Once the storm water outfall crosses the location of the future Phillip Road extension, the remaining portion will be a 20-foot-wide open-cut ditch.
- A new 6-mile natural gas pipeline that will start at the PG&E interconnection, located on Baseline Road just east of Country Club Lane. The pipeline will then head west on Baseline Road to Fiddymment Road, head north on Fiddymment Road to Blue Oaks Blvd, and then will head west overland from Blue Oaks Blvd along the planned Blue Oaks Blvd extension, to the planned Phillip Road realignment. The pipeline will then follow Phillip Road south and west into the REP site. North of Pleasant Grove Boulevard, the natural gas pipeline will be built within a new urban development area known as the West Roseville Specific Plan (WRSP) area. As such, this portion of natural gas pipeline has been permitted through WRSP and is covered in the U.S. Fish and Wildlife Service (USFWS) Biological Opinion for WRSP (USFWS 2003b). South of Pleasant Grove Boulevard (along Fiddymment Road and Baseline Road), the pipeline will be constructed within the pavement of these roadways and will thus not cause significant impacts to biological resources.
- A 100-foot long (maximum) 60 kilovolt (kV) transmission line connecting the REP switchyard to the RE grid. Connection with the grid will be achieved by looping a new 60 kV transmission line, constructed as part of the WRSP build-out, into the REP switchyard. Construction of the REP's 100-foot transmission line will be conducted entirely within the switchyard portion of the REP site. Therefore, the REP project will not require new off-site electrical transmission facilities. The REP's AFC identifies, an alternative transmission line, however, that will be considered only as a contingency plan for the unlikely event that the

development of West Roseville and the build-out of the WRSP are delayed indefinitely. The alternative line would be a double-circuit, wooden pole, 60 kV line. The alternative line's route would follow the north side of Phillip Road west from the REP switchyard, turn south along the west side of Phillip Road, turn east with Phillip Road and run along the south side of Phillip Road (replacing the existing single-circuit transmission line located there), and then turn south and run along the east side of Fiddymont Road in the existing landscape and public utility easement to the Fiddymont Substation. Exact placement of conductor support poles would be determined as part of final design if this route were to become the preferred route.

The site plan for the REP is shown in Figure 2 and the natural gas pipeline route and alternative transmission alignment are shown in Figure 3. The fenced power plant footprint will encompass approximately 12 acres to accommodate the generation facilities, control/administration building, emission control equipment, storage tanks, gas compressor station, storm water pond, and parking area, and RE's electrical switchyard. Access to the REP will be from an entrance on the west side of the property, off of Phillip Road. A second, smaller entrance will be located on the east side of the property off Phillip Road.

1.3 ENVIRONMENTAL SETTING

The proposed REP project is located on the lower alluvial fans that extend westward from the Sierra Nevada foothills. This area historically contained various habitats including annual grassland, oak woodland, riparian woodland, riparian scrub, valley needlegrass grassland, vernal pools, seasonal and emergent wetlands, alkali meadows, and alkali seeps. Habitat types currently in the project area include annual grassland, riparian oak woodland, vernal pool complexes, seasonal wetlands, and rural and urban residential areas. Only vestiges of natural habitats remain within the project area. Current land use in the project area is dominated by urban residential development, rural residential development, agriculture and grazing/pasture lands. Remnants of historic ecosystems remain in parks and preserves, along major waterways, and as isolated patches in ranches and open spaces. Significant ecological resources in the project area consist of Pleasant Grove Creek (located directly north of the project site) and the Woodcreek Oaks Mitigation Area, a vernal pool complex located approximately 2.3 miles southeast of the project site.

Elevation at the project site ranges between 25 and 29 meters (82 and 95 feet). The climate in the project area is classified as Mediterranean, and is influenced by the regional topography and proximity to the Pacific Ocean. The climate is fairly constant and predictable, with a bimodal seasonal pattern with respect to rainfall and temperature. Summers are warm and dry and winters are wet and cool, with rain occurring between October and March.

1.4 DEFINITION OF PROJECT AREA

This BA discusses the potential effects of construction and operation of the REP project on special status species in the project area. This BA references three distinct study zones for the REP:

-
- **Project Area**—a 1-mile radius surrounding the REP project site, which includes the recycled water line, sanitary sewer line, storm water outfall line, electrical transmission connection, and portions of the natural gas pipeline.
 - **REP Construction Area**—the area proposed to be used by RE for the construction of the REP. This area consists of the approximately 12 acres for the power plant and switchyard and the City-owned area immediately surrounding the power plant site that will serve as the construction laydown, construction worker parking, and construction office area (24.75 acres). Taken together with the 12-acre power plant site, the construction area will be 36.75 acres in size
 - **REP Power Plant Site**—The 12-acre area on which the REP power plant and associated facilities, and the REP electrical switchyard, will be situated.

Figure 2

Figure 3

2.0 SPECIAL STATUS SPECIES EVALUATION

An evaluation was conducted to determine whether special status species or their habitats could occur in the project area. The list of special status species evaluated for this project was based on information provided by the California Department of Fish and Game (CDFG) and U.S. Fish and Wildlife Service (USFWS). The designation of special status includes all federal and state threatened and endangered species and their critical habitat, federal and state proposed or candidate species for listing, federal species of concern, California species of special concern, fully protected species under CDFG Code, and plant species designated as rare, threatened, or endangered by the California Native Plant Society (CNPS).

2.1 LITERATURE REVIEW

Information on species biology, distribution, and potential for occurrence was gathered from several reference sources including file information from the USFWS (species letter for the Pleasant Grove and Roseville quadrangles dated July 28, 2003, see Appendix A) and the California Natural Diversity Database (CNDDDB 2003) (see Appendix B).

Other documents reviewed in determining species occurrence in the project area include:

- Wet-Season Sampling for Federally Listed Large Branchiopods at the Roseville Energy Park Project, Sacramento County California, Helm Biological Consulting, February 2004.
- Biological Opinion on the Westpark/Fiddymont Ranch Project, U.S. Fish and Wildlife Service, November 2003, (file no. 1-1-03-F-0013).
- Dry-Season Sampling for Federally Listed Large Branchiopods at the Roseville Energy Park Project, Sacramento County California, Helm Biological Consulting, October 2003.
- Environmental Impact Report for the West Roseville Specific Plan and Sphere of influence Amendment, City of Roseville, September 2003.
- Revised Biological Assessment for the Roseville Energy Facility, URS Corporation, July 2002.
- Wet-Season Surveys for Freshwater Invertebrates and Spring Surveys for Rare Plants for the Placer County Habitat Conservation Plan, Jones & Stokes Associates, July 2002.
- April 2002 Rare Plant Survey West Roseville Specific Plan, URS Corporation, June 2002.
- Application for Certification for the Roseville Energy Facility, Roseville Energy Facility, LLC, 2001.

- Results of Surveys for Special-Status Species in the Fiddymt/Placer 1600 Project Area Placer County, California, Miriam Green Associates, July 2000.
- Roseville Regional Wastewater Treatment Service Area Master Plan Draft Environmental Impact Report, City of Roseville, 1996.

Standard references used for the biology and taxonomy of plants and plant communities included Hickman (1993), Holland (1986), Sawyer and Keeler-Wolf (1995), and CNPS (2003). Standard references used for the biology and taxonomy of wildlife included Jennings and Hayes (1994), Moyle et al. (1995), Steinhart (1995), and Zeiner et al. (1988, 1990a, 1990b).

2.2 SPECIES EVALUATION

A total of 62 special status species was evaluated for potential occurrence in the project area, based on the reference sources mentioned above. Of the 62 special status species evaluated, 28 species have potential habitat within the project area. These species consist of 11 federal and state listed species, and 18 species of concern, California species of special concern, and/or CNPS designated species (Table 1). Those species for which Table 1 shows no potential for occurring in the project area are not mentioned further in this BA.

Discussions of the 28 species for which potential habitat exists are provided below. For each species, brief information on the biology, range, and occurrence (from CNDDDB) is provided. Additionally, each species is further analyzed; based on records of occurrence, survey information, and other references, to determine whether the REP may impact that species. Table 2 lists the 28 species for which habitat exists in the project area, and shows which of those species may be affected by the REP project.

Table 1. Special Status Species Evaluated in the Project Area

Scientific Name	Common Name	Federal/State/CNPS Status ^a	Habitat	Habitat in Project Area?
Plants				
<i>Balsamorhiza macrolepis</i> var. <i>macrolepis</i>	Big-scale balsamroot	SC/--/1B	Chapparal, cismontane woodlands and valley and foothill grasslands	Yes
<i>Botrychium lineare</i>	Slender moonwort	C/--/1B	Upper montane coniferous forest	No
<i>Cordylanthus mollis</i> ssp. <i>hispidus</i>	Hispid bird's-beak	SC/--/1B	Meadows and seeps, playas, valley and foothill grasslands (alkaline)	No
<i>Downingia pusilla</i>	Dwarf downingia	--/--/2	Vally foothill grasslands (mesic), vernal pools	Yes

Scientific Name	Common Name	Federal/State/CNPS Status ^a	Habitat	Habitat in Project Area?
<i>Gratiola heterosepala</i>	Boggs lake hedge-hyssop	SC/E/1B	Marshes, swamps (lake margins), late-season vernal pools	Yes
<i>Juncus leiospermus</i> var. <i>leiospermus</i>	Red Bluff dwarf rush	SC/--/1B	Chaparral, cismontane woodlands, meadows and seeps, valley and foothill grasslands, vernal pools	Yes
<i>Legenere limosa</i>	Legenere	SC/--/1B	Vernal pools	Yes
<i>Mahonia sonnei</i>	Truckee barberry	E/E/--	Riparian forest associated with the Truckee River	No
<i>Rorippa subumbellata</i>	Tahoe yellow-cress	C/E/1B	Riparian areas and lake margins within lower montane coniferous forests and meadows and seeps	No
Invertebrates				
<i>Branchinecta lynchi</i>	Vernal pool fairy shrimp	T/--/--	Vernal pools and seasonal wetlands	Yes
<i>Desmocerus californicus dimorphus</i>	Valley elderberry longhorn beetle	T/--/--	Elderberry shrubs associated with riparian areas	No
<i>Lepidurus packardi</i>	Vernal pool tadpole shrimp	E/--/--	Vernal pools and seasonal wetlands	Yes
<i>Linderiella occidentalis</i>	California linderiella fairy shrimp	SC/--/--	Vernal pools and seasonal wetlands	Yes
Fish				
<i>Acipenser medirostris</i>	Green sturgeon	C/CSC/--	Large, cold, clean rivers with cobble to clean sand substrates and high water velocities	No
<i>Hypomesus transpacificus</i>	Delta smelt	T/T/--	Low to mid-reaches of Sacramento-San Joaquin River Delta to lower American River	No
<i>Oncorhynchus clarki henshawi</i>	Lahontan cutthroat trout	T/--/--	Lakes and streams within the Lahontan Basin	No

Scientific Name	Common Name	Federal/State/CNPS Status ^a	Habitat	Habitat in Project Area?
<i>Oncorhynchus mykiss</i>	Central valley steelhead	T/E/--	The Pacific Ocean for most of the life cycle; major freshwater rivers and streams, with gravel beds, for spawning	Yes
<i>Oncorhynchus tshawytscha</i>	Central Valley spring-run chinook salmon Central Valley fall/late-fall run chinook salmon Central valley winter-run chinook salmon	T/T/-- C/CSC/-- E/E/--	The Pacific Ocean for most of the life cycle; major freshwater rivers and streams, with gravel beds, for spawning	Yes
<i>Pogonichthys macrolepidotus</i>	Sacramento splittail	T/CSC/--	Spawn in flooded vegetation in tidal freshwater and euryhaline habitats of estuarine marshes, sloughs, and slow-moving reaches of large rivers	No
<i>Spirinchus thaleichthys</i>	Longfin smelt	SC/CSC/--	Spawn in freshwater and euryhaline habitats over sandy-gravel substrates, rocks, or aquatic plants	No
Amphibians				
<i>Ambystoma californiense</i>	California tiger salamander	PT/--/--	Vernal pools or other seasonal wetlands for breeding, annual grasslands and grassy understory of valley-foothill hardwood forests with mammal burrows	Yes
<i>Rana aurora draytonii</i>	California red-legged frog	T/--/--	Pools of streams & marshes with emergent vegetation and riparian overstory, typically without predatory fish or frogs	Yes

Scientific Name	Common Name	Federal/State/CNPS Status ^a	Habitat	Habitat in Project Area?
<i>Rana muscosa</i>	Mountain yellow-legged frog	C/CSC/--	Ponds, lakes, and streams of moderate to high elevation (ca. 1370 – 3650 m)	No
<i>Spea hammondi</i>	Western spadefoot	SC/CSC/--	Grasslands and occasionally in valley-foothill hardwood woodlands, breeds in seasonal and vernal pools	Yes
Reptiles				
<i>Thamnophis gigas</i>	Giant garter snake	T/T/--	Freshwater bog and marsh habitats; low gradient streams, agricultural and irrigation ditches, canals and rice fields	No
<i>Clemmys marmorata marmorata</i>	Northwestern pond turtle	SC/CSC/--	Permanent or semi-permanent water which may include permanent ponds, lakes, streams, irrigation ditches or permanent pools along intermittent streams	Yes
<i>Phrynosoma cornatum frontale</i>	California horned lizard	SC/CSC/--	Riparian woodland clearings, chamise chaparral, and alkaline grasslands and flats	No
Birds				
<i>Agelaius tricolor</i>	Tricolored blackbird (nesting colony)	SC/CSC/--	Fresh water emergent wetlands	No
<i>Athene cunicularia hypugaea</i>	Western burrowing owl (burrow sites)	SC/CSC/--	Open, dry grasslands, agricultural and desert habitats with prevalence of burrowing mammals	Yes
<i>Baeolophus inornatus</i>	Oak titmouse	SC/--/--	Nests in oak woodlands or pine and oak woodlands, forages and breeds in oak riparian areas	Yes

Scientific Name	Common Name	Federal/State/CNPS Status ^a	Habitat	Habitat in Project Area?
<i>Branta canadensis leucopareia</i>	Aleutian Canada goose	SC/--/--	Agricultural farmlands for feeding and open water ponds and lakes for breeding	No
<i>Buteo regalis</i>	Ferruginous hawk (wintering)	SC/CSC/--	Open grasslands, and cultivated fields with prevalence of burrowing mammals	Yes
<i>Buteo swainsoni</i>	Swainson's hawk (nesting and foraging)	SC/T/--	Large trees within 1 mile of riparian areas for nesting; annual grasslands, agricultural croplands, fallow fields for foraging	Yes
<i>Carduelis lawrencei</i>	Lawrence's goldfinch	SC/--/--	Oak and riparian woodlands, weedy areas near water	Yes
<i>Chaetura vauxi</i>	Vaux's swift	SC/CSC/--	Mature old-growth forest	No
<i>Charadrius montanus</i>	Mountain plover (wintering)	PT/CSC/--	Open shortgrass plains and grasslands, plowed fields with little vegetation, sagebrush areas	Yes
<i>Coccyzus americanus occidentalis</i>	Western yellow-billed cuckoo	C/E/--	Riparian woodlands composed of cottonwoods and willows	No
<i>Cypseloides niger</i>	Black swift	SC/CSC/--	Nests on moist crevices near sea cliffs or waterfalls in deep canyons	No
<i>Elanus leucurus</i>	White-tailed kite	SC/FP/--	Nests in large oak or willow woodlands near open grasslands and meadows	Yes
<i>Empidonax traillii brewsteri</i>	Little willow flycatcher (nesting)	SC/--/--	Broad, open river valleys or large mountain meadows with shrubby willows	No

Scientific Name	Common Name	Federal/State/CNPS Status ^a	Habitat	Habitat in Project Area?
<i>Falco mexicanus</i>	Prairie falcon	SC/CSC/--	Associated with perennial grasslands, savannahs, rangelands, and desert scrub areas	No
<i>Falco peregrinus anatum</i>	American peregrine falcon (nesting)	SC/E/--	Nests on high cliff ledges in woodland, forest and coastal habitats overlooking marshes, lakes and rivers	No
<i>Grus canadensis tabida</i>	Greater sandhill crane	SC/T/--	Wet meadows interspersed with emergent marshes near rice or corn croplands	No
<i>Haliaeetus leucocephalus</i>	Bald eagle (nesting and wintering)	E/T/--	Large old growth trees or snags in conifer and redwood forests	No
<i>Lanius ludovicianus</i>	Loggerhead shrike	SC/CSC/--	Prefers open habitats with sparse shrubs and trees, posts, fences or other perches, and low or sparse herbaceous cover	No
<i>Melanerpes lewis</i>	Lewis' woodpecker	SC/--/--	Open deciduous and conifer habitats with brushy understory	No
<i>Numenius americanus</i>	Long-billed curlew	SC/CSC/--	Wet meadows and coastal estuaries, nests in grasslands and wet meadows adjacent to lakes or marshes	No
<i>Picoides nuttallii</i>	Nuttall's woodpecker	SC/--/--	Low elevation deciduous riparian and oak woodlands	Yes
<i>Plegadis chihi</i>	White-faced ibis	SC/CSC/--	Wet meadows, emergent wetlands, or flooded pastures and croplands	No
<i>Riparia riparia</i>	Bank swallow (nesting)	SC/T/--	Nearly vertical banks or cliff walls of major rivers in the Sacramento Valley	No

Scientific Name	Common Name	Federal/State/CNPS Status ^a	Habitat	Habitat in Project Area?
<i>Selasphorus rufus</i>	Rufous hummingbird	SC/--/--	Uses riparian areas, chaparral, valley foothill hardwood woodlands, nests in coniferous forests	Yes
<i>Toxostoma redivivum</i>	California thrasher	SC/--/--	Dense chaparral and thickets in riparian areas	No
Mammals				
<i>Corynorhinus (=Plecotus) townsendii</i>	Pacific western big-eared bat	SC/CSC/--	Mesic grasslands, oak woodlands, and Sierra foothills; roosts in caves and similar structures	Yes
<i>Eumops perotis californicus</i>	Greater western mastiff bat	SC/CSC/--	Open, arid grasslands, conifer and deciduous woodlands; coastal and desert scrub	No
<i>Myotis ciliolabrum</i>	Small-footed myotis bat	SC/--/--	Arid wooded and brushy uplands near water	Yes
<i>Myotis evotis</i>	Long-eared myotis bat	SC/--/--	Widespread in California but avoids the arid Central Valley and deserts	No
<i>Myotis thysanodes</i>	Fringed myotis bat	SC/--/--	Widespread in California, occurring in all but the Central Valley and Colorado and Mojave deserts	No
<i>Myotis volans</i>	Long-legged myotis bat	SC/--/--	Woodland & forest habitats in Coast Ranges and Sierra foothills above 1200 m, forages in chaparral and coastal scrub	No
<i>Myotis yumanensis</i>	Yuma myotis bat	SC/--/--	Woodlands & forests with sources of water nearby, roosts in buildings, mines, caves, crevices	Yes
<i>Perognathus inornatus</i>	San Joaquin pocket mouse	SC/--/--	Dry, open grasslands and scrub areas with coarse-textured (sandy) soils	No

Scientific Name	Common Name	Federal/State/CNPS Status ^a	Habitat	Habitat in Project Area?
Sources: California Natural Diversity Database (September 2003), U.S. Fish and Wildlife Service Species Letter (July 28, 2003), California Department of Fish and Game Special Plants (January 2004), California Department of Fish and Game Special Animals (January 2004)				
^{a/} Species Status Categories:				
T= Threatened, E= Endangered, PT = Proposed Threatened, C = Candidate, FP= Department of Fish and Game Fully Protected, SC = Species of Concern, CSC= California Species of Special Concern.				
CNPS: 1A = Plants presumed extinct in California, 1B = Plants rare, threatened, or endangered in California, 2 = Plants rare, threatened, or endangered in California, but more common elsewhere, 3 = Plants about which more information is needed, 4 = Plants of limited distribution.				
-- = No status for species for this category.				

2.3 SPECIAL STATUS SPECIES DISCUSSIONS

2.3.1 Plants

Big-scale balsamroot (*Balsamorhiza macrolepis* var. *macrolepis*)

HABITAT AND BIOLOGY: Perennial herbaceous plant growing to 60 cm tall. Found in open grassy slopes and valleys of valley-foothill woodlands and grasslands at elevations less than 1400 m. Threats include cattle grazing and development (Hickman 1993, CNPS 2003, CNDDDB 2003).

BLOOMING: March-June

RANGE: Populations known from the foothills of the Sierra Nevada, Sacramento Valley, and San Francisco Bay area (Hickman 1993, CNPS 2003).

CNDDDB/RAREFIND RECORDS: One record for this species occurs in the project quads (Pleasant Grove and Roseville). The record is about 4.0 miles east of the project area.

POTENTIAL IMPACTS: Although habitat exists as valley-foothill grasslands within the project area, documented surveys within the last 4 years show no observations or records of big-scale balsamroot within the project area. A survey for special status plants was conducted within the properties to the east and west of the project site (WRSP area) during April, May and June 2000 (Miriam Green Associates 2000). Big-scale balsamroot was not observed in the WRSP area during those surveys. Subsequently, special status plant surveys were conducted within the project site during April and May 2001 for the proposed Roseville Energy Facility (Roseville Energy Facility, LLC 2001), and during June and July 2003 for the REP. Big-scale balsamroot was not observed during these survey events. Based on negative surveys results at the project site and in the project area, and based on the fact that no historic records for big-scale balsamroot occur in the project area, significant impacts to big-scale balsamroot are not expected from construction and operation of the REP.

Table 2. Special Status Species With Habitat Near REP

Species	Common Name	Potentially Affected by REP?
Plants		
<i>Balsamorhiza macrolepis</i> var. <i>macrolepis</i>	Big-scale balsamroot	No
<i>Downingia pusilla</i>	Dwarf downingia	Yes
<i>Gratiola heterosepala</i>	Bogg's Lake hedge-hyssop	No
<i>Juncus leiospermus</i> var. <i>leiospermus</i>	Red Bluff dwarf rush	No
<i>Legenere limosa</i>	Legenere	No
Invertebrates		
<i>Branchinecta lynchi</i>	Vernal pool fairy shrimp	Yes
<i>Lepidurus packardi</i>	Vernal pool tadpole shrimp	Yes
<i>Linderiella occidentalis</i>	California linderiella fairy shrimp	Yes
Fish		
<i>Oncorhynchus mykiss</i>	Central Valley steelhead	Yes
<i>Oncorhynchus tshawytscha</i>	Central Valley chinook salmon (spring-run, fall/late-fall run, winter-run)	Yes
Amphibians		
<i>Ambystoma californiense</i>	California tiger salamander	No
<i>Rana aurora draytonii</i>	California red-legged frog	No
<i>Spea hammondi</i>	Western spadefoot toad	Yes
Reptiles		
<i>Clemmys marmorata marmorata</i>	Northwestern pond turtle	No
Birds		
<i>Athene cucularia hypugaea</i>	Western burrowing owl	No
<i>Baeolophus inornatus</i>	Oak titmouse	No
<i>Buteo regalis</i>	Ferruginous hawk	No
<i>Buteo swainsoni</i>	Swainson's hawk	Yes
<i>Carduelis lawrencei</i>	Lawrence's goldfinch	No
<i>Charadrius montanus</i>	Mountain plover	No
<i>Elanus leucurus</i>	White-tailed kite	Yes
<i>Picoides nuttallii</i>	Nuttall's woodpecker	No
<i>Selasphorus rufus</i>	Rufous hummingbird	No
Mammals		
<i>Corynorhinus townsendii townsendii</i>	Pacific western big-eared bat	No
<i>Myotis ciliolabrum</i>	Small-footed myotis bat	No
<i>Myotis yumanensis</i>	Yuma myotis bat	No

Figure 4

Dwarf downingia (*Downingia pusilla*)

HABITAT AND BIOLOGY: Annual herbaceous flower grows in vernal pools and (mesic) valley and foothill grasslands below 445 m. Threatened by urbanization, agriculture, grazing, vehicles, and industrial forestry (Hickman 1993, CNPS 2003, CNDDDB 2003).

BLOOMING: March-May

RANGE: Known in the foothills of the Sierra Nevada and the Coast Ranges, as well as South America.

CNDDDB/RAREFIND RECORDS: Eleven records for this species occur within the project quads (Pleasant Grove and Roseville). Five of these records occur within the project area.

POTENTIAL IMPACTS : Habitat for this species occurs in vernal pools in the REP project area. Occurrences are known from the 5 CNDDDB records, as well as from the WRSP project area (Miriam Green Associates 2000). Additionally, 5 populations of dwarf downingia were observed within pools on the project site during surveys for the Roseville Energy Facility (Roseville Energy Facility, LLC 2001). Based on known occurrences of this species on the project site, it was determined that significant impacts to dwarf downingia could occur from construction and operation of the REP. Please see Section 4.2.1 for a detailed analysis of potential impacts of the REP on dwarf downingia.

Boggs lake hedge-hyssop (*Gratiola heterosepala*)

HABITAT AND BIOLOGY: A perennial herb that grows in marshes, swamps (lake margins), and deep, late-season vernal pools at elevations ranging from 10 to 2,375 m. This species is threatened by agriculture, development, grazing, trampling, and vehicles (Hickman 1993, CNPS 2003, CNDDDB 2003).

BLOOMING: April-August

RANGE: Known from the northern Sacramento Valley, the Sierra Nevada Foothills, the Modoc Plateau, and southern Oregon.

CNDDDB/RAREFIND RECORDS: One record for this species occurs in the project quads (Pleasant Grove and Roseville). The record is approximately 6.75 miles east of the project area.

POTENTIAL IMPACTS: Although habitat for this species exists, no populations of Bogg's Lake hedge-hyssop were observed within properties to the east and west of the project site (WRSP area) during focused surveys (Miriam Green Associates 2000). Likewise, this species was not found during focused surveys on the project site for the Roseville Energy Facility (Roseville Energy Facility, LLC 2001). Based on negative survey results at the project site and in the project area; and based on the fact that no historic records for Bogg's Lake hedge-hyssop occur within the project area, significant impacts to Bogg's Lake hedge-hyssop are not expected from construction and operation of the REP.

Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*)

HABITAT AND BIOLOGY: Diminutive annual herbs that grow in vernal pools and vernal mesic areas in valley and foothill grassland, chaparral, cismontane woodland, meadows and

seeps from 30 to 100 m. Threatened by development, agriculture, and industrial forestry (Hickman 1993, CNPS 2003, CNDDDB 2003).

BLOOMING: March-May

RANGE: Known from the eastern Sacramento Valley and the Sierra Nevada foothills.

CNDDDB/RAREFIND RECORDS: One record for Red Bluff dwarf rush occurs in the project quads (Pleasant Grove and Roseville). The record occurs approximately 4 miles east of the project area. Although listed in the CNDDDB, the record states “Witham considers this site to be erroneous; it is outside of the reported range of this species. It may be var. *ahartii* or a misidentification” (CNDDDB 2003).

POTENTIAL IMPACTS: Although habitat for this species exists, no populations of Red Bluff dwarf rush were observed within the properties to the east and west of the project site (WRSP area) during focused surveys (Miriam Green Associates 2000). Likewise, this species was not found during focused surveys on the project site for the Roseville Energy Facility (Roseville Energy Facility, LLC 2001). Based on negative survey results at the project site and in the project area; and based on the fact that no historic records for Red Bluff dwarf rush occur within the project area, significant impacts to Red Bluff dwarf rush are not expected from construction and operation of the REP.

Legenere (*Legenere limosa*)

HABITAT AND BIOLOGY: An annual herb that grows in vernal pools below 880 m. Many historical occurrences have been extirpated by grazing and development (Hickman 1993, CNPS 2003, CNDDDB 2003).

BLOOMING: April-June

RANGE: Known from the northern Central Valley and adjacent foothill regions of the Sierra Nevada and Coast Range.

CNDDDB/RAREFIND RECORDS: Three records for this species occur in the project quads (Pleasant Grove and Roseville). All three of these records occur more than 5 miles from the project area.

POTENTIAL IMPACTS: Legenere was documented within the project area during surveys in 1993 and 1994 for the Roseville Regional Wastewater Treatment Service Area Master Plan Draft Environmental Impact Report (City of Roseville 1996). However, URS Corporation conducted surveys for legenere in the location of the 1993 record during April 2002 in support of the WRSP, and no legenere was observed during these surveys (URS Corporation 2002a). Likewise, no populations of legenere were observed within the properties to the east and west of the project site (WRSP area) during focused surveys (Miriam Green Associates 2000). Also, this species was not found during focused surveys on the project site for the Roseville Energy Facility (Roseville Energy Facility, LLC 2001). Current knowledge on the germination and dispersal of seeds of this species is limited. Factors such as germination requirements, length of viability of dormant seeds, and dispersal mechanisms would determine whether historic records indicate a current, viable population. However, since surveys within the area of the record provided negative results for the population over the last four years, and no legenere was observed during surveys at the REP project site in 2004, it is

assumed that the recorded population has not successfully reproduced. Therefore, significant impacts to legenera are not expected from construction and operation of the REP.

2.3.2 Invertebrates

Vernal pool fairy shrimp (*Branchinecta lynchi*)

HABITAT AND BIOLOGY: The vernal pool fairy shrimp is federally listed as a threatened species. Vernal pools and seasonal swales inhabited by the vernal pool fairy shrimp are typically low in total dissolved solids (TDS), conductivity, alkalinity, and chloride. The species displays a sporadic distribution in vernal pool complexes and typically occurs in low population densities.

RANGE: There are 32 known populations of this fairy shrimp ranging from Stillwater Plain in Shasta County through most of the length of the Central Valley to Pixley in Tulare County. It is also found along the Central Coast Range from northern Solano County to the Pinnacles in San Benito County, at Soda Lake in San Luis Obispo County, near Santa Rosa Plateau and Rancho California in Riverside County, and in northern Santa Barbara County. Many of these populations comprise a single inhabited pool.

CNDDDB/RAREFIND RECORDS: No CNDDDB/RareFind records for vernal pool fairy shrimp occur within 1 mile of the project site.

POTENTIAL IMPACTS: Vernal pool fairy shrimp occurrences are known from the PGWWTP site (City of Roseville 1996) and from the West Park Property (the western development in the WRSP) (J&S 2002). Dry and wet season protocol surveys for vernal pool branchiopods were conducted during 2003-2004 within the 70-acre City parcel that contains the REP construction area. *Branchinecta* cysts were present in 8 basins during dry-season sampling. The cysts were not hatched and reared to make a positive identification and may or may not represent *Branchinecta lynchi* (Appendix E). Wet season sampling confirmed that vernal pool fairy shrimp are present in one vernal pool in the easternmost City parcel, located across a road from the REP construction area (Appendix F). This vernal pool system is not hydrologically connected to the systems on the project site, however. Even though vernal pool fairy shrimp have not been found in the direct and indirect impact areas of REP construction, significant impacts to vernal pool fairy shrimp critical habitat could occur from construction and operation of the REP. Please see Section 4.2.3 for a detailed analysis of potential impacts of the REP on vernal pool fairy shrimp habitat.

Vernal pool tadpole shrimp (*Lepidurus packardii*)

HABITAT AND BIOLOGY: The vernal pool tadpole shrimp is federally listed as an Endangered species. This freshwater shrimp inhabits vernal pools containing clear to highly turbid water and ranging in size from 5 square miles in the Mather Air Force Base area of Sacramento to 89 acres at Olcott Lake at the Jepson Prairie. Pools that support the tadpole shrimp are typically located in grass-bottomed swales of grasslands in old alluvial soils underlain by hardpan or in mud-bottomed pools containing highly turbid water.

RANGE: There are 17 known populations of the vernal pool tadpole shrimp within the Central Valley area ranging from east of Redding in Shasta County and south to the San Luis National Wildlife Refuge in Merced County. There is also a single population located in a vernal pool complex at the San Francisco Wildlife Refuge in the City of Fremont, in Alameda County.

CNDDDB/RAREFIND RECORDS: Four CNDDDB/RareFind records occur in the project quads (Pleasant Grove and Roseville). All four records occur well outside the project site (more than 3 miles).

POTENTIAL IMPACTS: No records for vernal pool tadpole shrimp occur within the project area. Additionally, surveys done at the PGWWTP site show no signs of the presence of this species in suitable habitat (City of Roseville 1996). Likewise, focused surveys conducted for vernal pool branchiopods within the West Park Property (for the WRSP) did not detect any vernal pool tadpole shrimp (J&S 2002). Additionally, protocol surveys for vernal pool branchiopods conducted within the REP construction zone during 2003-2004 did not find the presence of tadpole shrimp. However, because the project site is within designated critical habitat for the vernal pool tadpole shrimp (USFWS 2003a), it was determined that impacts to vernal pool tadpole shrimp habitat could occur from construction and operation of the REP. Please see Section 4.2.3 for a detailed analysis of potential impacts of the REP on vernal pool tadpole shrimp habitat.

California linderiella fairy shrimp (*Linderiella occidentalis*)

HABITAT AND BIOLOGY: The California linderiella, a federal Candidate species, is a 1-inch-long invertebrate similar to the vernal pool fairy shrimp. This California endemic species grows in ephemeral pools, lays eggs as the water dries, and persists in the encysted stage until the following season. Vernal pools are being lost in the Central Valley, and, consequently, the range of this species is being reduced.

RANGE: Found in vernal pools in the Central Valley.

CNDDDB/RAREFIND RECORDS: No CNDDDB/RareFind records for this species occur in the project quads.

POTENTIAL IMPACTS: No records for linderiella fairy shrimp occur in the REP construction area. Occurrences are known from the West Park Property (WRSP) in one pool out of 35 sampled (J&S 2002). This pool is not hydrologically connected to wetlands at the REP construction site, however. Since linderiella fairy shrimp were not found within the project construction area or within vernal pool systems hydrologically connected to the project area, significant impacts to California linderiella fairy shrimp are not expected from construction or operation of the REP.

2.3.3 Fish

Central Valley steelhead (*Oncorhynchus mykiss*)

HABITAT AND BIOLOGY: California steelhead habitat includes major river reaches and estuarine areas within central California. Steelhead are anadromous fish that hatch and rear

in freshwater and then migrate to saltwater where they reach maturity. They spend 1 to 3 years in the oceans before they return to freshwater to spawn.

RANGE: From the Russian River to Aptos Creek, and the drainages of San Francisco and San Pablo Bays eastward to the Napa River (inclusive), including the Sacramento-San Joaquin River Basin.

CNDDDB/RAREFIND RECORDS: No CNDDDB/RareFind records for this species occur in the project quads (Pleasant Grove and Roseville).

POTENTIAL IMPACTS: Pleasant Grove Creek is a Sacramento River tributary, and is within the evolutionarily significant unit (ESU) designation for Central Valley steelhead. However, the creek bed is heavily silted and lacking in sufficient flows or suitable spawning gravels. Studies done in Placer County record sightings of steelhead in Cook Creek, Dry Creek, Linda Creek, Cirby Creek, Auburn Ravine, Secret Ravine, and Miners Ravine, but not Pleasant Grove Creek (Placer County 2003). It is assumed that Central Valley steelhead will not reach the portion of Pleasant Grove Creek within the project area. However, indirect effects to water quality in Pleasant Grove Creek from construction of the REP project, especially the storm water outfall ditch, could potentially impact downstream habitat for Central Valley steelhead. Construction of the storm water outfall ditch could also cause changes to the hydrological conditions in the tributary to Pleasant Grove Creek. Therefore, it was determined that significant impacts to Central Valley steelhead could occur from construction and operation of the REP. Please see Section 4.2.2 for a detailed analysis of potential impacts of the REP on Central Valley steelhead.

Central Valley chinook salmon (Spring-run, Fall/late-fall-run, Winter-run) (*Oncorhynchus tshawytscha*)

HABITAT AND BIOLOGY: Chinook salmon migrate from the Pacific Ocean to fresh water spawning grounds in the Sacramento, San Joaquin, and Stanislaus rivers. California's Central Valley contains habitat for four runs (races) of chinook salmon: spring-run, fall-run, late-fall run, and winter-run.

RANGE: California Central Valley rivers.

CNDDDB/RAREFIND RECORDS: No CNDDDB/RareFind records for these ESUs occur in the project quads (Pleasant Grove and Roseville).

POTENTIAL IMPACTS: Pleasant Grove Creek is a Sacramento River tributary, and is within the ESU designations for the four chinook salmon races. However, the creek bed is heavily silted and lacking in sufficient flows or suitable spawning gravels. Studies done in Placer County record sightings of chinook salmon in Antelope Creek, Dry Creek, Linda Creek, Cirby Creek, Secret Ravine, and Miners Ravine, but not Pleasant Grove Creek (Placer County 2003). It is assumed that Central Valley chinook salmon will not reach the portion of Pleasant Grove Creek within the project area. However, indirect effects to water quality in Pleasant Grove Creek from construction of the REP project, especially the storm water outfall ditch, could potentially impact downstream habitat for Central Valley chinook salmon. Construction of the storm water outfall ditch could cause changes to the hydrological conditions in the tributary to Pleasant Grove Creek. Therefore, it was

determined that significant impacts to Central Valley chinook salmon could occur from construction and operation of the REP. Please see Section 4.2.2 for a detailed analysis of potential impacts of the REP on Central Valley chinook salmon.

2.3.4 Amphibians

California tiger salamander (*Ambystoma californiense*)

HABITAT AND BIOLOGY: The California tiger salamander frequents annual grass habitats, but can also be found in grassy understory of valley-foothill woodlands. Tiger salamanders need temporary or seasonal ponds such as vernal pools for breeding. Occasionally, tiger salamanders will use human-made ponds for breeding, but only if predatory fish and frogs are not present. Tiger salamanders migrate to breeding ponds after the first rains in November and breed from December to February. California tiger salamanders need dry-season refugia, which tends to be small mammal burrows predominately of California ground squirrel (*Spermophilus beecheyi*) and Botta's pocket gopher (*Thomomys bottae*) (Jennings and Hayes 1994).

RANGE: Central valley from Yolo and Sacramento Counties south to Tulare County, coastal grasslands from Sonoma County to Santa Barbara County (Jennings and Hayes 1994).

CNDDDB/RAREFIND RECORDS: No CNDDDB/RareFind records for this species occur in the project quads (Pleasant Grove and Roseville).

POTENTIAL IMPACTS: According to Jennings and Hayes, no verified sightings or museum records for California tiger salamander occur within Placer County (Jennings and Hayes 1994). Focused surveys for California tiger salamanders during 2000 failed to detect the species in the WRSP area (Miriam Green Associates 2000). Additional focused surveys, conducted on the project site for the Roseville Energy Facility in 2001, also failed to detect presence of tiger salamanders within 1 mile of the project site (Roseville Energy Facility, LLC 2001). Additionally, while the habitat within the project site supports populations of California vole (*Microtus californicus*), larger burrowing species such as ground squirrels and pocket gophers are mostly absent. Although suitable breeding habitat for this species is present on-site, based on the general lack of large burrows, the absence of records of occurrence within the project area, and the negative results of focused surveys for California tiger salamanders in the project area, significant impacts to this species are not expected from construction and operation of the REP.

California red-legged frog (*Rana aurora draytonii*)

HABITAT AND BIOLOGY: The red-legged frog requires permanent water at least 3 feet in depth, and is usually associated with streams, marshes, and occasionally ponds. Occurs in aquatic areas with dense shrubby or emergent riparian vegetation. Requires moist leaf litter, small mammal burrows, or root masses of riparian trees for refugia and hibernacula. Feeds on aquatic and terrestrial insects, snails, small fish, and other frogs and tadpoles. Habitat destruction and predation, especially from bullfrogs, are factors in population reduction (Zeiner et al. 1988).

RANGE: Occurs in the Coast Ranges along the entire length of the state and within the western foothills of the Sierra Nevada, north of Mariposa county (Zeiner et al. 1988).

CNDDB/RAREFIND RECORDS: No CNDDB/RareFind records for this species occur in the project quads (Pleasant Grove and Roseville).

POTENTIAL IMPACTS: California red-legged frogs historically occurred within the project area based on extinct sightings and museum records (Jennings and Hayes 1994). However, no recent (within the last 14 years) known occurrences of California red-legged frogs are recorded with the CNDDB for the project area. Furthermore, California red-legged frogs are presumed to be extirpated from the Central Valley due to loss of habitat and prevalence of predatory bullfrogs and non-native fish in aquatic systems through the valley (Hayes and Jennings 1988) (USFWS 1996b). Based on current knowledge deeming California red-legged frog extirpated from the Central Valley, and based on the fact that no records for this species occur on the project site and in the project area, no significant impacts to California red-legged are expected from construction and operation of the REP.

Western spadefoot toad (*Spea hammondi*)

HABITAT AND BIOLOGY: The western spadefoot toad is found in grasslands and occasionally populates valley-foothill woodlands. Populations have also been noted to survive a few years in orchard-vineyard habitats. Post-metamorphic toads feed on insects, worms, and other invertebrates while juveniles consume planktonic organisms and algae. This species seeks refugia in mammal burrows or burrows of their own construction. This species utilizes shallow temporary pools for breeding (Zeiner et al. 1988).

RANGE: The Western spadefoot toad is found from the vicinity of Redding, Shasta County all the way to the Mexican border. In California, western spadefoot toads are known only west of the Sierra/desert mountains axis (Jennings and Hayes 1994).

CNDDB/RAREFIND RECORDS: Four CNDDB/RareFind records for this species occur in the project quads (Pleasant Grove and Roseville). One record occurs along Phillip Road near the entrance to the project site.

POTENTIAL IMPACTS: According to Jennings and Hayes, no verified sightings or museum records for western spadefoot toads occur in Placer County. Surveys done in vernal pools for the WRSP (Miriam Green Associates 2000, J&S 2002), did not detect presence of any western spadefoot toads. Likewise, surveys done for the Roseville Energy Facility did not detect any western spadefoot toads in the project site (Roseville Energy Facility, LLC 2001). Although surveys did not detect presence of the species, the nearby location of the CNDDB record for the species and the documentation of other occurrences from Kaseburg Creek suggest that western spadefoot toads may occur in the project area. Given the amount of suitable habitat on the project site, significant impacts to western spadefoot toad could occur from construction and operation of the REP. Please see Section 4.2.1 for a detailed analysis of potential impacts of the REP on western spadefoot toad.

2.3.5 Reptiles

Northwestern pond turtle (*Clemmys marmorata marmorata*)

HABITAT AND BIOLOGY: The northwestern pond turtle is associated with permanent and semi-permanent waterways in various habitats below 6000 feet elevation. The pond turtle breeds between March and August with slight variation between locations. The species is fairly omnivorous, feeding on aquatic plant material as well as aquatic invertebrates, amphibians, and fish. The turtle require basking sites within the immediate area of water. Basking sites take the form of logs, rocks, floating mats of vegetation, and the banks of the waterways (Jennings and Hayes 1994, Zeiner et al. 1988).

RANGE: Present throughout California west of the Sierra-Cascade crest (Zeiner et al. 1988).

CNDDDB/RAREFIND RECORDS: No records for northwestern pond turtle occur in the project quads (Pleasant Grove and Roseville).

POTENTIAL IMPACTS: Deep pools associated with Pleasant Grove and Kaseburg Creeks could provide suitable habitat for northwestern pond turtles. No northwestern pond turtles were observed in the project area during surveys for the WRSP (Miriam Green Associates 2000). No northwestern pond turtles were observed in the project site during surveys for the Roseville Energy Facility (Roseville Energy Facility, LLC 2001). Northwestern pond turtles were not observed during surveys for the REP in summer 2003 and spring 2004. Although suitable habitat exists within permanent aquatic sites in the area, based on the lack of records and negative survey results, significant impacts to northwestern pond turtles are not expected from construction and operation of the REP.

2.3.6 Birds

Western burrowing owl (*Athene cunicularia*)

HABITAT AND BIOLOGY: A year-long resident of dry, open grassland and desert habitats. Also found in open shrub stages of pinyon-juniper and ponderosa pine habitats. Breeding season is March through August. Western burrowing owl hunt from a perch and feed mostly on insects, but also feed on rodents, reptiles, and, occasionally, other birds and carrion. Use rodent burrows for nests and roosting sites. Nests are usually lined with pellets, feathers, and wash (Zeiner 1990b).

RANGE: Yearlong presence in the Central Valley, Coastal Range, and southeastern deserts, as well as along the north coast.

CNDDDB/RAREFIND RECORDS: One record for western burrowing owl occurs 0.92- mile southeast of project site.

POTENTIAL IMPACTS: Although one record for burrowing owl occurs within the project area, the record is 0.92-mile away from the project site. The record occurs in an area that is moderately grazed with no evidence of historic soil disturbance. Also, the burrowing owl is presumed to need less territory for foraging habitat than other raptors. According to CDFG, foraging habitat for burrowing owls should be considered habitat within 100 m (328 ft) of occupied burrows (CDFG 1995). Surveys of the project site for the Roseville Energy Facility resulted in negative findings for burrowing owl (Roseville Energy Facility, LLC

2001). Likewise, surveys for the REP showed no evidence of burrowing owl activity within the project site and out to 100 m from the project site. It is assumed that the lack of burrowing owl activity within the project site is related to the lack of ground squirrel burrows within the project site. Also, the project site has not been grazed in several years and shows little evidence of having been used for agriculture in the recent past. Based on the lack of ground squirrel burrows in the project site and local surrounding area, and since no burrowing owls were observed during surveys in 2001, 2003 and 2004, significant impacts to western burrowing owls are not expected from construction and operation of the REP.

Oak Titmouse (*Baeolophus inornatus*)

HABITAT AND BIOLOGY: The oak titmouse occurs in montane hardwood-conifer; montane hardwood; blue, valley, and coastal oak woodlands; and montane and valley foothill riparian habitats. This species roosts in cavities and snags of trees in riparian, oak, and pine-oak areas. Oak titmouse feeds on insects and spiders, seeds, berries, and acorns and forages mostly within the canopy of trees, but also occasionally on the ground. The species breeds between March and July and usually lays a clutch of 3-9 eggs (Zeiner 1990b).

RANGE: Occurs from the Mexican border to Humboldt County. Its range encircles the San Joaquin Valley, extending east from the coast through Kern County onto the western slope of the Sierra Nevada north to Shasta County. Scattered and local populations exist north of Humboldt County near the coast, and locally in Siskiyou County (Zeiner 1990b).

CNDDDB/RAREFIND RECORDS: No CNDDDB/RareFind records for oak titmouse occur in the project quads (Pleasant Grove and Roseville).

POTENTIAL IMPACTS: Project area habitat for the oak titmouse occurs along Pleasant Grove Creek, a valley-foothill riparian zone. Significant impacts to oak titmouse would include mortality and injury, destruction of nesting habitat and disturbance of nesting and breeding behaviors. Although the project site is located near Pleasant Grove Creek, no construction activities will occur within the Pleasant Grove Creek riparian zone. Additionally, indirect impacts to breeding oak titmouse, such as noise disturbance, would not be significant. Noise studies conducted in support of the REP Application for Certification (AFC) show that the loudest composite noise levels associated with construction of the REP will be approximately 89 dBA at 50 feet, which results in noise levels of approximately 77 and 61 dBA at distances of 200 and 400 feet, respectively (Roseville Electric 2003). The closest distance from the project site to Pleasant Grove Creek is approximately 270 feet. Furthermore, these noise levels will be associated with short duration activities and will not occur for prolonged duration or frequency. Therefore, significant impacts to oak titmouse are not expected from construction and operation of the REP.

Ferruginous hawk (*Buteo regalis*)

HABITAT AND BIOLOGY: In California, during the winter season these hawks can be found in arid grassland, sagebrush, and outer edge pinyon-pine habitats. They prey on small mammals, including cottontails, jackrabbits, and pocket gophers. Some winter roosts will be

located near cultivated areas where the hawks can prey on pocket gophers in the fields. Breeding season is from late March to August (Zeiner et al. 1990b).

RANGE: Breeding range is from southern Canada to Arizona or New Mexico between the Great Plains and the Rocky Mountains. Wintering range is the southwestern states; in California, winter range encompasses the entire state with the exception of the extreme northeast and northwest (Zeiner et al. 1990b).

CNDDDB/RAREFIND RECORDS: No CNDDDB/RareFind records for this species occur in the project quads (Pleasant Grove and Roseville).

POTENTIAL IMPACTS: Adequate nesting and foraging habitat for wintering ferruginous hawks occurs within the project site. Significant impacts to ferruginous hawks would include mortality and injury and destruction of winter nesting habitat. Since construction activities will not take place within the riparian zone of Pleasant Grove Creek (suitable nesting habitat), and since ferruginous hawks are not known to breed in California, it would be very unlikely that project impacts would affect nesting habitat and behavior. Likewise, although foraging habitat exists within the project site, impacts to the foraging habitat would not significantly affect ferruginous hawk reproductive success. Therefore, significant impacts to ferruginous hawk are not expected from construction and operation of the REP.

Swainson's hawk (*Buteo swainsoni*)

HABITAT AND BIOLOGY: The Swainson's hawk is a medium-sized hawk, which can be distinguished from other hawks by its long, narrow, pointed wings. Swainson's hawks require large nesting trees with a panoramic view of their foraging grounds. The hawk's nesting preference is for large cottonwoods (*Populus fremontii*), valley oaks (*Quercus lobata*), or willows (*Salix goodingii*) within 1 mile of riparian areas. Suitable cover types for foraging habitats include the following, in order of suitability: 1) native grassland; 2) agricultural fields soon after discing; 3) alfalfa and other hay crops; 4) fallow fields; 5) lightly grazed pastures; 6) combinations of hay, grain, and row crops; 7) rice fields before flooding and after draining; and 8) heavily grazed pastures. The mating season for the Swainson's hawk is late March to late August. Swainson's hawks migrate to and live in South America during the winter (September to early March). They feed primarily on voles and small mammals in open grasslands. Grazing and cultivation have reduced the habitat for voles, and reductions in large riparian trees have limited suitable nesting areas.

RANGE: It is distributed in California in the lower Sacramento and San Joaquin valleys, the Klamath Basin, and Butte Valley, with the highest nesting densities occurring near Davis and Woodland, Yolo County.

CNDDDB/RAREFIND RECORDS: Two CNDDDB/RareFind records occur within the project quads. One record occurs 2.6 miles southeast of the project site within an oak woodland associated with Kaseburg Creek. Another record occurs 2 miles east of the project site within a blue oak woodland along Pleasant Grove Creek.

POTENTIAL IMPACTS: No Swainson's hawk nests were observed within the portions of Pleasant Grove Creek and Kaseburg Creek in the project area during 2003 surveys for the REP. However, two Swainson's hawks were observed flying over riparian habitat in the

vicinity of Peasant Grove Creek during surveys for the Roseville Energy Facility (Roseville Energy Facility, LLC 2001). Additionally, Swainson's hawk nest records are known from within 10 miles of the project site. According to CDFG, foraging habitat for Swainson's hawk is defined as suitable habitat within 10 miles of an active nest territory (CDFG 1992). Annual grassland habitat in the project site could then be considered suitable foraging habitat. Based on CDFG's definition of foraging habitat for Swainson's hawk, impacts to annual grassland in the project site could be considered significant impacts to foraging habitat for Swainson's hawk. Please see section 4.2.4 for a detailed analysis of potential impacts of the REP on Swainson's hawk.

Lawrence's goldfinch (*Carduelis lawrencei*)

HABITAT AND BIOLOGY: This species is typically found in valley-foothill hardwood, valley-foothill hardwood-conifer, and in Southern California, desert riparian, palm oasis, pinyon-juniper, and lower montane habitats. Lawrence's goldfinch breed in oak or other open, arid woodlands and chaparral near water. This species feeds mostly on seeds, but also occasionally on insects. Favored seeds include pigweed, fiddleneck, star-thistle, and chamise. Breeding starts in late March to early April and young leave the nest approximately 24 days after the eggs are laid (Zeiner 1990b).

RANGE: Lawrence's goldfinch is common along the western edge of southern deserts, fairly common but erratic from year to year in Santa Clara County and on coastal slopes from Monterey County south, and uncommon in foothills surrounding the Central Valley.

CNDDDB/RAREFIND RECORDS: No CNDDDB/RareFind records for this species occur in the project quads (Pleasant Grove and Roseville).

POTENTIAL IMPACTS: Significant impacts to Lawrence's goldfinch would include mortality and injury, destruction of nesting habitat and disturbance of nesting and breeding behaviors. Although the project site is located near to Pleasant Grove Creek, no construction activities will occur within the Pleasant Grove Creek riparian zone. Additionally, indirect impacts to breeding Lawrence's goldfinch, such as noise disturbance, would not be significant. Noise studies conducted in support of the REP Application for Certification (AFC) show that the loudest composite noise levels associated with construction of the REP will be approximately 89 dBA at 50 feet, which results in noise levels of approximately 77 and 61 dBA at distances of 200 and 400 feet, respectively (Roseville Electric 2003). The closest distance from the project site to Pleasant Grove Creek is approximately 270 feet. Furthermore, these noise levels will be associated with short duration activities and will not occur for prolonged duration or frequency. Therefore, significant impacts to Lawrence's goldfinch are not expected from construction and operation of the REP.

Mountain plover (*Charadrius montanus*)

HABITAT AND BIOLOGY: In California, the mountain plover is found mostly on short grasslands and plowed fields within the Central Valley. The mountain plover does not breed in California. It breeds in shortgrass plains, primarily vegetated by blue gramma and buffalo grasses, in the Great Plains region (Zeiner 1990b). Winter foraging habitat for this species is

characterized by alkaline flats, plowed ground, grazed pasture, and dry short grass prairie that support large insects such as grasshoppers, crickets, and flies (CSU Stanislaus 2004).

RANGE: Historically, mountain plovers were known from the Central Valley south of Sacramento County and from the southern coastal plain and southern coastal interior valleys. Currently, mountain plovers winter in the Sacramento and San Joaquin valleys, in central and south-coastal California, in the southwestern deserts, and are regularly found on the Carrizo Plain, other parts of San Luis Obispo County, and along the western edges of Kern, Kings, Tulare, and Fresno counties (CSU Stanislaus 2004).

CNDDDB/RAREFIND RECORDS: No CNDDDB/RareFind records for this species occur in the project quads (Pleasant Grove and Roseville).

POTENTIAL IMPACTS: Mountain plovers do not breed in California; therefore, construction of the REP project will not significantly impact nesting habitat or behaviors for mountain plover. Additionally, although foraging habitat occurs within the project area, the project site consists of large, weedy growth of annual non-native grasses and ruderal species. No plowing or grazing has occurred at the project site for several years. Based on these conditions, it is highly unlikely that mountain plovers will use the REP site for foraging. Therefore, significant impacts to mountain plover are not expected from construction and operation of the REP.

White-tailed kite (*Elanus leucurus*)

HABITAT AND BIOLOGY: The white-tailed kite is a CDFG fully protected species. Ideal habitat for the species is characterized by open cultivated and marshy bottomlands with scattered tall trees, savanna, grassy foothill slopes interspersed with oaks, agricultural areas with trees for windbreaks, orchards, and roadside verges. Population declines have been attributed to the conversion of native lands to agricultural and urban lands. Because of the species' increased use of suboptimal habitats, however, it is now fairly common in some areas of California, such as the Central Valley (Zeiner 1990b).

RANGE: It occurs in lowland areas west of the Sierra Nevada from the head of the Sacramento Valley south to San Diego County and inhabits low foothills or valley areas with valley or live oaks, riparian areas, and marshlands near open grasslands for foraging. It is known to breed and winter throughout lowland California, including the Central Valley and central and southern coastal valleys.

CNDDDB/RAREFIND RECORDS: Nesting pairs known from Pleasant Grove Creek adjacent to the project site.

POTENTIAL IMPACTS: White-tailed kites are known and have been observed to be nesting within the Pleasant Grove Creek riparian zone adjacent to the project site. White-tailed kites are California species of concern and are a CDFG "fully protected species". As such, take and possession of any white-tailed kites or their parts thereof (eggs, feathers, feet, etc.) is strictly prohibited. Under CDFG definition, take would include disruption of reproductive success by death of the nesting pair, destruction of nesting habitat, and failure of reproduction due to lack of adequate foraging area near to nests (CDFG 1992). Since white-tailed kites are known to nest within Pleasant Grove Creek adjacent to the project site, and

since it is documented that white-tailed kite home territories can be up to 2 square miles from the nest (Zeiner 1990b), disturbance of foraging habitat within the REP project site could be considered a significant impact. Please see section 4.2.4 for a detailed analysis of potential impacts of the REP on white-tailed kites.

Nuttall's woodpecker (*Picoides nuttallii*)

HABITAT AND BIOLOGY: Nuttall's woodpecker is a permanent resident of low elevation riparian oak habitats. It feeds on insects and insect larvae, mostly beetles, but also eats berries, seeds, and other fruits. Foraging occurs primarily in oak and riparian woodlands. Breeding occurs from late March to early July and takes place in riparian habitats and in dead cavities and trunks of large riparian trees except oaks (Zeiner 1990b).

RANGE: Nuttall's woodpecker is known from the Central Valley, in lower portions of the Cascade and Sierra Nevada ranges, along the Coast Ranges to Sonoma County, and along the Transverse and Peninsular Ranges.

CNDDDB/RAREFIND RECORDS: No CNDDDB/RareFind records for this species occur in the project quads (Pleasant Grove and Roseville).

POTENTIAL IMPACTS: Habitat for Nuttall's woodpecker occurs in the project area along Pleasant Grove Creek. Significant impacts to Nuttall's woodpecker would include mortality and injury, destruction of nesting habitat and disturbance of nesting and breeding behaviors. Although the project site is located near to Pleasant Grove Creek, no construction activities will occur within the Pleasant Grove Creek riparian zone. Additionally, indirect impacts to breeding Nuttall's woodpecker, such as noise disturbance, would not be significant. Noise studies conducted in support of the REP Application for Certification (AFC) show that the loudest composite noise levels associated with construction of the REP will be approximately 89 dBA at 50 feet, which results in noise levels of approximately 77 and 61 dBA at distances of 200 and 400 feet, respectively (Roseville Electric 2003). The closest distance from the project site to Pleasant Grove Creek is approximately 270 feet. Furthermore, these noise levels will be associated with short duration activities and will not occur for prolonged duration or frequency. Based on this data, significant impacts to Nuttall's woodpecker are not expected from construction and operation of the REP.

Rufous hummingbird (*Selasphorus rufus*)

HABITAT AND BIOLOGY: This species is found in valley-foothill hardwood, valley-foothill hardwood-conifer, riparian and chaparral habitats containing nectar-producing flowers. It feeds on nectar from nectar-producing flowers, but is also known to feed on insects and spiders. Breeding usually occurs in Oregon and the northernmost portions of California. Breeding season takes place between late April and July (Zeiner 1990b).

RANGE: Rufous hummingbird occurs mostly in Southern California, but is known to migrate through the valleys and foothills of the Sierra Nevada during spring.

CNDDDB/RAREFIND RECORDS: No CNDDDB/RareFind records for this species occur in the project quads (Pleasant Grove and Roseville).

POTENTIAL IMPACTS: Rufous hummingbirds may potentially use the Pleasant Grove Creek riparian corridor to feed and rest during spring migrations. However, since rufous hummingbirds are not known to nest in this part of California, and since the REP will have no direct impacts to the Pleasant Grove Creek riparian zone, no significant impacts are expected to rufous hummingbirds from construction and operation of the REP.

2.3.7 Mammals

Pacific western big-eared bat (*Corynorhinus (= Plecotus) townsendii townsendii*)

HABITAT AND BIOLOGY: Occurs in rural settings through many habitats including oak woodland, inner coastal ranges, lower to mid-elevation mixed coniferous-deciduous forests, and Sierra foothills. Highly associated with mines or caves for roosting. Feeds on insects, primarily small moths, by gleaning from foliage (Zeiner et al. 1990a).

RANGE: Found throughout the state from low desert to mid-elevation montane habitats. Occurs in concentration around mining areas or areas of natural caves.

CNDDDB/RAREFIND RECORDS: No CNDDDB/RareFind records for this species occur in the project quads (Pleasant Grove and Roseville).

POTENTIAL IMPACTS: Significant impacts to Pacific western big-eared bat would include destruction of habitat, destruction of maternal roosts, and/or mortality or injury to individuals. No significant roost habitat occurs within the project area. Though foraging habitat occurs within Pleasant Grove Creek, construction activities associated with the REP project will occur a minimum of 270 feet from the riparian zone. Therefore, significant impacts to Pacific western big-eared bat are not expected from construction and operation of the REP.

Small-footed myotis bat, Yuma myotis bat (*Myotis ciliolabrum, Myotis yumanensis*)

HABITAT AND BIOLOGY: These bats are found in a variety of habitats but are primarily associated with forested or wooded habitats with sources of water nearby. Yuma myotis bat is also associated with urbanized environments. These species use rock crevices, mines, caves, buildings, and occasionally bridges for roost sites. They feed on small insects including beetles, moths, and flies by gleaning from flight or foliage over water (Zeiner et al. 1990a).

RANGE: These myotis bats are widespread throughout California. They can be found at elevations from sea level to 3,300 m but are usually rare higher than 2,560 m (Zeiner et al. 1990a).

CNDDDB/RAREFIND RECORDS: No CNDDDB/RareFind records for this species occur in the project quads (Pleasant Grove and Roseville).

POTENTIAL IMPACTS: Significant impacts to these myotis bats would include destruction of habitat, destruction of maternal roosts, and/or mortality or injury to individuals. A few abandoned farm buildings and barns that could potentially be roost habitat exist within the project area, however none of these occur within the project site and no buildings will be removed as part of construction. Though foraging habitat occurs within Pleasant Grove

Creek, construction activities associated with the REP project will occur a minimum of 270 feet from the riparian zone. Therefore, significant impacts to small-footed and Yuma myotis bats are not expected from construction and operation of the REP.

3.0 SURVEY METHODS AND RESULTS

3.1 SURVEY METHODS

Biological field surveys for the REP project were conducted by Tetra Tech FW, Inc. (TtFW), ecologist Brett Hartman, and biologists Eric Htain, and Lenny Malo; and by CH2M Hill biologist Russell Huddleston. Surveys included a botanical survey of the power plant site and adjacent construction areas on June 23 and 27, 2003; a reconnaissance level survey of the surrounding project area on July 28, 2003; wildlife surveys conducted in July and August of 2003; wetland delineations on September 4-5, 2003 and March 10-12, 2004; and a vernal pool habitat survey on March 8, 2004. Additionally, Dr. Brent Helm (Section 10[a][1][A] permit no. TE-795930-2) conducted vernal pool crustacean protocol surveys at the REP site. Dr. Helm conducted a dry-season sampling study in September 2003 and a wet-season sampling study in February 2004. Results of his studies are provided in Appendices E and F.

The REP project area has been intensively surveyed for previous projects, including a number of focused surveys for special status species associated with the Roseville Energy Facility, a proposal by Enron Corporation in 2000, to construct a much larger power plant at the REP site (this project was subsequently cancelled in 2002). Surveys have also been conducted in the surrounding area for the West Roseville Specific Plan (WRSP).

Review of data from these previous field surveys, includes the following:

- Field surveys conducted for the West Park and Fiddymont Ranch segments of the WRSP area, including a special status species survey of both of these WRSP segments conducted by Miriam Green Associates (2000), wetland inventories and delineations of the West Park (also known as Placer 1600) segment conducted by Gibson & Skordal (1999) and the Fiddymont Ranch segment (1998).
- A reconnaissance-level biological resources survey conducted on March 23, 2001, for the Roseville Energy Facility project (including the entire REP project site and adjacent construction area), as well as focused surveys for rare plants from April 16 to 20, 2001 and May 21 to 24, 2001 (Roseville Energy Facility, LLC 2001).
- Rare plant surveys, vernal pool surveys, and wetland delineations associated with the West Roseville Specific Plan area (City of Roseville 2003). Additional special-status plant surveys and vernal pool surveys were conducted within portions of the WRSP area by Jones & Stokes Associates (2002) on April 23, 2002, and May 3, 2002. Rare plant surveys of the WRSP area were conducted by URS (2002b) on April 22, 2002.
- CDFG protocol surveys for California tiger salamander larvae conducted in the REP project area between March 15, 2001, and May, 2001 (Roseville Energy Facility, LLC 2001).
- Surveys for special-status amphibians were conducted between January and April 2002 (URS 2002a).

- A survey for valley elderberry longhorn beetles, based on an inventory of elderberry shrubs (*Sambucus mexicanus*), conducted in the REP project area on July 9, 1999 (Roseville Energy Facility, LLC 2001).
- Special-status bird surveys conducted in the WRSP area between the months of April and June 2001 (Roseville Energy Facility, LLC 2001).

3.2 RESULTS

The results of biological surveys are discussed below by key project element, as follows: 1) power plant site, switchyard and construction area; 2) recycled water pipeline; 3) sanitary sewer pipeline, 4) storm water outfall, 5) natural gas pipeline, and 6) alternative transmission line.

3.2.1 Power Plant Site, Switchyard, and Construction Laydown/Parking/Office Area

As described earlier, the power plant site, switchyard, and surrounding area to be used for construction laydown, parking, and offices consists of 36.75 acres (12-acre power plant and switchyard and 24.75-acre construction laydown/parking/office area). This area site contains approximately 1.18 acres of seasonal wetlands, 26.32 acres of annual grassland and 9.25 acres of disturbed/ruderal habitat (associated with the laydown area that is currently being used for PGWWTP construction).

Table 3. Acreages by Habitat Type at the REP power plant site and construction area

Habitat Type	Acreage
Seasonal wetland	1.18
Annual grassland	26.32
Disturbed/ruderal	9.25
Total	36.75

Additionally, 1.13 acres of riparian stream occurs just outside of this power plant and construction area and is an unnamed tributary to Pleasant Grove Creek. Figure 5 shows the habitat types in the project site and Table 3 lists the approximate acreage of those habitats.

Seasonal wetland vegetation is found in swales and is dominated by Italian ryegrass (*Lolium multiflorum*), curly dock (*Rumex crispus*), and rushes (*Juncus* sp.). Vernal pools are dominated by ephemeral species such as downingia (*Downingia* spp.), goldfields (*Lasthenia* spp.), coyote thistle (*Eryngium vaseyi*), and spikerush (*Eleocharis machrostachya*), as well as Italian ryegrass and turkey mullein (*Eremocarpus setigerus*) in the drier summer months.

Annual grassland vegetation is dominated by introduced annual grasses such as medusahead (*Taeniatherum caput-medusae*), ripgut brome (*Bromus diandrus*) and hare barley (*Hordeum murinum* ssp. *leporinum*), as well as ruderal species such as black mustard (*Brassica nigra*) and yellow starthistle (*Centaurea solstitialis*).

A portion of the REP project site is currently being used as a construction laydown area for the PGWWTP. This portion of the site has been used as laydown since the beginning of construction of the PGWWTP in mid-2000. This portion of the site currently contains construction trailers, equipment trailers, various pieces of equipment and materials, concrete washings and tailings, and some chemicals, paints and lubricants. This constitutes approximately 9.25 acres of disturbed/ruderal habitat, which includes the PGWWTP construction site trailers, access roads, parking area, equipment storage area, and a large dirt spoils pile to the east of the laydown area (Figure 5).

Common wildlife species observed at the project site include brewer's blackbirds, mourning doves, western meadowlarks, killdeer, and black-tailed jackrabbits. Raptor activity includes red-tailed hawks, barn owls, and white-tailed kites. Although suitable habitat for special-status raptors such as Swainson's hawk was noted, no evidence of this species was detected during the summer 2003 surveys. A full list of wildlife species observed during surveys at the REP site is included as Appendix D.

No special status plant species were detected/observed during summer 2003 surveys of the power plant site, switchyard, electrical transmission line, and construction laydown area. However, since the surveys were conducted in the summer, the survey window for some special status plant species (i.e. vernal pool species) had already passed.

Surveys were also conducted in February and March 2004, during the wet season, for vernal pool fairy shrimp habitat. Vernal pool fairy shrimp habitat was mapped using sub-meter accurate Trimble XRS GPS equipment. GPS data was then processed into maps using ArcMap GIS. Figure 6 shows the vernal pool fairy shrimp habitat within the REP project site.

Botanical surveys of the seasonal wetlands/vernal pool complexes were not conducted during 2003, however surveys for special status plants are scheduled for April 2004.

3.2.2 Recycled Water Pipeline

The recycled water pipeline will cross Phillip Road from the REP site to the PGWWTP, through trenched installation in the paved street. The recycled water pipeline will traverse landscaped habitat on the perimeter of the PGWWTP and disturbed/ruderal habitat associated with Phillip Road. No special status species habitat exists along the proposed route for the recycled water pipeline.

3.2.3 Sanitary Sewer Pipeline

The sanitary sewer pipeline will head east, parallel to the right-of-way for Phillip Road, to the PGWWTP's influent junction structure, located approximately 800 feet east of the REP site (see Figure 2). Approximately 250 feet of this pipeline lies outside of the 36.75-acre power plant construction laydown area. The sanitary sewer pipeline will cross through disturbed/ruderal habitat (associated with the existing PGWWTP construction laydown area), annual grassland habitat, and one seasonal wetland. Additionally, outside of the project site, the sanitary sewer pipeline will cross the unnamed tributary to Pleasant Grove Creek and a paved private road that leads to the influent junction structure. The proposed construction method for crossing the

Figure 5

Figure 6

unnamed tributary is to trench. Aside from one seasonal wetland, surveys along the sanitary sewer pipeline provided no findings of special status species.

3.2.4 Storm Water Outfall

The storm water outfall will consist of two portions: a 30-inch diameter pipeline portion and a storm water ditch portion. The pipeline portion will traverse through the project site, will affect annual grassland and seasonal wetland habitats, and will discharge to the unnamed tributary to Pleasant Grove Creek east-northeast of the project site. About 270 feet of the pipeline alignment will be constructed as a 20-foot wide open-cut ditch. This area is dominated by annual non-native species such as medusa head, ripgut brome, and Italian rye grass. No special status species were observed along the route for the proposed storm water outfall pipeline or ditch.

3.2.5 Natural Gas Pipeline

Surveys along the natural gas pipeline route (see Figure 3) included a windshield survey, an interpretive survey based on aerial photos, and literature review of previous studies. The natural gas pipeline route will traverse several habitats including suburban and rural developed areas, annual grassland, vernal pool complexes, seasonal wetlands, seasonal streams, and riparian woodland associated with Kaseburg and Pleasant Grove Creeks.

Installation of the natural gas pipeline will follow Baseline Road from PG&E Line 123 near Country Club Drive west. It turns north and runs along Fiddymont Road to Blue Oak Boulevard. Based on discussions with PG&E, who will construct and own the pipeline, the portions of the line that follow Baseline and Fiddymont Roads will be constructed within the existing roadway (pavement area).

From the corner of Fiddymont Road and Blue Oaks Boulevard, the route turns west along the future extension of Blue Oaks Boulevard to the REP plant site. The habitats in this segment include annual grassland and vernal pool complexes, with scattered blue oak and valley oak trees. Several vernal pool complexes occur along this segment of the route (Gibson & Skordal 1998). Once the pipeline route reaches the City of Roseville parcel, it travels west, then south along the proposed Phillip Road extension. Habitats crossed through this segment include annual grassland, vernal pools, and seasonal swales. This portion of the pipeline route (future Blue Oaks Boulevard) lies within the WRSP area and was surveyed for the WRSP. The developers of West Roseville have recently conducted environmental surveys for the WRSP and have prepared key environmental permit applications for the route of Blue Oaks Boulevard between Fiddymont Road and the City-owned property on which the REP is sited, for construction of a six-lane arterial roadway, with an accompanying 50-foot-wide landscape/public utility easement to contain public utilities (such as water mains, gas mains, storm drains, recycled water mains, electrical and communication conduit, etc.). The USACE has issued a draft Clean Water Act Section 404 permit for the WRSP area and the USFWS has issued a Biological Opinion for the WRSP area, including the Blue Oaks Boulevard extension. Though it will be part of the WRSP, the future extensions of Blue Oaks Boulevard and Phillip Road that lie on the City of Roseville's property were not formerly included in the 404 permit and Biological

Opinion for the WRSP. The West Roseville developers, however, will apply for a new permit or an amendment of the existing permit to include these elements.

3.2.6 Alternative Electrical Transmission Line

As described in the introduction, the alternative electrical transmission line represents a contingency plan in the unlikely event that development of the WRSP is delayed indefinitely. The alternative transmission line follows Phillip Road to Fiddymment Road, then runs in the landscape easement on the east side of Fiddymment Road to the Fiddymment Substation. Portions of this route (all areas north of Pleasant Grove Boulevard) were inventoried for the WRSP. In addition, biologists for the Roseville Energy Facility inventoried this same Phillip Road routing (Roseville Energy Facility, LLC 2001).

Just east of the REP along Phillip Road, the route would run in ruderal areas/annual grassland along the north shoulder of Phillip Road. Where Phillip Road turns south and runs along the eastern edge of the PGWWTP, the transmission line would run in the PGWWTP's landscape easement. This easement contains several mature oak trees and runs near the riparian corridor that accompanies the seasonal drainage on the east side of Phillip Road. South of the PGWWTP, the route would run along the western side of Phillip Road through annual grassland/pasture. Where Phillip Road turns east, the transmission line would run along the south side of the road, replacing the existing single-circuit line. This area is also annual grassland with seasonal swales and vernal pools. Though seasonal wetlands and vernal pool features have been identified and delineated by previous studies, the potential impacts of the alternative transmission line are not yet clear, since the conductor support pole position has not been designed.

Where Phillip Road meets Fiddymment Road, the transmission route turns south. Between Phillip Road and Pleasant Grove Boulevard, it would run in the landscape/public utility easement along the east side of Fiddymment Road. This area is landscaped with some lawn, sidewalk, shrubs, and landscape trees. South of Pleasant Grove Boulevard, the route would run in RE's public utility easement along the east side of Fiddymment Road, crossing under the existing Western Area Power Administration 230 kV transmission lines. The area between Pleasant Grove Boulevard and Fiddymment Substation contains undeveloped open space and the Woodcreek Oaks wetland/vernal pool mitigation area.

4.0 IMPACT ASSESSMENT

The following section describes the proposed action at the REP project site and the potential impacts of construction and operation of the REP on special status species.

4.1 PROPOSED ACTION

4.1.1 Power Plant, Switchyard, and Construction Laydown/Parking/Office Areas

Construction of the REP will take place within 36.75 acres of a 70-acre City-owned parcel. The REP will require approximately 12 acres for the construction of the power plant, electrical switchyard and associated equipment. In addition, RE is planning to use 24.75 acres for temporary facilities (construction parking, construction offices and laydown area). Included in the construction laydown area will be portions of the sanitary sewer line, storm water outfall, and recycled water pipeline. Table 4 summarizes the habitat acreages affected by construction of the REP.

Construction of the REP will include clearing and grading of the power plant and switchyard properties and will make use of heavy equipment such as graders, rollers, excavators, dump trucks, bulldozers, and forklifts. RE plans to place rock/gravel throughout portions of the project site for the construction offices, parking area, and drive lanes to the site, offices, parking area and construction laydown area. The construction offices and parking area will be located in the southeastern-most portion of the project site. To minimize sedimentation effects into the unnamed tributary, RE proposes to use clean gravel without fine materials for the parking area.

The recycled water pipeline, sanitary sewer pipeline, and pipeline portion of the storm water outflow will be constructed using trench and excavation methods. Trenches made during installation of the pipelines will be backfilled with the native soil excavated from the trenches. The areas of disturbance will be recontoured as best as possible to pre-construction grade.

The REP will require a 100-foot-long direct connection to a future 60 kV electrical distribution line that will be constructed for the WRSP. This connection does not extend off site. See section 4.1.6 below for a discussion of the alternative transmission route.

4.1.2 Sanitary Sewer Pipeline

Though most of the sanitary sewer pipeline will be constructed within the power plant site and construction laydown/parking/office area described above, some parts of this linear will be constructed outside of this area. Construction of the sanitary sewer pipeline will temporarily affect approximately 0.29 acres of disturbed, roadside habitat outside of the project construction area boundary (assumes 50-foot wide disturbance for 250 feet).

Table 4. Habitat Acreages Affected by the REP

Habitat and location	Affected Acres
Seasonal wetlands:	
Power plant and electrical switchyard	0.33
Construction laydown/parking/office	0.85
Direct impact subtotal	1.18
Indirect impact, outside of construction area	2.58
Total seasonal wetlands	3.76
Vernal pool fairy shrimp habitat:	
Power plant and electrical switchyard	0.19
Construction laydown/parking/office	0.53
Direct impact subtotal	0.72
Indirect impact, outside of construction area	1.64
Total vernal pool fairy shrimp habitat	2.36
Annual grassland:	
Power plant and electrical switchyard	5.66
Construction laydown/parking/office	20.66
Storm water outfall (outside construction area)	0.12
Total annual grassland	26.44
Water/riparian	
Storm water outfall (outside construction area)	0.05

4.1.3 Storm Water Outfall

Though most of the storm water outfall (covered portion) will be constructed within the power plant site and construction laydown/parking/office area described above, the open (non-pipeline) portion of the outfall will permanently affect approximately 0.12 acres of annual grassland habitat outside of the project construction area boundary (assumes 20-foot wide disturbance for 270 feet). The storm water outfall changes from a 30-inch diameter pipeline into an open-cut drainage ditch from the project site boundary to the unnamed tributary. The drainage ditch will be trenched and excavated. The drainage ditch will be approximately 300 feet long and 20 feet wide and will be a natural, dirt-lined ditch. The ditch will flow into the unnamed tributary approximately 675 feet from the confluence with Pleasant Grove Creek.

4.1.4 Recycled Water Pipeline

Construction of the recycled water pipeline will temporarily affect approximately 0.02 acres of disturbed/ruderal habitat outside of the project construction area boundary (assumes 20-foot wide disturbance for 40 feet).

4.1.5 Natural Gas Pipeline

The natural gas pipeline will be approximately 6 miles long and will originate along Baseline Road, east of Country Club Lane (Figure 3). PG&E will construct the natural gas pipeline using trench, excavation, and directional boring methods. From its origin at PG&E Line 123, near Country Club Drive and Baseline, the pipeline will be installed in Baseline Road. At Fiddymment Road, the pipeline route turns north and runs in the Fiddymment right-of-way north to Blue Oaks Boulevard. Indications from PG&E are that the portions of the pipeline in Baseline and Fiddymment Roads will be constructed within the existing pavement.

From the junction of Fiddymment Road and Blue Oaks Boulevard, the pipeline turns west along the future (WRSP) alignment of Blue Oaks Boulevard to the REP site. Once it reaches the City-owned REP parcel, the pipeline route will turn south and follow the planned new alignment of Phillip Road south to the power plant.

Because pipeline construction will take place in the roadways along Baseline and Fiddymment roads, the only portion of the pipeline that would enter undisturbed areas with significant natural resources values is the portion that would run in the future alignment of Blue Oaks Boulevard. This segment crosses grassland and a riparian corridor of Kaseberg Creek. This area also lies within the WRSP planning area. As such, the potential effects of constructing the new alignment of Blue Oak Boulevard have been addressed by the Environmental Impact Report for the WRSP. The WRSP developers have applied for and received a USACE Clean Water Act Section 404 permit and have prepared a Biological Assessment and received a USFWS Biological Opinion for the entire WRSP impact area (USFWS 2003b).

The WRSP permitting and Biological Opinion take into account the potential effects of the construction activities and the loss of significant habitat along the portion of the REP natural gas pipeline that will run in Blue Oaks Boulevard between the Fiddymment Road/Blue Oaks Boulevard intersection and the City's property and REP site. An additional assessment in this document for this area is unnecessary and unwarranted because of the existing Biological Opinion. PG&E will follow best management practices and avoid any impacts beyond those that would occur with the construction of Blue Oaks Boulevard as a six-lane arterial roadway with the underground utilities (potable water, storm water, waste water, natural gas, recycled water, electrical conduit) that will accompany Blue Oaks Boulevard. One potential area of concern might be the crossing of Kaseberg Creek. Impacts to the riparian corridor could be avoided during gas pipeline construction, however, by implementing horizontal directional boring, which would be the method of choice for constructing a natural gas pipeline in this area.

The portions of the future extensions of Blue Oaks Boulevard and Phillip Road that are located on the City's property (the 70-acre parcel within which the REP is located) have not been included to date in the WRSP permits. Blue Oaks Boulevard and Phillip Road, however, are features of the WRSP and thus will be permitted as part of the WRSP development by the WRSP proponents. The West Roseville permitting action for the extensions of Blue Oak Boulevard and Phillip Road will thus supercede the City's permitting action for these areas (see further discussion of this topic in Section 5.4).

The pipeline will be constructed on the City property by trenching and excavation within the 35-foot-wide landscape and public utility easement running along the west side of the future extension of Phillip Road. The pipeline will run from Blue Oaks Boulevard south to the existing alignment of Phillip Road, where it will turn west, and will then run along the north side of Phillip Road to the REP gas compressor station.

4.1.6 Alternative Electrical Transmission Line

The alternative electrical transmission line would run along Phillip Road to Fiddymment Road, then would run in the landscaped area along the east side Fiddymment Road to Pleasant Grove Boulevard, then in the utility easement to Fiddymment Substation. Construction would involve removal of the existing single-circuit, wooden pole transmission line and installation of a double-circuit line in its place. Conductor support poles would be wooden, except for turning poles, which would be metal. Construction activities would involve drilling holes to contain the transmission poles, and access to laydown areas to contain the poles and conductor spools. Once the poles are installed, they will be accessed by cherry picker or other method to install insulators and conductor pulleys. Installing the conductors requires a staging area approximately 100' x 200' at each major turn in the route for conductor spooling equipment.

Site-specific direct and indirect impacts cannot be determined in detail at this point because the final design of the transmission line, including pole placement, is not complete. Should it be necessary to choose the alternative transmission route as the preferred alternative, RE would conduct additional biological surveys of the final route, focusing attention on the pole locations, access locations, and laydown areas, and conductor spooling areas.

4.1.7 Schedule

Construction of the REP is planned to begin in early 2005, assuming the REP receives its license from the California Energy Commission by December 2004. Project construction is anticipated to require a total of 18 to 20 months. Mechanical completion of construction is scheduled for mid-2006 with full-scale commercial operation is expected by the end of 2006.

4.2 PROTECTED SPECIES

The sections which follow address potential impacts to specific protected species or habitats or groups of species (if the habitat is the same or similar). These discussions include: 1) dwarf Downingia and western spadefoot toad, 2) Central Valley steelhead and chinook salmon, 3) vernal pool crustaceans, and 4) Swainson's hawk and white-tailed kite.

4.2.1 Dwarf Downingia and Western Spadefoot Toad

As described above, construction for the REP will take place within a 36.75-acre area that includes the future power plant and electrical switchyard footprints (12 acres) as well as a 24.75-acre construction laydown, worker parking, and construction office area. A total of 1.18 acres of seasonal wetlands exists within this power plant, switchyard, and construction area. This includes 0.33 acres within the 12-acre power plant and switchyard areas and 0.85 acres within

the construction laydown, parking, and office area. The construction offices, construction parking and major drive lane areas will be graveled. Once construction is completed, the gravel will be removed and these areas will be returned to pre-construction conditions. Although the graveled areas will be returned to pre-construction conditions, the impacts to wetland habitats could be permanent and it is not possible to say with certainty whether impacts to the wetlands can be avoided. Therefore, a total of 1.18 acres of seasonal wetlands will be directly impacted.

Removal of seasonal wetlands in the power plant footprint would directly impact dwarf downingia by 1) causing direct mortality or injury to existing populations and/or 2) removing habitat for this species thus disrupting the life-cycle and further limiting its distribution. Additionally, these impacts could occur from disturbance of seasonal wetlands by persons, vehicles and equipment using the laydown area, construction offices and construction parking. Removal of seasonal wetlands would directly impact western spadefoot toad by 1) removing suitable breeding habitat in the area thereby disrupting their life-cycle and further fragmenting and isolating populations and/or 2) causing direct mortality or injury to larval stage western spadefoot toads (tadpoles). Additionally, these impacts could occur from disturbance of seasonal wetlands by persons, vehicles and equipment using the laydown area, construction offices and construction parking.

Additionally, western spadefoot toads are known to aestivate in annual grasslands surrounding seasonal wetlands. It is frequently assumed that spadefoot toads require loose (sandy or friable) soils for subsurface dormancy (Jennings and Hayes 1994). In general, the REP project site contains sandy loam for surface soils. Western spadefoot toads could potentially aestivate within the annual grasslands surrounding the seasonal wetlands within the project site. Should any western spadefoot toads be using annual grasslands in the project site as upland aestivation habitat, mortality or injury could occur from building of the construction offices and parking area. Mortality or injury could also occur if persons, vehicles or equipment made contact with dormant toads within the construction laydown areas. Use of the project site as construction offices, parking and laydown area could also result in disturbance or destruction of dormancy habitat adjacent to seasonal wetlands. A total of 5.66 acres of annual grassland habitat will be permanently removed due to construction of the power plant, switchyard and associated facilities. An additional of 20.66 acres of annual grassland habitat could be impacted by use of the construction office, parking and laydown area.

Please see Section 5.0 for proposed measures that will reduce the significance of these impacts.

4.2.2 Central Valley Steelhead and Chinook Salmon

Construction within the bed or banks of a stream, creek, or river could potentially cause changes in the physical conditions of the water, including changes in flow, increased erosion and sedimentation, increased water turbidity, and changes to surrounding vegetation. These changes could significantly reduce the function and quality of downstream habitat for aquatic species such as Central Valley steelhead and Central Valley chinook salmon.

The ditch portion of the storm water outfall will be a 20-foot wide, natural dirt-lined ditch that drains into the unnamed tributary to Pleasant Grove Creek. Sedimentation associated with construction of the ditch within the bank of the unnamed tributary could impact downstream habitat during high flow periods. Construction within the bank of the unnamed tributary could result in increased erosion into the unnamed tributary. Also, when water from the storm water ditch flows into the unnamed tributary, the confluence could result in increased turbidity and sediment flow into downstream habitat.

Please see Section 5.0 for proposed measures that will reduce the significance of these impacts.

4.2.3 Vernal Pool Crustaceans

The REP power plant, switchyard, and construction laydown, parking, and office area contains a total of 0.72 acres of suitable vernal pool fairy shrimp habitat. This includes 0.19 acres in the power plant and switchyard areas and 0.53 acres in the construction laydown, parking, and office area. The construction offices, construction parking and major drive lane areas will be graveled. Once construction is completed, the gravel will be removed and these areas will be returned to pre-construction conditions. Although the graveled areas will be returned to pre-construction conditions, the impacts to fairy shrimp habitats could be permanent and it is not possible to say with certainty whether impacts to the wetlands can be avoided. Therefore, a total of 0.72 acres of vernal pool fairy shrimp habitat will be directly impacted.

Removal or filling of vernal pool fairy shrimp habitat would directly impact these species of fairy shrimp by preventing future colonization and use of these critical habitat areas. Also, disturbance to vernal pool fairy shrimp habitat (and surrounding uplands) could come from construction traffic (i.e. pedestrian, vehicle, or heavy equipment), construction equipment and supplies (i.e. power plant parts and pieces, solvents, lubricants, etc.), and vehicle emissions (oil, radiator fluid, transmission fluid, etc.) all associated with the construction laydown area, offices and parking. These impacts could cause changes to the vernal pool system that, even with restoration, could alter factors essential to fairy shrimp ecology such as pool chemistry, duration of inundation, presence of non-native or weedy upland vegetation, introduction of pollutants, and introduction of predatory species.

Additionally, the USFWS has determined that “if any habitat within a vernal pool complex is destroyed, than all remaining habitat within the complex may potentially be indirectly affected. Where the reach of these effects cannot be determined definitively, all habitat within 250 feet of proposed development may be considered to be indirectly affected” (USFWS 1996). Given this directive, the area 250 feet around the project construction area was considered for indirect impacts. Based on GIS modeling, the REP will indirectly impact 1.64 acres of fairy shrimp habitat within this 250-foot-wide zone. It is unclear what the duration of these indirect impacts will be. The indirect impacts could be temporary or permanent. These impacts could include substantial alteration of the hydrology of the habitat, degradation of upland areas essential for nutrient flow into vernal pools, and introduction of pollutants into the complex.

The project site is also within designated critical habitat for the vernal pool fairy shrimp. The

project site lies within the Western Placer County Unit (Unit 12) for critical habitat (USFWS 2003a). The critical habitat unit is approximately 32,134 acres in size and comprises one of the last remaining vernal pool complex areas in the Southeastern Sacramento Valley. The USFWS deems this habitat to be essential to the survival of the species. Including both direct and indirect impacts, construction of the REP will impact a total of 2.36 acres of vernal pool fairy shrimp critical habitat. This constitutes a very small percentage of the habitat designated to Unit 12. Figure 7 shows the REP project in relation to the critical habitat unit, Unit 12.

Please see Section 5.0 for proposed measures that will reduce the significance of these impacts.

4.2.4 Impacts to Swainson's Hawk and White-tailed Kite

Although no nesting records for Swainson's hawk occur within the project site and adjacent riparian area, nesting records occur within 10 miles of the site. According to CDFG, disturbance that results in nest abandonment and/or loss of reproductive effort, or loss of habitat necessary to sustain such reproductive effort, would be considered "take" and is prohibited under the Migratory Bird Treaty Act (MBTA) and California Endangered Species Act (CESA) (CDFG 1992). Habitat necessary to sustain reproductive effort includes foraging habitat within 10 miles of an active Swainson's hawk nest territory. Therefore, removal of 5.66 acres of annual grassland habitat due to construction of the power plant, electrical switchyard and associated facilities could be considered "take". The remainder of the power plant and switchyard area (5.77 acres) is disturbed/ruderal area that is not considered foraging habitat for Swainson's hawk.

The REP also proposes to use 20.66 acres of annual grassland habitat associated with the construction laydown area, construction offices, and parking. The construction offices, parking area and major drive lanes to the laydown areas will be graveled; however, the construction laydown areas themselves will not be graveled. Since these areas will only be used during of construction, and the graveled areas will be returned to pre-construction conditions, the effects to the annual grassland habitat should be temporary and less than significant.

Additionally, the portion of Pleasant Grove Creek north of and adjacent to the project site is known nesting habitat for white-tailed kite. The white-tailed kite is also protected under MBTA and is considered a CDFG fully protected species. While this does not afford the white-tailed kite the same legal protection as a listed species, "take" and possession of this species is still prohibited. Since a pair of white-tailed kites has been observed repeatedly in Pleasant Grove Creek adjacent to the project site, it is assumed that this pair is nesting in the area. Much like the Swainson's hawk, removal of 5.66 acres of annual grassland due to construction of the power plant, electrical switchyard and associated facilities could be considered a significant impact that would affect white-tailed kite reproductive effort. Additionally, should disturbance associated with the construction of the REP cause nesting white-tailed kites to abandon nesting, fail to breed, or force fledge, these would be considered significant impacts.

Please see Section 5.0 for proposed measures that will reduce the significance of these impacts.

Figure 7

5.0 MITIGATION MEASURES

RE proposes the following measures to minimize the level of impacts to special status species from the construction and operation of the REP. There are three kinds of measures, discussed separately below: 1) general measures that involve worker training and use of best management practices that will benefit all of the special status species and help prevent accidental and indirect impacts, 2) specific mitigation measures that do not involve replacing lost habitat, and 3) habitat replacement measures.

5.1 GENERAL MITIGATION MEASURES FOR SPECIAL STATUS SPECIES

The following general mitigation measures will be utilized to minimize impacts to special status species in the project site:

1. A Worker Environmental Awareness Program will be developed and implemented to inform construction workers, management, and other relevant personnel about the sensitive biological resources associated with the REP project.
2. Construction boundary fencing (cyclone fence) will be placed along the perimeter of the project site. No construction activities will occur outside of the boundary fence at the power plant construction site (not including linear routes extending beyond this boundary fence).
3. Best Management Practices (BMPs) for fugitive dust control, spill prevention, etc. will be implemented on-site and for project linear construction to minimize adverse secondary or indirect impacts to surrounding area.
4. All project-related traffic will be restricted to designated access roads, routes and construction areas within the project site. No vehicular and pedestrian traffic will occur outside of the of the boundary fence at the power plant construction site (not including linear routes extending beyond this boundary fence).
5. Firearms will be strictly prohibited at the REP project site.
6. No pets will be permitted on the project site.
7. All trash items, especially food-related trash, will be disposed of in proper containers. No trash or food will be deposited within seasonal wetlands or vernal pools. Major trash containers will be emptied at least once a week by municipal services.
8. Upon project completion, all annual grassland areas temporarily disturbed within the project site will be recontoured to preconstruction grade and revegetated using an agency approved native seed mixture.
9. Qualified biologists will be retained by Roseville Electric to conduct surveys, monitor construction activities, and implement mitigation measures, as needed.

5.2 SPECIFIC MITIGATION MEASURES FOR SPECIAL STATUS SPECIES

5.2.1 Central Valley Steelhead and Chinook Salmon

The following mitigation measures will be utilized to minimize impacts to Central Valley steelhead and Central Valley chinook salmon in the project site:

1. A Sedimentation and Erosion Control Plan will be developed and implemented to limit impacts to water systems (Pleasant Grove Creek and tributary) from construction-related runoff and potential erosion.
2. A Storm Water Pollution Prevention Plan will be developed and implemented to limit pollutants entering the unnamed tributary from the storm water outfall and due to construction of the outfall, sanitary sewer pipeline, and natural gas pipeline.
3. Construction of the ditch portion of the storm water outfall will be limited to periods of dry weather and relatively low flow/low water depth within the unnamed tributary.
4. Silt fence, weed-free hay bales and booms, and other sedimentation and erosion control devices will be placed in strategic locations downstream of the outfall ditch, sanitary sewer line, and storm water outfall to prevent materials from entering Pleasant Grove Creek.
5. Upon completion of construction of the outfall ditch, sanitary sewer line, and gas pipeline, revegetation of the bank of the unnamed tributary will be implemented. Revegetation seed mix will be an agency approved native seed mix.

5.2.2 Vernal Pool Crustaceans, Dwarf Downingia, Western Spadefoot Toad

The following mitigation measures will be utilized to minimize impacts to vernal pool fairy shrimp, vernal pool tadpole shrimp, California linderiella fairy shrimp, dwarf downingia, and western spadefoot toads in the project site:

1. Preconstruction surveys for dwarf downingia and western spadefoot toads will be conducted within the project site. Observed populations/individuals of dwarf downingia and western spadefoot toad will be recorded and submitted to the resource agencies.
2. Should western spadefoot toad adults be observed within the project site, biological monitors will attempt to relocate the toads.
3. Attempts will be made to collect the seeds of vernal pool species prior to the start of construction.
4. Silt fence, hay bales and booms, and other sedimentation and erosion control materials will be deployed on the outside of the project fence (cyclone fence) to restrict sedimentation and erosion to within the project site.
5. Seasonal wetlands/vernal pools will be staked and flagged within the project site (excluding the power plant footprint, construction offices, and parking area) to identify these resources. All efforts should be made to avoid these resources with construction vehicles, equipment, and supplies within the laydown area.

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6. Upon completion of construction, all seasonal wetlands/vernal pools disturbed within the project site will be recontoured to preconstruction levels and will be reseeded with collected vernal pool seed mix.

5.2.3 Swainson's Hawk and White-Tailed Kite

The following mitigation measures will be utilized to avoid and minimize impacts to Swainson's hawk and white-tailed kite in the project site:

1. A qualified biologist will survey for nesting hawks and kites within ½ mile of the project site prior to ground disturbance.
2. Should nesting Swainson's hawks or white-tailed kites be present during surveys, intensive monitoring by a qualified biologist and consultation with CDFG will be required if construction occurs during the breeding season.
3. Should nesting Swainson's hawks or white-tailed kites show signs of abandoning nests or forced fledging, work near the nests will stop immediately and the biological monitor will contact CDFG for guidance. It may be necessary to apply for incidental take agreements with CDFG for Swainson's hawk and white-tailed kite based on results of surveys.
4. To minimize erosion and dust pollution and allow for wildlife species to avoid the vehicles and equipment, construction vehicles will adhere to a maximum speed limit of 20 mph within the project area.

5.3 HABITAT REPLACEMENT MEASURES

To compensate for impacts to vernal pool species critical habitat and Swainson's hawk foraging habitat that cannot be avoided due to construction of the REP project, RE proposes the following habitat compensation or replacement measures.

5.3.1 Vernal Pool Species Critical Habitat

Loss of vernal pool species critical habitat will be compensated by obtaining mitigation credits at an off-site mitigation bank. While on-site mitigation would be preferred, current plans and designs within the 70-acre City parcel show the entire City parcel to be used at sometime in the future. Therefore, off-site mitigation is the preferred option.

Mitigation credits will be obtained in accordance with federal guidance under the Programmatic Consultation for Listed Vernal Pool Crustaceans (USFWS 1996a). Under this guidance, the mitigation ratio will be 2:1 (acres) for preservation of vernal pool habitat (direct and indirect impacts), and at 1:1 for restoration or creation of vernal pool habitat (direct impacts). The REP project will permanently impact 0.19 acres of vernal pool species critical habitat. Direct construction impacts associated with the REP will affect an additional 0.53 acres of habitat. Additionally, indirect impacts may occur to 1.64 acres of vernal pool species critical habitat within 250 feet of the project site.

For mitigation of direct impacts to 0.72 acres of vernal pool species critical habitat, RE proposes to obtain 1.44 acres of vernal pool preservation credits (2:1 preservation) and 0.72 acres of vernal pool restoration or creation credits (1:1 creation). For mitigation of indirect impacts to

1.64 acres of vernal pool species habitat, RE proposes to obtain 3.28 acres of vernal pool preservation credits (2:1 preservation).

Mitigation credits for both preservation and restoration/creation are currently available at both the Bryte Ranch and the Clay Station conservation banks located in Sacramento County. The Applicant has also spoken with Wildlands, Inc., which owns the Sheridan and Orchard Creek Conservation Banks in Placer County, in order to determine whether credits are available in Placer County, closer to the project site. At present, neither bank has available vernal pool credits. Wildlands, however, is developing additional banking credits that are likely to become available in time to meet REP's schedule and has expressed its willingness to work with RE on obtaining the necessary credits. Additionally, RE credits may become available at the Conservation Resources Yankee Slough Conservation Bank, also in Placer County.

5.3.2 Swainson's Hawk/White-tailed Kite Foraging Habitat

Loss of Swainson's hawk/white-tailed kite foraging habitat will be compensated by obtaining mitigation credits at an off-site mitigation bank. While on-site mitigation would be preferred, current plans and designs within the 70-acre City parcel show the entire City parcel to be used at sometime in the future. Therefore, off-site mitigation is the preferred option.

RE proposes to obtain mitigation credits in accordance with guidance under the Draft Mitigation Guidelines for Swainson's Hawks in the Central Valley of California (CDFG 1992). The mitigation ratio will be at 1:1 (acres) for replacement of permanent habitat loss. The REP will result in the permanent loss of 5.66 acres of foraging habitat (annual grassland), so the mitigation replacement acreage will be 5.66 acres. Though the REP will use additional acres of suitable foraging habitat for construction laydown, offices and parking, the impacts to these areas will be temporary and these areas will be restored subsequent to completion of construction, so replacement is not required.

Mitigation credits for foraging habitat for Swainson's hawk and white-tailed kite are available at several mitigation banks including the Dolan Ranch Conservation Bank in Colusa County; and the Bryte Ranch and Clay Station conservation banks, located in Sacramento County.

5.4 MITIGATION FOR WEST ROSEVILLE SPECIFIC PLAN STREETS

As described above, new WRSP alignments for Blue Oaks Boulevard and Phillip Road will cross the City of Roseville property within which the REP construction area and power plant are sited. The REP's natural gas pipeline will run in the future right-of-way of Blue Oaks Boulevard west to the future alignment of Phillip Road and will then follow Phillip Road south to the existing alignment of Phillip Road and follow that roadway to the REP through the City's property. By agreement with the City of Roseville, the developers of the WRSP build-out will be responsible for permitting and constructing West Roseville infrastructure, including future Blue Oaks Boulevard and Phillip Road. Although the WRSP developers have obtained a Clean Water Act Section 404 permit from the USACE for the fill of wetlands and an associated Biological Opinion from the USFWS to take into consideration effects to listed species and their habitats of the development of West Roseville, the portions of future Blue Oaks Boulevard and Phillip Road located within the City of Roseville property that contains the REP are not included in the existing permit, but will be included in a new permit or amended permit.

The Blue Oak Boulevard right-of way will include a 100-foot-wide roadway plus two 50-foot landscape/public utility easements. The Phillip Road right-of-way includes a 48-foot roadway plus 35-foot utility easement on the west side and 25-foot easement on the east side. Where the habitat impact acreages for these features overlap with acreages the REP would affect indirectly, permitting and mitigation will take place through the WRSP. Where the REP would have a direct effect, and the WRSP roadway would have an indirect effect, permitting and mitigation would take place through the REP. Figure 8 displays the indirect and direct effect zones for the two projects and shows how they overlap within the City’s property, which is the remaining unpermitted area for the WRSP.

Table 5 is an estimate of the acreages that will be directly and indirectly affected by the future Blue Oak Boulevard and Phillip Road (WRSP streets) in the City property that contains the REP. Table 5 also shows the habitat impact acreages of the REP. The third column in the table (“WRSP, Non-REP Affected Acres”) accounts for acreages that lie within the WRSP streets impact areas but outside of any direct or indirect impact area of the REP. The fourth column (“REP, Non-WRSP Affected Acres”) accounts for acreages that lie outside of the WRSP streets direct and indirect impact zones, or are within the WRSP indirect impact zone but also within the REP direct impact zones. These are the areas for which the REP will provide final permitting and mitigation.

Table 5. Estimated Habitat Impact Acreages, WRSP Streets and REP.

Habitat	Total Affected Acres-WRSP	Total Affected Acres-REP	WRSP, Non-REP Affected Acres	REP, Non-WRSP Affected Acres
Seasonal wetlands:				
Direct impacts	1.15	1.18	0.87	1.18
Indirect impacts	1.85	2.58	0.09	0.82
Total seasonal wetlands	3.00	3.76	0.96	2.00
Vernal pool fairy shrimp habitat:				
Direct impacts	0.87	0.72	0.67	0.72
Indirect impacts	1.16	1.64	0.06	0.54
Total vernal pool fairy shrimp	2.03	2.36	0.73	1.26
Annual grassland:				
Total annual grassland	7.64	5.66	4.95	5.66
Water/riparian				
Total water/riparian	0.91	0.05	0.60	0.05

Figure 8

6.0 CUMULATIVE IMPACTS

Cumulative impacts can include the residual impacts of more than one project that can reach a level of significance when combined. This could take place due to a combination of impacts that, individually, did not reach the level of significance, but that, taken together, do so. Projects considered in cumulative impacts analysis include those under permitting review and reasonably foreseeable projects.

Known planned and proposed projects within the vicinity of the REP include the WRSP (a 3,142-acre residential and commercial development to the south, east, west, and northeast of the REP), the De La Salle University and Community (a 1,100-acre private university and residential and commercial development to the west of the REP), Placer Vineyards (a 5,000-acre residential and commercial development south of the REP), and a development known as the Placer Ranch (a 2,200-acre residential, commercial and industrial development that may also include a college campus north of REP). Development of these projects would take place within or near the 32,134 acres of critical habitat for vernal pool species in Western Placer County. If there were to be residual or unmitigated impacts from these projects and from the REP, the possibility of significant cumulative impacts would be present.

Taken together, the REP plus the projects listed above would affect a significant percentage of land within and near vernal pool fairy shrimp critical habitat Unit 12. Only a small percentage of this acreage, however, consists of the vernal pools and swales that are habitat for the vernal pool fairy shrimp and other listed crustaceans. For example, the WRSP (3,152 acres) included 26.6 acres of vernal pool habitat. Under the terms of this project's Clean Water Act permit and associated Biological Opinion, this habitat loss will be compensated for by both preservation of existing vernal pool habitat and creation of new habitat, as with the REP. Future projects would also be subject to USFWS mitigation rules which involve replacement of wetlands (preservation in perpetuity) as well as creation of new wetlands. As long as these mitigation measures continue to replace more vernal pool wetlands (at 2:1 preservation and 1:1 creation for direct impacts, for example) than the projects have impacted or removed, there would be no significant cumulative impact due to the REP.

Similarly, though the REP will involve the loss of raptor foraging habitat for Swainson's hawks and the white-tailed kite, replacement of the lost acreage in the REP mitigation program should prevent a cumulative adverse effect, as long as permit requirements for other foreseeable projects and projects in permit review also include mitigation by habitat replacement. Raptor foraging and nesting habitat will be preserved in the project area under the WRSP, which preserves open space and riparian corridors along Pleasant Grove and Kaseberg Creeks.

7.0 NO PROJECT ALTERNATIVE

Under the “No Project” Alternative, construction of the REP project would not occur. The basic objectives of the REP project include the following:

- To improve the quality and reliability of electric service in Roseville by locating the plant within RE’s service area, directly connected to the Roseville Electric distribution grid,
- To provide rate stability and reasonable cost to ratepayers by decreasing the City’s dependence on short-term and long-term external power contracts,
- To gain better control over operational issues that may stem from transmission facilities in the Sacramento Valley region that experience congestion during peak periods,
- To locate generation in or near load centers so as to increase overall grid reliability,
- To minimize environmental impacts from the power plant site itself as well as from the gas, water and transmission lines.

If the Applicant were to not build the REP (the “no project” alternative), it would not be possible to meet the project objectives. The “no project” alternative would forego all of the benefits associated with the REP project. In addition, the "no project" alternative would result in more energy production from existing power plants than would otherwise occur, and these currently include older, less efficient, and less environmentally sound generating units. Most importantly, Roseville Electric, as a municipal utility, would fail to meet the existing and expected electrical load requirements of its ratepayers in the City of Roseville under the no project alternative. This would have major negative economic consequences for the City's commercial and residential rate-payers and for the City's economy as a whole, since the City would be required to contract for power at greater expense from outside entities in order to meet the expected growth in demand as well as to replace the existing contractual supply.

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Appendix A
U.S. Fish and Wildlife Service Species List



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W2605
Sacramento, California 95825

IN REPLY REFER TO:

1-1-03-SP-2568

JUL 29 2003

Mr. Brett Hartman
Ecologist
Tetra Tech FW, Inc.
3947 Lennane Drive, Suite 200
Sacramento, California 95834

Subject: Species List for Roseville Energy Park (REP)

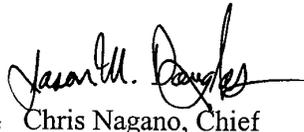
Dear Mr. Hartman:

We are sending the enclosed list in response to your request for information about endangered and threatened species (Enclosure A). The list covers the U.S. Geological Survey 7.5 minute quad(s) where your project is planned.

Please read Important Information About Your Species List (Enclosure B). It explains how we made the list and describes your responsibilities under the Endangered Species Act. Contact Justin Ly at (916) 414-6645, if you have any questions about the attached list or your responsibilities under the Endangered Species Act.

For the fastest response to species list requests, address them to the attention of Species Lists at this address. You may fax requests to (916) 414-6712 or 414-6713.

Sincerely,


per Chris Nagano, Chief
Endangered Species Division

Enclosures

ENCLOSURE A
Endangered and Threatened Species that May Occur in
or be Affected by Projects in the Selected Quads Listed Below
Reference File No. 1-1-03-SP-2568
Roseville Energy Park (REP)
July 28, 2003

QUAD: 528C PLEASANT GROVE

Listed Species

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

delta smelt, *Hypomesus transpacificus* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool tadpole shrimp, *Lepidurus packardii* (E)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Invertebrates

Critical habitat, vernal pool invertebrates, See *Federal Register* 67:59883 (PX)

Plants

Critical habitat, vernal pool plants, See *Federal Register* 67:59883 (PX)

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C)

Fish

green sturgeon, *Acipenser medirostris* (C)

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Species of Concern

Mammals

- Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)
- greater western mastiff-bat, *Eumops perotis californicus* (SC)
- small-footed myotis bat, *Myotis ciliolabrum* (SC)
- long-legged myotis bat, *Myotis volans* (SC)
- Yuma myotis bat, *Myotis yumanensis* (SC)
- San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Birds

- tricolored blackbird, *Agelaius tricolor* (SC)
- western burrowing owl, *Athene cunicularia hypugaea* (SC)
- oak titmouse, *Baeolophus inornatus* (SLC)
- Aleutian Canada goose, *Branta canadensis leucopareia* (D)
- Swainson's hawk, *Buteo Swainsoni* (CA)
- ferruginous hawk, *Buteo regalis* (SC)
- Lawrence's goldfinch, *Carduelis lawrencei* (SC)
- Vaux's swift, *Chaetura vauxi* (SC)
- white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)
- little willow flycatcher, *Empidonax traillii brewsteri* (CA)
- prairie falcon, *Falco mexicanus* (SC)
- American peregrine falcon, *Falco peregrinus anatum* (D)
- greater sandhill crane, *Grus canadensis tabida* (CA)
- loggerhead shrike, *Lanius ludovicianus* (SC)
- Lewis' woodpecker, *Melanerpes lewis* (SC)
- long-billed curlew, *Numenius americanus* (SC)
- Nuttall's woodpecker, *Picoides nuttallii* (SLC)
- white-faced ibis, *Plegadis chihi* (SC)
- bank swallow, *Riparia riparia* (CA)
- rufous hummingbird, *Selasphorus rufus* (SC)

Reptiles

- northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
- California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

- western spadefoot toad, *Spea hammondi* (SC)

Fish

- longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

QUAD: 528D ROSEVILLE

Listed Species

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

delta smelt, *Hypomesus transpacificus* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool tadpole shrimp, *Lepidurus packardii* (E)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Invertebrates

Critical habitat, vernal pool invertebrates, See *Federal Register* 67:59883 (PX)

Plants

Critical habitat, vernal pool plants, See *Federal Register* 67:59883 (PX)

Candidate Species

Fish

green sturgeon, *Acipenser medirostris* (C)

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)
long-eared myotis bat, *Myotis evotis* (SC)
fringed myotis bat, *Myotis thysanodes* (SC)
long-legged myotis bat, *Myotis volans* (SC)
Yuma myotis bat, *Myotis yumanensis* (SC)
San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
Aleutian Canada goose, *Branta canadensis leucopareia* (D)
Swainson's hawk, *Buteo Swainsoni* (CA)
ferruginous hawk, *Buteo regalis* (SC)
Lawrence's goldfinch, *Carduelis lawrencei* (SC)
Vaux's swift, *Chaetura vauxi* (SC)
black swift, *Cypseloides niger* (SC)
white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
prairie falcon, *Falco mexicanus* (SC)
American peregrine falcon, *Falco peregrinus anatum* (D)
greater sandhill crane, *Grus canadensis tabida* (CA)
loggerhead shrike, *Lanius ludovicianus* (SC)
Lewis' woodpecker, *Melanerpes lewis* (SC)
long-billed curlew, *Numenius americanus* (SC)
Nuttall's woodpecker, *Picoides nuttallii* (SLC)
white-faced ibis, *Plegadis chihi* (SC)
bank swallow, *Riparia riparia* (CA)
rufous hummingbird, *Selasphorus rufus* (SC)
California thrasher, *Toxostoma redivivum* (SC)

Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

western spadefoot toad, *Spea hammondi* (SC)

Fish

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

Plants

big-scale (=California) balsamroot, *Balsamorhiza macrolepis var macrolepis* (SLC)

hispid bird's-beak, *Cordylanthus mollis ssp. hispidus* (SC)

Boggs Lake hedge-hyssop, *Gratiola heterosepala* (CA)

legenere, *Legenere limosa* (SC)

KEY:

(E)	<i>Endangered</i>	Listed (in the Federal Register) as being in danger of extinction.
(T)	<i>Threatened</i>	Listed as likely to become endangered within the foreseeable future.
(P)	<i>Proposed</i>	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(PX)	<i>Proposed Critical Habitat</i>	Proposed as an area essential to the conservation of the species.
(C)	<i>Candidate</i>	Candidate to become a <i>proposed</i> species.
(SC)	<i>Species of Concern</i>	May be endangered or threatened. Not enough biological information has been gathered to support listing at this time.
(SLC)	<i>Species of Local Concern</i>	Species of local or regional concern or conservation significance.
(MB)	<i>Migratory Bird</i>	Migratory bird
NMFS	NMFS species	Under the jurisdiction of the National Marine Fisheries Service. Contact them directly.
(D)	<i>Delisted</i>	Delisted. Status to be monitored for 5 years.
(CA)	<i>State-Listed</i>	Listed as threatened or endangered by the State of California.
(*)	<i>Extirpated</i>	Possibly extirpated from this quad.
(**)	<i>Extinct</i>	Possibly extinct.
	<i>Critical Habitat</i>	Area essential to the conservation of a species.

ENCLOSURE A
Endangered and Threatened Species that May Occur in or be Affected by
Projects in the Area of the Following California Counties
Reference File No. 1-1-03-SP-2568
Roseville Energy Park (REP)
July 28, 2003

PLACER COUNTY

Listed Species

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Lahontan cutthroat trout, *Oncorhynchus (=Salmo) clarki henshawi* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

delta smelt, *Hypomesus transpacificus* (T) *

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Invertebrates

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

vernal pool tadpole shrimp, *Lepidurus packardii* (E)

Plants

Truckee barberry (proposed for delisting), *Berberis sonnei* (E)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Amphibians

California tiger salamander, *Ambystoma californiense* (PT)

Invertebrates

Critical habitat, vernal pool invertebrates, See *Federal Register* 67:59883 (PX)

Plants

Critical habitat, vernal pool plants, See *Federal Register* 67:59883 (PX)

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C) *

Amphibians

mountain yellow-legged frog, *Rana muscosa* (C)

Fish

green sturgeon, *Acipenser medirostris* (C)

Plants

Tahoe yellow-cress, *Rorippa subumbellata* (C)

slender Moonwort (= narrowleaf grapefern), *Botrychium lineare* (C) *

Species of Concern

Mammals

American (=pine) marten, *Martes americana* (SC)

California wolverine, *Gulo gulo luteus* (CA)

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Sierra Nevada red fox, *Vulpes vulpes necator* (CA)

Sierra Nevada snowshoe hare, *Lepus americanus tahoensis* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fisher, *Martes pennanti* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallescens* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

spotted bat, *Euderma maculatum* (SC)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

American bittern, *Botaurus lentiginosus* (SC)

American dipper, *Cinclus mexicanus* (SLC)

American peregrine falcon, *Falco peregrinus anatum* (D)

California spotted owl, *Strix occidentalis occidentalis* (SC)

California thrasher, *Toxostoma redivivum* (SC)

Harlequin duck, *Histrionicus histrionicus* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

Lewis' woodpecker, *Melanerpes lewis* (SC)
Nuttall's woodpecker, *Picoides nuttallii* (SLC)
Swainson's hawk, *Buteo Swainsoni* (CA)
Vaux's swift, *Chaetura vauxi* (SC)
bank swallow, *Riparia riparia* (CA)
black swift, *Cypseloides niger* (SC)
ferruginous hawk, *Buteo regalis* (SC)
flammulated owl, *Otus flammeolus* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
long-billed curlew, *Numenius americanus* (SC)
northern goshawk, *Accipiter gentilis* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
olive-sided flycatcher, *Contopus cooperi* (SC)
red-breasted sapsucker, *Sphyrapicus ruber* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
white-faced ibis, *Plegadis chihi* (SC)
white-headed woodpecker, *Picoides albolarvatus* (SC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
southwestern pond turtle, *Clemmys marmorata pallida* (SC)

Amphibians

Mount Lyell salamander, *Hydromantes platycephalus* (SC)
foothill yellow-legged frog, *Rana boylei* (SC)
western spadefoot toad, *Spea hammondi* (SC)

Fish

Pacific lamprey, *Lampetra tridentata* (SC)
river lamprey, *Lampetra ayresi* (SC)

Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
Lake Tahoe benthic stonefly, *Capnia lacustra* (SC)
Sagehen Creek goracean caddisfly, *Goeracea oregona* (SC)
Shirttail Creek stonefly, *Megaleuctra sierra* (SC)
South Forks ground beetle, *Nebria darlingtoni* (SC)
spiny rhyacophilan caddisfly, *Rhyacophila spinata* (SC)

Plants

Ahart's (dwarf) rush, *Juncus leiospermus* var. *ahartii* (SC)
 Boggs Lake hedge-hyssop, *Gratiola heterosepala* (CA)
 Brandegee's clarkia, *Clarkia biloba* ssp. *brandegeae* (SLC)
 Butte fritillary, *Fritillaria eastwoodiae* (SC)
 Carson Range rock cress, *Arabis rigidissima* var. *demota* (SC)
 Donner Pass buckwheat, *Eriogonum umbellatum* var. *torreyanum* (SC)
 Plumas ivesia, *Ivesia sericoleuca* (SC)
 Red Hills soaproot, *Chlorogalum grandiflorum* (SC)
 Stebbins' phacelia, *Phacelia stebbinsii* (SC)
 big-scale (=California) balsamroot, *Balsamorhiza macrolepis* var. *macrolepis* (SLC)
 common moonwort, *Botrychium lunaria* (SC)
 felt-leaved (=woolly) violet, *Viola tomentosa* (SLC)
 hispid bird's-beak, *Cordylanthus mollis* ssp. *hispidus* (SC)
 legenere, *Legenere limosa* (SC)
 long-petaled lewisia, *Lewisia longipetala* (SC)
 saw-toothed lewisia, *Lewisia serrata* (SC)
 stinkbells, *Fritillaria agrestis* (SLC)

KEY:

(E)	<i>Endangered</i>	Listed (in the Federal Register) as being in danger of extinction.
(T)	<i>Threatened</i>	Listed as likely to become endangered within the foreseeable future.
(P)	<i>Proposed</i>	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(PX)	<i>Proposed Critical Habitat</i>	Proposed as an area essential to the conservation of the species.
(C)	<i>Candidate</i>	Candidate to become a <i>proposed</i> species.
(SC)	<i>Species of Concern</i>	Other species of concern to the Service.
(SLC)	<i>Species of Local Concern</i>	Species of local or regional concern or conservation significance.
(D)	<i>Delisted</i>	Delisted. Status to be monitored for 5 years.
(CA)	<i>State-Listed</i>	Listed as threatened or endangered by the State of California.
NMFS	NMFS species	Under jurisdiction of the National Marine Fisheries Service. Contact them directly.
*	<i>Extirpated</i>	Possibly extirpated from the area.
**	<i>Extinct</i>	Possibly extinct
	<i>Critical Habitat</i>	Area essential to the conservation of a species.



Appendix B
California Department of Fish and Game CNDDDB Records

California Department of Fish and Game
 Natural Diversity Database
 Full Report for Federal and State Listed Species
 Pleasant Grove and Roseville Quadrangles

<i>Branchinecta lynchi</i>		Element Code: ICBRA03030
vernal pool fairy shrimp		
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 30	Map Index: 33251	EO Index: 2570	Dates Last Seen
Occ Rank: Good			Element: 1994-12-28
Origin: Natural/Native occurrence			Site: 1994-12-28
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1995-06-30
Main Source: MARTINE, A. & B. HELM 1994 (OBS)			

Quad Summary:
County Summary: PLACER

Lat/Long: 38.84669° / -121.26971°	Township: 12N
UTM: Zone-10 N4301186 E650156	Range: 06E
Mapping Precision: SPECIFIC	Section: 35 Qtr: NE
Symbol Type: POINT	Meridian: M
Radius: 80 meters	Elevation: 195 ft

Location: 2 MILES SE OF THE LINCOLN RODEO GROUNDS, ~3 MILES SSE OF LINCOLN.
Location Detail:
Ecological: HABITAT CONSISTS OF VERNAL POOLS WITHIN ROLLING GRASSLAND.
Threat: THREATENED BY PROPOSED DEVELOPMENT.
General: MANY SHRIMP OBSERVED/COLLECTED (DEPOSITED AT CAS) ON 28 DECEMBER 1994.
Owner/Manager: PVT

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Branchinecta lynchi		
vernal pool fairy shrimp		
		Element Code: ICBRA03030
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 41	Map Index: 32449	EO Index: 1022	Dates Last Seen
Occ Rank: Unknown			Element: 2002-01-04
Origin: Natural/Native occurrence			Site: 2002-01-04
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2002-07-31
Main Source: SUGNET & ASSOC. 1995 (LIT)			

Quad Summary:

County Summary: PLACER

Lat/Long: 38.78926° / -121.29294°	Township: 11N
UTM: Zone-10 N4294775 E648259	Range: 06E
Mapping Precision: SPECIFIC	Section: 22 Qtr: XX
Symbol Type: POLYGON	Meridian: M
Area: 12.9 ac	Elevation: 150 ft

Location: 0.8 KM E OF HWY 65; 1.5 MILES SSW OF INTERSECTION PLEASANT GROVE CREEK AND PLACER BLVD/SUNSET BLVD; N OF ROSEVILLE.

Location Detail: HIGHLAND RESERVE SOUTH; POOL NUMBERS N10, N42, N8, NA AND NB. THE ECORP 2000 SURVEY LAT/LONG GIVEN ARE NOT AT THE LOCATION THEY MAPPED; REPORT HAS TEMP, DEPTH, & SURFACE AREA OF POOLS.

Ecological: CONSTRUCTED AND HISTORIC VERNAL POOLS WITHIN A NON-NATIVE ANNUAL GRASSLAND; WETLAND COMPENSATION/MITIGATION PRESERVE. 2/6/95: POOL HAD SURFACE AREA OF 94 SQUARE METERS & DEPTH OF 17 CM. SURROUNDING AREA COMPRISED OF URBAN/DEVELOPMENT.

Threat:

General: POOL #NB: 50+ ADULTS OBS IN 1995; 1 ADULT COLLECTED & DEPOSITED IN CAS. 10'S OBS IN 2000, VERNAL POOL #VPN10; LINDERIELLA OCCIDENTALIS ALSO OBS IN 2 POOLS NOT IDENTIFIED IN THE PRESEVE. 100'S OBS IN POOLS NA, N8 & N42 ON 4 JAN 2002.

Owner/Manager: PVT-ROSEVILLE PROPERTIES

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Branchinecta lynchi		Element Code: ICBRA03030
vernal pool fairy shrimp		
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 42	Map Index: 11713	EO Index: 17819	Dates Last Seen
Occ Rank: Unknown			Element: 2001-02-16
Origin: Natural/Native occurrence			Site: 2001-02-16
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2001-05-24
Main Source: SUGNET & ASSOC. 1995 (LIT)			

Quad Summary:

County Summary: PLACER

Lat/Long: 38.76982° / -121.27800°	Township: 11N
UTM: Zone-10 N4292642 E649597	Range: 06E
Mapping Precision: NON-SPECIFIC	Section: 26 Qtr: SW
Symbol Type: POLYGON	Meridian: M
Area: 77.8 ac	Elevation: 150 ft

Location: HIGHLAND RESERVE SOUTH OPEN SPACE JUST N & E OF DIAMOND OAKS MUNICIPAL GOLF COURSE, ROSEVILLE

Location Detail: HIGHLAND RESERVE SOUTH. BOTH NATURAL AND MANMADE VERNAL POOLS PRESENT.

Ecological: HABITAT CONSISTS OF HARDPAN VERNAL POOLS IN ANNUAL GRASSLAND; WETLAND COMPENSATION/MITIGATION PRESERVE. ON 1/31/95 THE SURFACE AREA WAS 59 (U22) & 94 (U26) SQUARE METERS & THE DEPTH WAS 35 (U22) & 14 (U26) CM.

Threat:

General: POOLS #U22 & U26: 50+ ADULTS OBSERVED IN EACH; 2 ADULTS COLLECTED AND DEPOSITED IN CAS. IN THE MANMADE VERNAL POOLS SUGNET OBSERVED B. LYNCHI IN 5 OF 32 FEATURES INSPECTED, 2/11/93 (#92). UNKNOWN NUMBER OBSERVED IN POOL #U-22, 16 FEB 2001.

Owner/Manager: PVT-ROSEVILLE PROPERTIES

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<i>Branchinecta lynchi</i>		
vernal pool fairy shrimp		Element Code: ICBRA03030
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 44	Map Index: 32456	EO Index: 1903	Dates Last Seen
Occ Rank: Unknown			Element: 1995-03-XX
Origin: Natural/Native occurrence			Site: 1996-03-11
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1996-07-17
Main Source: SUGNET & ASSOC. 1996 (LIT)			

Quad Summary:

County Summary: PLACER

Lat/Long: 38.76045° / -121.34114°	Township: 11N
UTM: Zone-10 N4291500 E644131	Range: 06E
Mapping Precision: SPECIFIC	Section: XX Qtr: XX
Symbol Type: POLYGON	Meridian: M
Area: 59.3 ac	Elevation: 145 ft

Location: NORTHWEST OF ROSEVILLE; BETWEEN FIDDYMENT ROAD & HWY 65, SOUTH OF PLEASANT GROVE CREEK.

Location Detail: 1995: 15 TOTAL WETLANDS SAMPLED BTW PARCELS 32 & 72. 1996: 10 TOTAL WETLANDS SAMPLED ON SILVERADO OAKS URBAN RESERVE MITIGATION SITE; POOLS IN URBAN RESERVE ARE MUTUALLY EXCLUSIVE FROM PARCEL 72 (1995), BUT SHARE THE SAME GEOGRAPHIC SPACE.

Ecological: CONSTRUCTED AND SEASONAL HARDPAN VERNAL POOLS WITH NON-NATIVE ANNUAL GRASSLAND.

Threat:

General: 1995: POOLS #47 & 71: 50+ ADULTS OBSERVED IN EACH POOL, POOLS #47 & 71 ARE NOT ON MAP, MAPPED ACCORDING TO DATA FORMS; VISUAL OBSERVATION ONLY. 1996: NO B. LYNCHI OBSERVED, BUT LINDERIELLA OCCIDENTALIS PRESENT.

Owner/Manager: PVT-ELLIOTT HOMES

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Branchinecta lynchi		
vernal pool fairy shrimp		
		Element Code: ICBRA03030
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 45	Map Index: 32457	EO Index: 1899	Dates Last Seen
Occ Rank: Unknown			Element: 1995-03-14
Origin: Natural/Native occurrence			Site: 1995-03-14
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1995-10-11
Main Source: SUGNET & ASSOC. 1995 (LIT)			

Quad Summary:
County Summary: PLACER

Lat/Long: 38.76950° / -121.32354°	Township: 11N
UTM: Zone-10 N4292533 E645642	Range: 06E
Mapping Precision: NON-SPECIFIC	Section: 29 Qtr: SE
Symbol Type: POINT	Meridian: M
Radius: 1/5 mile	Elevation: 130 ft

Location: BETWEEN KASEBERG CREEK AND SOUTH BRANCH PLEASANT GROVE CREEK; 1.8 KM WEST OF SOUTHERN PACIFIC RR X HWY 65.

Location Detail: WOODCREEK OAKS MITIGATION SITES. 14 WATER BODIES WERE SAMPLED ON FEB 9, 10, 27 & MARCH 14, 1995. B. LYNCHI FOUND IN ONLY 1 POOL & ONLY ON 3/14/95.

Ecological: HARDPAN VERNAL POOL IN ANNUAL NON-NATIVE GRASSLAND. ON 3/14 THE SURFACE AREA WAS 129 SQ METERS & THE DEPTH WAS 18 CM. WETLAND COMPENSATION/MITIGATION PRESERVE.

Threat:

General: POOL #C2: 50+ ADULTS OBSERVED; 1 ADULT COLLECTED & DEPOSITED IN CAS. THE INFORMATION PROVIDED BY THE CONSULTANT HAS CONFLICTING DATA ON THE LOCATION OF THIS POOL; THIS SITE WAS MAPPED ACCORDING TO THE MAP THEY PROVIDED, NOT THE T-R-S GIVEN.

Owner/Manager: PVT-SARES REGIS GROUP

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<i>Branchinecta lynchi</i>		Element Code: ICBRA03030
vernal pool fairy shrimp		
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 46	Map Index: 32458	EO Index: 9535	Dates Last Seen
Occ Rank: Unknown			Element: 1996-01-29
Origin: Natural/Native occurrence			Site: 1996-01-29
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1996-09-06
Main Source: SUGNET & ASSOC. 1996 (LIT)			

Quad Summary:
County Summary: PLACER

Lat/Long: 38.85840° / -121.31539°	Township: 12N
UTM: Zone-10 N4302411 E646168	Range: 06E
Mapping Precision: SPECIFIC	Section: 28 Qtr: SW
Symbol Type: POLYGON	Meridian: M
Area: 19.0 ac	Elevation: 130 ft

Location: INGRAM SLOUGH; 3.2 KM ESE OF MOORE ROAD X FIDDYMENT ROAD; SSW OF LINCOLN.

Location Detail: LINCOLN CROSSING MITIGATION SITE. 1995: 10 TOTAL WETLANDS SAMPLED, THE INFORMATION FROM CONSULTANT HAD DISCREPANCIES BETWEEN FIELD SURVEY FORMS & MAP - MAPPED ACCORDING TO THEIR MAP. 1996: 42 TOTAL WATERBODIES WERE SURVEYED.

Ecological: CONSTRUCTED HARDPAN VERNAL POOL IN ANNUAL NON-NATIVE GRASSLAND. WETLAND COMPENSATION/MITIGATION PRESERVE.

Threat:

General: 1995: <50 ADULTS OBSERVED IN POOL #211. 1996: <50 ADULTS OBSERVED IN 5 POOLS (101, 204, 206, 216 & 220). LINDERIELLA OCCIDENTALIS ALSO PRESENT IN MOST OF SITE DURING 1995 & 1996.

Owner/Manager: PVT-STERLING PACIFIC ASSETS

<i>Branchinecta lynchi</i>		
vernal pool fairy shrimp		
		Element Code: ICBRA03030
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 91	Map Index: 32516	EO Index: 1892	Dates Last Seen
Occ Rank: Excellent			Element: 1998-02-04
Origin: Natural/Native occurrence			Site: 1998-02-04
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1998-09-29
Main Source: GIBSON, J. 1996 (LIT)			

Quad Summary:
County Summary: PLACER

Lat/Long: 38.86505° / -121.29394°	Township: 12N
UTM: Zone-10 N4303184 E648015	Range: 06E
Mapping Precision: NON-SPECIFIC	Section: 27 Qtr: NW
Symbol Type: POLYGON	Meridian: M
Area: 108.2 ac	Elevation: 140 ft

Location: EASTRIDGE SOUTHERN WETLAND PRESERVE, JUST EAST OF HWY 65 (AT THE LINCOLN RODEO GROUNDS), 0.5 MILE SE OF LINCOLN

Location Detail:

Ecological: NORTHERN HARDPAN VERNAL POOL HABITAT WITH CONSTRUCTED VERNAL POOLS (3.95 ACRES), CONSTRUCTED SEASONAL WETLANDS (1.95 ACRES), AND REFERENCE VERNAL POOLS IN ANNUAL GRASSLAND.

Threat: FUTURE RESIDENTIAL DEVELOPMENT PLANNED IN ADJACENT AREA; DIRT ROADS BISECT PRESERVE; GRAZING; RODEO GROUNDS TO THE NW.

General: 1995 (SECOND MONITORING YEAR): OBS IN 7 REFERENCE VERNAL POOLS, IN 17 CONSTRUCTED VERNAL POOLS, IN 2 1996 (THIRD YEAR): OBS IN 21 OF 45 CONSTRUCTED POOLS, 6 OF 10 REFERENCE POOLS. PRESENT ON-SITE IN 1997 AND 1998.

Owner/Manager: PVT-PLACER HOLDINGS

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Branchinecta lynchi		
vernal pool fairy shrimp		
		Element Code: ICBRA03030
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 137	Map Index: 34810	EO Index: 2496	Dates Last Seen
Occ Rank: Unknown			Element: 1999-02-25
Origin: Natural/Native occurrence			Site: 1999-02-25
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2002-03-20
Main Source: SUGNET & ASSOC. 1996 (LIT)			

Quad Summary: PLEASANT GROVE (3812174/528C)
County Summary: PLACER

Lat/Long: 38.78337° / -121.44842°	Township: 11N
UTM: Zone-10 N4293880 E634766	Range: 05E
Mapping Precision: SPECIFIC	Section: 20 Qtr: SW
Symbol Type: POLYGON	Meridian: M
Area: 59.8 ac	Elevation: 60 ft

Location: 0.25 MILE NORTHEAST OF BREWER ROAD & CURRY CREEK, ~3 MILES SOUTHEAST OF PLEASANT GROVE.
Location Detail: BASELINE BREWER MITIGATION SITE; A TOTAL OF 46 WATERBODIES WERE SURVEYED IN FEBRUARY/MARCH 1996. PROPERTY MGR: EVERGREEN MANAGMENT
Ecological: CONSTRUCTED AND EXISTING SEASONAL WATERBODIES WITHIN NON-NATIVE ANNUAL GRASSLAND. LASTHENIA FREMONTII, NAVARRETIA LEUCOCEPHALA, & ELOCHARIS MACROSTACHYA DOMINANT. LINDERIELLA OCCIDENTALIS ALSO PRESENT IN MITIGATION SITE.
Threat:
General: 1996: B. LYNCHI OBS IN 7 POOLS (#105, 122, 140 & 143 HAD >50 SHRIMP; POOLS #131, 133 & 148 HAD <50 SHRIMP). 1998: 100'S OBS IN VP# 121, 142 & 143; 1000'S OBS IN VP# 122. 1999: 100'S OBS IN MANY POOLS WITHIN MONITORED AREA.
Owner/Manager: PVT-ROSEVILLE 150 PARTNERSHIP

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<i>Branchinecta lynchi</i>		Element Code: ICBRA03030
vernal pool fairy shrimp		
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 139	Map Index: 34813	EO Index: 1874	Dates Last Seen
Occ Rank: Unknown			Element: 1996-01-30
Origin: Natural/Native occurrence			Site: 1996-03-11
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2002-03-22
Main Source: SUGNET & ASSOC. 1996 (LIT)			

Quad Summary: ROSEVILLE (3812173/528D)

County Summary: PLACER

Lat/Long: 38.80312° / -121.30397°	Township: 11N
UTM: Zone-10 N4296295 E647273	Range: 06E
Mapping Precision: SPECIFIC	Section: 16 Qtr: NE
Symbol Type: POLYGON	Meridian: M
Area: 33.4 ac	Elevation: 105 ft

Location: NORTH OF ROSEVILLE; BETWEEN HWY 65 AND INDUSTRIAL AVENUE; 0.3 KM WSW OF HWY 65 X PLEASANT GROVE CREEK.

Location Detail: FOOTHILL BUSINESS PARK MITIGATION SITE, PARCEL 1. 1995: 12 WATERBODIES SURVEYED. 1996: 14 WATERBODIES SURVEYED. 1997: 29 WATERBODIES SURVEYED.

Ecological: CONSTRUCTED VERNAL POOLS WITHIN NON-NATIVE ANNUAL GRASSLAND. POOL #VP32-1995: SURFACE AREA WAS 0, DEPTH WAS 39.0 CM; 1996: SURFACE AREA WAS 461 SQ METERS, DEPTH WAS 19.0 CM.

Threat:

General: 1/14/1997: 10'S SEEN IN 2 POOLS (VP12 & 29). 1/30/1996: >50 FAIRY SHRIMP OBSERVED IN POOL #VP32; LINDERIELLA OCCIDENTALIS ALSO PRESENT.

Owner/Manager: PVT-STANFORD RANCH

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Branchinecta lynchi		Element Code: ICBRA03030
vernal pool fairy shrimp		
Status	NDDB Element Ranks	Other Lists
Federal: Threatened State: None	Global: G2G3 State: S2S3	CDFG Status:
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 141	Map Index: 34819	EO Index: 17500	Dates Last Seen
Occ Rank: Unknown			Element: 1996-01-30
Origin: Natural/Native occurrence			Site: 1996-01-30
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1996-07-17
Main Source: SUGNET & ASSOC. 1996 (LIT)			

Quad Summary:
County Summary: PLACER

Lat/Long: 38.86474° / -121.30580°	Township: 12N
UTM: Zone-10 N4303130 E646987	Range: 06E
Mapping Precision: SPECIFIC	Section: 28 Qtr: NE
Symbol Type: POINT	Meridian: M
Radius: 80 meters	Elevation: 140 ft

Location: NNW OF ROSEVILLE IN INGRAM SLOUGH; 0.4 KM WEST OF HWY 65 X INDUSTRIAL BLVD.
Location Detail: LICOLN CROSSING MITIGATION SITE. 1996: 42 TOTAL WATERBODIES SURVEYED.
Ecological: CONSTRUCTED HARDPAN VERNAL POOL WITHIN NON-NATIVE ANNUAL GRASSLAND. WETLAND COMPENSATION/MITIGATION PRESERVE.
Threat:
General: 1996: <50 ADULTS OBSERVED IN POOL #222; SURFACE AREA=574 SQ METERS, WATER DEPTH=32.0 CM, TEMPERATURE= 11.5 DEGREES C, CONDUCTIVITY=75.80, TURBIDITY WAS LOW. LINDERIELLA ALSO PRESENT IN POOL AND IN SURROUNDING AREAS.
Owner/Manager: PVT-STERLING PACIFIC ASSETS

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Branchinecta lynchi		Element Code: ICBRA03030
vernal pool fairy shrimp		
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 154	Map Index: 33672	EO Index: 30807	Dates Last Seen
Occ Rank: Unknown			Element: 1993-01-27
Origin: Natural/Native occurrence			Site: 1993-01-27
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1997-03-05
Main Source: SUGNET & ASSOC. 1993 (PERS)			

Quad Summary:

County Summary: PLACER

Lat/Long: 38.80255° / -121.36784°	Township: 11N
UTM: Zone-10 N4296131 E641727	Range: 05E
Mapping Precision: NON-SPECIFIC	Section: 13 Qtr: XX
Symbol Type: POLYGON	Meridian: M
Area: 1,932.4 ac	Elevation: 95 ft

Location: NORTH OF PHILLIP ROAD IN THE VICINITY OF PLEASANT GROVE CREEK. NORTHWEST OF ROSEVILLE.

Location Detail: VERNAL POOLS ARE FOUND IN T11N, R05E, SECTIONS 13 & 14 AND IN T11N, R06E, SECTION 18.

Ecological: NATURAL VERNAL POOLS.

Threat:

General: 1/27/93: B. LYNCHI OBSERVED IN 16 OF 52 FEATURES INSPECTED IN SECTION 13, & IN 4 OF 9 FEATURES INSPECTED IN SECTION 14. 1/16/93: OBSERVED IN 3 INSPECTED FEATURES IN SECTION 18. NO LEPIDURUS PACKARDI OBSERVED. SUGNET RECORD #S 87, 88 & 91.

Owner/Manager: UNKNOWN

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Branchinecta lynchi		Element Code: ICBRA03030
vernal pool fairy shrimp		
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 155	Map Index: 33674	EO Index: 30808	Dates Last Seen
Occ Rank: Unknown			Element: 1993-01-27
Origin: Natural/Native occurrence			Site: 1993-01-27
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1997-04-07
Main Source: SUGNET & ASSOC. 1993 (PERS)			

Quad Summary:

County Summary: PLACER

Lat/Long: 38.77345° / -121.36795°	Township: 11N
UTM: Zone-10 N4292901 E641775	Range: 05E
Mapping Precision: NON-SPECIFIC	Section: 25 Qtr: XX
Symbol Type: POINT	Meridian: M
Radius: 3/5 mile	Elevation: 110 ft

Location: SOUTH OF PHILLIP ROAD AND WEST OF FIDDYMENT ROAD. WNW OF ROSEVILLE.

Location Detail: VERNAL POOLS LOCATED SOMEWHERE IN SECTION 25.

Ecological: NATURAL VERNAL POOLS.

Threat:

General: B. LYNCHI OBSERVED IN 5 OF 31 FEATURES INSPECTED. NO LEPIDURUS PACKARDI OBSERVED. SUGNET RECORD NUMBER 89.

Owner/Manager: UNKNOWN

California Department of Fish and Game
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Branchinecta lynchi

vernal pool fairy shrimp

Element Code: ICBRA03030

----- Status ----- NDDB Element Ranks ----- Other Lists -----

Federal: Threatened

Global: G2G3

CDFG Status:

State: None

State: S2S3

----- Habitat Associations -----

General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.

Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.

Occurrence No. 156

Map Index: 33673

EO Index: 30806

----- Dates Last Seen -----

Occ Rank: Unknown

Element: 1993-02-18

Origin: Natural/Native occurrence

Site: 1993-02-18

Presence: Presumed Extant

Trend: Unknown

Record Last Updated: 1997-04-07

Main Source: SUGNET & ASSOC. 1993 (PERS)

Quad Summary: ROSEVILLE (3812173/528D)

County Summary: PLACER

Lat/Long: 38.80298° / -121.31236°

Township: 11N

UTM: Zone-10 N4296266 E646544

Range: 06E

Mapping Precision: NON-SPECIFIC

Section: 16 Qtr: XX

Symbol Type: POINT

Meridian: M

Radius: 3/5 mile

Elevation: 100 ft

Location: WEST OF HWY 65 & NORTH OF SCOW ROAD. NNW OF ROSEVILLE.

Location Detail: VERNAL POOLS LOCATED SOMEWHERE IN SECTION 16.

Ecological: NATURAL VERNAL POOLS.

Threat:

General: B. LYNCHI WAS FOUND IN 5 OF 54 FEATURES INSPECTED. NO LEPIDURUS PACKARDI OBSERVED. SUGNET RECORD #90.

Owner/Manager: UNKNOWN

California Department of Fish and Game
 Natural Diversity Database
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Branchinecta lynchi		Element Code: ICBRA03030
vernal pool fairy shrimp		
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 157	Map Index: 33676	EO Index: 30431	Dates Last Seen
Occ Rank: Unknown			Element: 1993-01-18
Origin: Natural/Native occurrence			Site: 1993-01-18
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1997-03-12
Main Source: SUGNET & ASSOC. 1993 (PERS)			

Quad Summary:
County Summary: PLACER

Lat/Long: 38.87538° / -121.29395°	Township: 12N
UTM: Zone-10 N4304331 E647993	Range: 06E
Mapping Precision: NON-SPECIFIC	Section: 22 Qtr: XX
Symbol Type: POINT	Meridian: M
Radius: 3/5 mile	Elevation: 150 ft

Location: SOUTH OF AUBURN RAVINE, ON BOTH SIDES OF HWY 65, SOUTH OF LINCOLN.
Location Detail: VERNAL POOLS LOCATED SOMEWHERE IN SECTION 22.
Ecological: NATURAL VERNAL POOLS.
Threat:
General: B. LYNCHI OBSERVED IN 2 OF 5 FEATURES INSPECTED. NO LEPIDURUS PACKARDI OBSERVED. SUGNET RECORD #95.
Owner/Manager: UNKNOWN

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<i>Branchinecta lynchi</i>		Element Code: ICBRA03030
vernal pool fairy shrimp		
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 175	Map Index: 33707	EO Index: 30604	Dates Last Seen
Occ Rank: Unknown			Element: 1993-03-12
Origin: Natural/Native occurrence			Site: 1993-03-12
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1997-03-11
Main Source: SUGNET & ASSOC. 1993 (PERS)			

Quad Summary: PLEASANT GROVE (3812174/528C), VERONA (3812175/529D)
County Summary: SUTTER

Lat/Long: 38.77305° / -121.49794°	Township: 11N
UTM: Zone-10 N4292663 E630483	Range: 04E
Mapping Precision: NON-SPECIFIC	Section: 26 Qtr: XX
Symbol Type: POINT	Meridian: M
Radius: 3/5 mile	Elevation: 35 ft

Location: SOUTHWEST OF THE INTERSECTION OF PLEASANT GROVE ROAD AND SANKEY ROAD.
Location Detail: ROADSIDE DITCHES SOMEWHERE IN SECTION 26.
Ecological: MANMADE ROADSIDE DITCHES.
Threat:
General: B. LYNCHI OBSERVED IN THE ONE FEATURE INSPECTED. SUGNET RECORD #86. LEPIDURUS PACKARDI ALSO OBSERVED.
Owner/Manager: UNKNOWN

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Branchinecta lynchi		Element Code: ICBRA03030
vernal pool fairy shrimp		
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 191	Map Index: 36947	EO Index: 31944	Dates Last Seen
Occ Rank: Good	Origin: Natural/Native occurrence	Element: 1997-01-17	Site: 1997-01-17
Presence: Presumed Extant	Trend: Unknown	Record Last Updated: 1997-09-30	
Main Source: GIBSON, J. & T. SKORDAL 1997 (OBS)			

Quad Summary: ROSEVILLE (3812173/528D)
County Summary: PLACER

Lat/Long: 38.84424° / -121.31478°	Township: 12N
UTM: Zone-10 N4300841 E646250	Range: 06E
Mapping Precision: NON-SPECIFIC	Section: 33 Qtr: SW
Symbol Type: POINT	Meridian: M
Radius: 1/5 mile	Elevation: 115 ft

Location: ORCHARD CREEK AREA, 0.25 MILE NORTH OF ATHENS AVENUE (PLEASANT GROVE BLVD) AND WEST OF SPRR TRACKS, NORTH OF ROSEVILLE.

Location Detail: SITE IS LOCATED ON A 632-ACRE MITIGATION BANK PRESERVE. THIS UNDEVELOPED PASTURELAND IS BEING ESTABLISHED AS A MITIGATION BANK.

Ecological: HABITAT CONSISTS OF NORTHERN HARDPAN VERNAL POOLS.

Threat:

General: AN UNSPECIFIED NUMBER OF FAIRY SHRIMP WERE OBSERVED ON 17 JAN 1997.

Owner/Manager: PVT-WILDLANDS INC

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<i>Branchinecta lynchi</i>		
vernal pool fairy shrimp		
		Element Code: ICBRA03030
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 195	Map Index: 38256	EO Index: 33263	Dates Last Seen
Occ Rank: Good			Element: 1997-01-16
Origin: Natural/Native occurrence			Site: 1997-01-16
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1998-03-02
Main Source: GIBSON, J. & T. SKORDAL 1997 (OBS)			

Quad Summary:

County Summary: PLACER

Lat/Long: 38.78083° / -121.34926°	Township: 11N
UTM: Zone-10 N4293749 E643384	Range: 06E
Mapping Precision: NON-SPECIFIC	Section: 30 Qtr: XX
Symbol Type: POLYGON	Meridian: M
Area: 1,183.4 ac	Elevation: 120 ft

Location: EAST OF FIDDYMENT ROAD, WEST OF FOOTHILLS BLVD, AND NORTH OF BASELINE ROAD, NW OF ROSEVILLE.

Location Detail:

Ecological: HABITAT CONSISTS OF SEASONAL WETLANDS, REFERENCE VERNAL POOLS, AND CONSTRUCTED VERNAL POOLS WITHIN A DESIGNATED WETLAND MITIGATION AREA. SURROUNDING UPLAND CONSISTS OF NON-NATIVE ANNUAL GRASSLAND/MIXED OAK WOODLAND.

Threat: THREATENED BY SURROUNDING DEVELOPMENT (GOLF COURSES AND RESIDENTIAL DEVELOPMENT).

General: VERNAL POOL FAIRY SHRIMP WERE IDENTIFIED WITHIN 71 CONSTRUCTED VERNAL POOLS AND SEASONAL WETLANDS. LINDERIELLA OCCIDENTALIS ALSO OBSERVED.

Owner/Manager: PVT

Branchinecta lynchi		Element Code: ICBRA03030
vernal pool fairy shrimp		
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 196	Map Index: 38629	EO Index: 33636	Dates Last Seen
Occ Rank: Fair			Element: 1997-11-06
Origin: Natural/Native occurrence			Site: 1997-11-06
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1998-04-20
Main Source: SUGNET & ASSOC. 1997 (OBS)			

Quad Summary:

County Summary: PLACER

Lat/Long: 38.85775° / -121.37303°	Township: 12N
UTM: Zone-10 N4302249 E641167	Range: 05E
Mapping Precision: SPECIFIC	Section: 25 Qtr: SW
Symbol Type: POINT	Meridian: M
Radius: 80 meters	Elevation: 100 ft

Location: MOORE RANCH PROPERTY, 0.8 MILE NORTH OF PLEASANT VALLEY ROAD, SOUTH OF AUBURN RAVINE, 7 MILES NNW OF ROSEVILLE.

Location Detail:

Ecological: HABITAT CONSISTS OF A VERNAL POOL IN GRAZED ANNUAL GRASSLAND.

Threat:

General: SITE WAS HISTORICALLY (SINCE AT LEAST 1937) DISCED; HAS ONLY BEEN GRAZED OVER THE PAST SEVERAL YEARS. 6 CYSTS FOUND IN POOL #3 (PRESUMED TO BE BRANCHINESTA LYNCHI, SINCE THAT IS THE ONLY MEMBER OF THAT GENUS KNOWN TO OCCUR IN THIS AREA).

Owner/Manager: UNKNOWN

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<i>Branchinecta lynchi</i>		Element Code: ICBRA03030
vernal pool fairy shrimp		
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 235	Map Index: 42745	EO Index: 42745	Dates Last Seen
Occ Rank: Unknown			Element: 1997-01-17
Origin: Natural/Native occurrence			Site: 1997-01-17
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2000-04-12
Main Source: GIBSON & SKORDAL 1997 (LIT)			

Quad Summary:

County Summary: PLACER

Lat/Long: 38.84578° / -121.30899°	Township: 12N
UTM: Zone-10 N4301021 E646749	Range: 06E
Mapping Precision: SPECIFIC	Section: 33 Qtr: SE
Symbol Type: POINT	Meridian: M
Radius: 80 meters	Elevation: 120 ft

Location: 0.5 MILE N OF PLEASANT GROVE RD & SP RR, 1.7 MILES ESE OF ORCHARD CREEK & INGRAM SLOUGH CONFLUENCE, NNW OF ROSEVILLE.

Location Detail: FOUND IN THE SOUTHEAST PORTION OF THE ORCHARD CREEK MIDIGATION BANK. MAJORITY OF VERNAL POOLS ARE ON SAN JOAQUIN SANDY LOAM AND ALAMO-FIDDYMENT COMPLEX SOILS.

Ecological: VERNAL POOLS ENDEMIC VEGETATION: RANUNCULUS ALVEOLATUS, ERYNGIUM VASEYI, PLAGIOBOTHRYUS STIPITAUS, PSILICARPHUS ZIZYPHOROIDES, DESCHAMPSIA DAMTHONIODES, NAVARRETIA LEUCOCEPHALA

Threat:

General: OBSERVED SHRIMP IN 2 OF THE 170 SURVEY POOLS SAMPLED. THIS POOL WAS RATED AS LOW IN ABUNDANCE (LESS THAN ONE INDIVIDUAL PER PULL).

Owner/Manager: UNKNOWN

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<i>Branchinecta lynchi</i>		Element Code: ICBRA03030
vernal pool fairy shrimp		
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 236	Map Index: 42746	EO Index: 42746	Dates Last Seen
Occ Rank: Unknown			Element: 1997-01-17
Origin: Natural/Native occurrence			Site: 1997-01-17
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2000-04-12
Main Source: GIBSON & SKORDAL 1997 (LIT)			

Quad Summary:

County Summary: PLACER

Lat/Long: 38.84043° / -121.32009°	Township: 12N
UTM: Zone-10 N4300410 E645796	Range: 06E
Mapping Precision: SPECIFIC	Section: 33 Qtr: SW
Symbol Type: POINT	Meridian: M
Radius: 80 meters	Elevation: 115 ft

Location: 0.7 MILE W OF PLEASANT GROVE RD & SP RR, 1.3 MILES SE OF ORCHARD CREEK & INGRAM SLOUGH CONFLUENCE, NNW OF ROSEVILLE.

Location Detail: FOUND IN THE SOUTHWEST PORTION OF THE ORCHARD CREEK MIDIGATION BANK. MAJORITY OF VERNAL POOLS ARE ON SAN JOAQUIN SANDY LOAM AND ALAMO-FIDDYMENT COMPLEX SOILS.

Ecological: VERNAL POOLS ENDEMIC VEGETATION: RANUNCULUS ALVEOLATUS, ERYNGIUM VASEYI, PLAGIOBOTHRYUS STIPITAUS, PSILICARPHUS ZIZYPHOROIDES, DESCHAMPSIA DAMTHONIOIDES, NAVARRETIA LEUCOCEPHALA

Threat:

General: OBSERVED SHRIMP IN 2 OF THE 170 SURVEY POOLS SAMPLED. THIS POOL WAS RATED MEDIUM IN ABUNDANCE (1 TO 5 INDIVIDUALS PER PULL).

Owner/Manager: UNKNOWN

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<i>Branchinecta lynchi</i>		
vernal pool fairy shrimp		
		Element Code: ICBRA03030
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 247	Map Index: 43395	EO Index: 43395	Dates Last Seen
Occ Rank: Unknown			Element: 2001-03-08
Origin: Natural/Native occurrence			Site: 2001-03-08
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2002-03-19
Main Source: KWAN, K. & S. CAPELL 2000 (OBS)			

Quad Summary:

County Summary: PLACER

Lat/Long: 38.82818° / -121.29718°	Township: 11N
UTM: Zone-10 N4299087 E647810	Range: 06E
Mapping Precision: NON-SPECIFIC	Section: 03 Qtr: SW
Symbol Type: POINT	Meridian: M
Radius: 1/5 mile	Elevation: 150 ft

Location: STANFORD RANCH NORTH, 0.75 MILES NNE JCT OF SUNSET BLVD & HWY 65, 1.8 MILES WSW OF TELEGRAPH HILL, ~4 MILES N OF ROCKLIN

Location Detail: VERNAL POOL AT THIS SITE NUMBERED VP42, MAX SURFACE AREA ~10 METERS BY 13 METERS & 35 CM DEEP. MAPPED TO THE LAT/LONG GIVEN (38 49'42"/121 17'46") AND NOT THE PROJECT SITE (UNCERTAIN HOW LAT/LONG WERE ESTABLISHED SO MAPPED AS A 1/5 MILE)

Ecological: FALLOW FIELD THAT IS DISTURBED (NOT MENTIONED BY WHAT) YET UNGRAZED.

Threat: DISTURBED FIELD (SOURCE OF DISTURBANCE NOT GIVEN)

General: OBSERVED IN (AN ORDER OF MAGNITUDE) 10'S IN VERNAL POOL #VP42. 8 MAR 2001: 1 MALE OBSERVED WITHIN POOL #42.

Owner/Manager: PVT

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Branchinecta lynchi		Element Code: ICBRA03030
vernal pool fairy shrimp		
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 293	Map Index: 45435	EO Index: 45435	— Dates Last Seen —
Occ Rank: Unknown			Element: 2002-01-04
Origin: Natural/Native occurrence			Site: 2002-01-04
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2002-07-31
Main Source: RAMONES, S. 2001 (OBS)			

Quad Summary:

County Summary: PLACER

Lat/Long: 38.77040° / -121.27237°	Township: 11N
UTM: Zone-10 N4292715 E650085	Range: 06E
Mapping Precision: SPECIFIC	Section: 26 Qtr: SE
Symbol Type: POLYGON	Meridian: M
Area: 13.3 ac	Elevation: 185 ft

Location: HIGHLAND RESERVE SOUTH OPEN SPACE, ON THE WEST SIDE OF EAST ROSEVILLE PARKWAY, ROSEVILLE

Location Detail:

Ecological: HABITAT CONSISTS OF ANNUAL GRASSLAND INTERSPERSED WITH BOTH CONSTRUCTED AND HISTORIC VERNAL POOLS.

Threat:

General: >100 OBSERVED IN POOLS #8 AND #27 ON 16 FEB 2001. ONLY 2 FEMALES OBSERVED IN POOL #5 ON 4 JAN 2002

Owner/Manager: CITY OF ROSEVILLE

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Branchinecta lynchi		Element Code: ICBRA03030
vernal pool fairy shrimp		
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 304	Map Index: 46034	EO Index: 46034	Dates Last Seen
Occ Rank: Unknown			Element: 2001-02-15
Origin: Natural/Native occurrence			Site: 2001-02-15
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2001-10-03
Main Source: RAMONES, S. 2001 (OBS)			

Quad Summary:

County Summary: PLACER

Lat/Long: 38.76449° / -121.34970°	Township: 11N
UTM: Zone-10 N4291935 E643379	Range: 06E
Mapping Precision: SPECIFIC	Section: 31 Qtr: NW
Symbol Type: POINT	Meridian: M
Radius: 80 meters	Elevation: 125 ft

Location: WOODCREEK WEST WETLAND COMPENSATION AREA. 2.7 MILES NW OF WEST EDGE OF ROSEVILLE.

Location Detail: 0.9 MILES NORTH OF THE INTERSECTION OF FIDDYMENT ROAD AND BASE LINE ROAD AND THEN NEAR 0.8 MILES DIRECTLY EAST.

Ecological: HABITAT CONSISTS OF ANNUAL GRASSLAND INTERSPERSED WITH CONSTRUCTED AND HISTORIC VERNAL POOLS.

Threat:

General: MORE THAN 10 ADULTS OBSERVED.

Owner/Manager: CITY OF ROSEVILLE

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<i>Branchinecta lynchi</i>		Element Code: ICBRA03030
vernal pool fairy shrimp		
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 307	Map Index: 46096	EO Index: 46096	— Dates Last Seen —
Occ Rank: Fair			Element: 2001-03-09
Origin: Natural/Native occurrence			Site: 2001-03-09
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2001-10-10
Main Source: KWAN, K. 2001 (OBS)			

Quad Summary:

County Summary: PLACER

Lat/Long: 38.87145° / -121.32514°	Township: 12N
UTM: Zone-10 N4303844 E645295	Range: 06E
Mapping Precision: SPECIFIC	Section: 20 Qtr: SE
Symbol Type: POINT	Meridian: M
Radius: 80 meters	Elevation: 120 ft

Location: SW OF LINCOLN; 0.15 MILES SOUTH OF MOORE ROAD AND 0.25 MILES NW OF INGRAM SLOUGH.

Location Detail:

Ecological: HABITAT CONSISTS OF LAND WHICH HAS BEEN DRY-FARMED (DISKED ETC.)

Threat: AGRICULTURE - DRY-FARMING.

General: 10'S OF ADULTS OBSERVED. 5 INDIVIDUALS COLLECTED TO BE DEPOSITED AT CAL ACADEMY OF SCIENCES.

Owner/Manager: UNKNOWN

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Branchinecta lynchi		Element Code: ICBRA03030
vernal pool fairy shrimp		
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 308	Map Index: 46098	EO Index: 46098	— Dates Last Seen —
Occ Rank: Fair			Element: 2001-03-09
Origin: Natural/Native occurrence			Site: 2001-03-09
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2001-10-10
Main Source: KWAN, K. 2001 (OBS)			

Quad Summary:

County Summary: PLACER

Lat/Long: 38.85475° / -121.32838°	Township: 12N
UTM: Zone-10 N4301986 E645048	Range: 06E
Mapping Precision: SPECIFIC	Section: 29 Qtr: SE
Symbol Type: POINT	Meridian: M
Radius: 80 meters	Elevation: 120 ft

Location: SW OF LINCOLN. 1.1 MILES EAST FIDDYMENT RD & 1.1 MILES NORTH PLEASANT GROVE RD BETWEEN INGRAM SLOUGH & ORCHARD CREEK.

Location Detail: 375 FT SOUTH OF POND.

Ecological: HABITAT CONSISTS OF GRAZED NON-NATIVE GRASSLAND. LINDERIELLA OCCIDENTALIS ALSO FOUND HERE.

Threat:

General: 10'S OF ADULTS OBSERVED. 6 COLLECTED TO BE DEPOSITED AT CAL ACADEMY OF SCIENCES.

Owner/Manager: UNKNOWN

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Branchinecta lynchi		
vernal pool fairy shrimp		
		Element Code: ICBRA03030
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 309	Map Index: 46106	EO Index: 46106	Dates Last Seen
Occ Rank: Unknown			Element: 2001-03-07
Origin: Natural/Native occurrence			Site: 2001-03-07
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2001-10-10
Main Source: RAMONES, S. 2001 (OBS)			

Quad Summary:
County Summary: PLACER

Lat/Long: 38.78947° / -121.33654°	Township: 11N
UTM: Zone-10 N4294728 E644472	Range: 06E
Mapping Precision: NON-SPECIFIC	Section: 20 Qtr: NW
Symbol Type: POLYGON	Meridian: M
Area: 10.1 ac	Elevation: 115 ft

Location: WOODCREEK NORTH COMPENSATION AREA. 1 MI SW INTERSECTION FIDDYMENT RD & PLEASANT GROVE CR; 500 FT SOUTH OF SOUTH BRANCH.

Location Detail: POOL #6.

Ecological: HABITAT CONSISTS OF ANNUAL GRASSLAND WITH CONSTRUCTED VERNAL POOLS SURROUNDED BY OAK WOODLAND. LINDERIELLA OCCIDENTALIS ALSO FOUND HERE.

Threat:

General: MORE THAN 100 INDIVIDUALS OBSERVED.

Owner/Manager: CITY OF ROSEVILLE

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<i>Branchinecta lynchi</i>		
vernal pool fairy shrimp		
		Element Code: ICBRA03030
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 315	Map Index: 47900	EO Index: 47900	Dates Last Seen
Occ Rank: Unknown			Element: 2002-01-14
Origin: Natural/Native occurrence			Site: 2002-01-14
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2002-05-13
Main Source: ECORP CONSULTING 2002 (OBS)			

Quad Summary:
County Summary: PLACER

Lat/Long: 38.84806° / -121.35293°	Township: 12N
UTM: Zone-10 N4301205 E642931	Range: 06E
Mapping Precision: SPECIFIC	Section: 31 Qtr: NW
Symbol Type: POINT	Meridian: M
Radius: 80 meters	Elevation: 100 ft

Location: 0.2 MILE NW OF THE INTERSECTION OF PLEASANT GROVE ROAD AND FIDDYMENT ROAD, 6 MILES NW OF ROSEVILLE

Location Detail: IDENTIFIED AS POOL #135.

Ecological: HABITAT CONSISTS OF A GRASSLAND/VERNAL POOL RESTORATION SITE. LINDERIELLA OCCIDENTALIS ALSO FOUND AT THIS SITE.

Threat:

General: ADULTS NUMBERING IN THE 10'S OBSERVED ON 14 JAN 2002.

Owner/Manager: MOORE RANCH CONSERVANCY

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Branchinecta lynchi		Element Code: ICBRA03030
vernal pool fairy shrimp		
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 316	Map Index: 47901	EO Index: 47901	Dates Last Seen
Occ Rank: Unknown			Element: 2002-01-14
Origin: Natural/Native occurrence			Site: 2002-01-14
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2002-05-13
Main Source: ECORP CONSULTING 2002 (OBS)			

Quad Summary:

County Summary: PLACER

Lat/Long: 38.85163° / -121.35292°	Township: 12N
UTM: Zone-10 N4301601 E642925	Range: 06E
Mapping Precision: SPECIFIC	Section: 31 Qtr: NW
Symbol Type: POINT	Meridian: M
Radius: 80 meters	Elevation: 100 ft

Location: 0.4 MILE NNW OF THE INTERSECTION OF PLEASANT GROVE ROAD AND FIDDYMENT ROAD, 6 MILES NW OF ROSEVILLE

Location Detail: POOL #49.

Ecological: HABITAT CONSISTS OF A GRASSLAND/VERNAL POOL RESTORATION SITE. LINDERIELLA OCCIDENTALIS ALSO FOUND AT THIS SITE.

Threat:

General: ADULTS NUMBERING IN THE 100'S OBSERVED ON 14 JAN 2002.

Owner/Manager: MOORE RANCH CONSERVANCY

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Branchinecta lynchi		
vernal pool fairy shrimp		
		Element Code: ICBRA03030
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 319	Map Index: 47287	EO Index: 48240	— Dates Last Seen —
Occ Rank: Good			Element: 2002-01-21
Origin: Natural/Native occurrence			Site: 2002-01-21
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2002-07-12
Main Source: EHRHARDT, K. 2002 (OBS)			

Quad Summary: PLEASANT GROVE (3812174/528C)
County Summary: PLACER

Lat/Long: 38.85698° / -121.38635°	Township: 12N
UTM: Zone-10 N4302143 E640013	Range: 05E
Mapping Precision: NON-SPECIFIC	Section: 26 Qtr: XX
Symbol Type: POLYGON	Meridian: M
Area: 325.8 ac	Elevation: 90 ft

Location: AITKEN RANCH MITIGATION BANK. ALONG AUBURN RAVINE S OF MOORE RD, N OF PLEASANT GROVE BLVD & WEST OF DOWD AVE.

Location Detail:

Ecological: HABITAT CONSISTS OF LIGHTLY GRAZED ANNUAL GRASSLAND & VERNAL POOL LANDSCAPE. SWAINSON'S HAWK OBSERVED FORAGING (SPRING, SUMMER, FALL) IN VICINITY. SITE IS A CONSERVATION BANK. SURROUNDING LAND COMPRISED OF RICE FARMING & CATTLE GRAZING.

Threat:

General: 21 JAN 2002: POPULATION OF POOL ESTIMATED TO BE IN 100'S; 1 MALE AND 1 FEMALE COLLECTED.

Owner/Manager: WILDLANDS, INC

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Branchinecta lynchi		
vernal pool fairy shrimp		
		Element Code: ICBRA03030
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 320	Map Index: 48242	EO Index: 48242	Dates Last Seen
Occ Rank: Excellent			Element: 2002-01-10
Origin: Natural/Native occurrence			Site: 2002-01-10
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2002-07-15
Main Source: EHRHARDT, K. 2002 (OBS)			

Quad Summary: ROSEVILLE (3812173/528D)

County Summary: PLACER

Lat/Long: 38.84871° / -121.31724°	Township: 12N
UTM: Zone-10 N4301333 E646027	Range: 06E
Mapping Precision: NON-SPECIFIC	Section: 33 Qtr: XX
Symbol Type: POLYGON	Meridian: M
Area: 696.5 ac	Elevation: 120 ft

Location: ORCHARD CREEK CONSERVATION SITE; 6 MILES NORTH OF ROSEVILLE.

Location Detail: 0.8 MILE SOUTH OF MOORE ROAD AND 1.2 MILES EAST OF FIDDYMENT ROAD. BORDERED TO THE SOUTH BY PLEASANT GROVE BLVD AND TO THE EAST BY RAILROAD TRACKS.

Ecological: HABITAT CONSISTS OF NATURALLY OCCURRING VERNAL POOLS, SEASONAL WET SWALES, EMERGENT MARSH, SEASONAL WETLANDS AND INTERMITTANT/SEASONAL STREAMS. MAJORITY OF VERNAL POOLS LOCATED ON SAN JOAQUIN SANDY LOAM AND ALAMO-FIDDYMENT COMPLEX SOILS.

Threat:

General: 100'S OF ADULTS OBSERVED WITHIN UNKNOWN NUMBER OF POOLS ON 10 JAN 2002. VERNAL POOLS CONCENTRATED THROUGHOUT THIS SITE.

Owner/Manager: WILDLANDS INC

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<i>Branchinecta lynchi</i>		Element Code: ICBRA03030
vernal pool fairy shrimp		
Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G2G3	CDFG Status:
State: None	State: S2S3	
Habitat Associations		
General: ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.		
Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.		

Occurrence No. 329	Map Index: 48419	EO Index: 48419	Dates Last Seen
Occ Rank: Unknown			Element: 2002-01-18
Origin: Natural/Native occurrence			Site: 2002-01-18
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2002-07-31
Main Source: ECORPS CONSULTING, INC. 2002 (LIT)			

Quad Summary:
County Summary: PLACER

Lat/Long: 38.76501° / -121.35644°	Township: 11N
UTM: Zone-10 N4291982 E642792	Range: 06E
Mapping Precision: SPECIFIC	Section: 31 Qtr: NW
Symbol Type: POINT	Meridian: M
Radius: 80 meters	Elevation: 130 ft

Location: 3.5 MILES WNW OF ROSEVILLE; JUST NORTH OF POWER LINES, 0.1 MILE EAST OF FIDDYMENT ROAD.
Location Detail: WOODCREEK WEST WETLAND COMPENSATION AREA. POOL #17.
Ecological: HABITAT CONSISTS OF CONSTRUCTED AND HISTORIC VERNAL POOLS WITHIN AN ANNUAL GRASSLAND HABITAT; WETLAND COMPENSATION AREA. POOL DEPTH: 15CM. SURROUNDING LAND IS DEVELOPMENT.
Threat:
General: 10'S OBSERVED ON 18 JAN 2002 IN A POOL CONSTRUCTED IN 1990.
Owner/Manager: CITY OF ROSEVILLE

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<i>Buteo swainsoni</i>		
Swainson's hawk		Element Code: ABNKC19070
_____ Status _____	NDDB Element Ranks	_____ Other Lists _____
Federal: Species of Concern	Global: G5	CDFG Status:
State: Threatened	State: S2	
_____ Habitat Associations _____		
General: (NESTING) BREEDS IN STANDS WITH FEW TREES IN JUNIPER-SAGE FLATS, RIPARIAN AREAS AND IN OAK SAVANNAH.		
Micro: REQUIRES ADJACENT SUITABLE FORAGING AREAS SUCH AS GRASSLANDS, OR ALFALFA OR GRAIN FIELDS SUPPORTING RODENT POPULATIONS.		

Occurrence No. 791	Map Index: 42026	EO Index: 42026	_____ Dates Last Seen _____
Occ Rank: Fair	Origin: Natural/Native occurrence	Element: 1996-07-01	Site: 1997-XX-XX
Presence: Presumed Extant	Trend: Unknown	Record Last Updated: 1999-12-14	
Main Source: WILLIAMS, B. 1996 (OBS)			

Quad Summary:
County Summary: PLACER

Lat/Long: 38.77076° / -121.34480°	Township: 11N
UTM: Zone-10 N4292639 E643792	Range: 06E
Mapping Precision: SPECIFIC	Section: 30 Qtr: SE
Symbol Type: POINT	Meridian: M
Radius: 80 meters	Elevation: 125 ft

Location: KASEBERG CREEK, 0.75 MILE EAST OF FIDDYMENT ROAD AND 0.25 MILE NORTH OF PLEASANT GROVE BOULEVARD, EAST SIDE OF ROSEVILLE

Location Detail: NEST TREE IS LOCATED IN WHAT IS NOW THE NORTH EDGE OF AN OPEN SPACE CORRIDOR.

Ecological: HABITAT CONSISTS OF A WOODLAND CORRIDOR ALONG THE CREEK DRAINAGE.

Threat: THREATENED BY THE CONSTRUCTION OF A SUBDIVISION AND GOLF COURSE.

General: NESTING WAS INITIATED IN 1996, DURING GRADING, BUT PRIOR TO CONSTRUCTION, OF HOUSING; 2 YOUNG PRODUCED IN 1996. NEST SITE WAS UNUSED IN 1997, ALTHOUGH NEST TREE IS WITHIN AN OPEN SPACE CORRIDOR.

Owner/Manager: UNKNOWN

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<i>Buteo swainsoni</i>		
Swainson's hawk		Element Code: ABNKC19070
_____ Status _____	NDDB Element Ranks	_____ Other Lists _____
Federal: Species of Concern	Global: G5	CDFG Status:
State: Threatened	State: S2	
_____ Habitat Associations _____		
General: (NESTING) BREEDS IN STANDS WITH FEW TREES IN JUNIPER-SAGE FLATS, RIPARIAN AREAS AND IN OAK SAVANNAH.		
Micro: REQUIRES ADJACENT SUITABLE FORAGING AREAS SUCH AS GRASSLANDS, OR ALFALFA OR GRAIN FIELDS SUPPORTING RODENT POPULATIONS.		

Occurrence No. 952	Map Index: 46025	EO Index: 46025	_____ Dates Last Seen _____
Occ Rank: Good	Origin: Natural/Native occurrence		Element: 2001-06-XX
Presence: Presumed Extant	Trend: Unknown		Site: 2001-06-27
Main Source: WARENYCIA, D. & D. MCGRIFF 2001 (OBS)			Record Last Updated: 2001-10-03

Quad Summary:

County Summary: PLACER

Lat/Long: 38.79509° / -121.34800°	Township: 11N
UTM: Zone-10 N4295334 E643465	Range: 06E
Mapping Precision: SPECIFIC	Section: 19 Qtr: N
Symbol Type: POINT	Meridian: M
Radius: 80 meters	Elevation: 110 ft

Location: ALONG PLEASANT GROVE CREEK, BETWEEN FIDDYMENT ROAD AND BLUE OAKS BOULEVARD, WEST SIDE OF ROSEVILLE

Location Detail:

Ecological: HABITAT CONSISTS OF BLUE OAK WOODLAND GROWING ALONG PLEASANT GROVE CREEK.

Threat: THREATENED BY DEVELOPMENT JUST WEST OF THE NEST SITE.

General: DARK-PHASE ADULT SWHA OBSERVED ON 26 APR 2001; NO NEST FOUND. NEST FOUND BY THOMAS LEHMAN (ESA), AND HE REPORTED THAT AT LEAST 1 YOUNG HAD BEEN PRODUCED. BY 27 JUN 2001, WHEN WE RETURNED TO GPS THE NEST, THE YOUNG HAD FLEDGED.

Owner/Manager: UNKNOWN

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<i>Gratiola heterosepala</i>		
Boggs Lake hedge-hyssop		Element Code: PDSCR0R060
----- Status -----	NDDB Element Ranks	----- Other Lists -----
Federal: Species of Concern	Global: G3	CNPS List: 1B
State: Endangered	State: S3.1	R-E-D Code: 1-2-2
----- Habitat Associations -----		
General: MARSHES AND SWAMPS (FRESHWATER), VERNAL POOLS.		
Micro: CLAY SOILS; USUALLY IN VERNAL POOLS, SOMETIMES ON LAKE MARGINS. 5-2400M.		

Occurrence No. 16	Map Index: 11749	EO Index: 7258	----- Dates Last Seen -----
Occ Rank: Good			Element: 1987-04-22
Origin: Natural/Native occurrence			Site: 1997-06-18
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1997-08-11
Main Source: STROMBERG, L. 1987 (OBS)			

Quad Summary:

County Summary: PLACER

Lat/Long: 38.76720° / -121.26365°	Township: 11N
UTM: Zone-10 N4292374 E650850	Range: 06E
Mapping Precision: SPECIFIC	Section: 25 Qtr: SW
Symbol Type: POLYGON	Meridian: M
Area: 6.4 ac	Elevation: 230 ft

Location: N OF ROSEVILLE, W OF ANTELOPE CREEK, WSW OF ROCKLIN.

Location Detail:

Ecological: NORTHERN HARDPAN VERNAL POOL ON EXCHEQUER VERY STONY LOAM SOIL. ASSOCIATED VEGETATION INCLUDES ERYNGIUM VASEYI, ALLOCARYA STIPATATA MICRANTHA AND GRATIOLA EBRACTEATA.

Threat: AREA GRAZED AND PROPOSED FOR REGIONAL SHOPPING CENTER.

General: OVER 40 PLANTS IN 2 SUBPOPULATIONS IN 1987. DEVELOPMENT IMMINENT IN 1997; ROSEVILLE BLVD EXPANSION HAS WILL PROBABLY WIPE OUT MOST OF THIS OCCURRENCE UNLESS SET ASIDE.

Owner/Manager: PVT

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<i>Lepidurus packardi</i>		
vernal pool tadpole shrimp		Element Code: ICBRA10010
<hr/>		
Status	NDDB Element Ranks	Other Lists
Federal: Endangered State: None	Global: G2G3 State: S2S3	CDFG Status:
<hr/>		
Habitat Associations		
General: INHABITS VERNAL POOLS AND SWALES IN THE SACRAMENTO VALLEY CONTAINING CLEAR TO HIGHLY TURBID WATER.		
Micro: POOLS COMMONLY FOUND IN GRASS BOTTOMED SWALES OF UNPLOWED GRASSLANDS. SOME POOLS ARE MUD-BOTTOMED & HIGHLY TURBID.		

Occurrence No. 24	Map Index: 32457	EO Index: 1900	Dates Last Seen
Occ Rank: Unknown			Element: 1995-02-09
Origin: Natural/Native occurrence			Site: 1995-02-09
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1997-03-04
Main Source: SUGNET & ASSOC. 1995 (LIT)			

Quad Summary:
County Summary: PLACER

Lat/Long: 38.76950° / -121.32354°	Township: 11N
UTM: Zone-10 N4292533 E645642	Range: 06E
Mapping Precision: NON-SPECIFIC	Section: 29 Qtr: SE
Symbol Type: POINT	Meridian: M
Radius: 1/5 mile	Elevation: 130 ft

Location: BETWEEN KASEBERG CREEK AND SOUTH BRANCH PLEASANT GROVE CREEK; 1.8 KM WEST OF SOUTHERN PACIFIC RR X HWY 65.

Location Detail: WOODCREEK OAKS MITIGATION SITES. 14 WATER BODIES WERE SAMPLED ON FEB 9, 10, 27 & MARCH 14, 1995. LEPIDURUS PACKARDI FOUND IN ONLY 1 POOL & ONLY ON 2/9/95. SUGNET OBSERVED TADPOLE SHRIMP IN A MANMADE VERNAL POOL SOMEWHERE IN SEC 29 ON 2/4/93

Ecological: HARDPAN VERNAL POOL IN ANNUAL NON-NATIVE GRASSLAND. ON 2/9/95 THE SURFACE AREA WAS 129 SQ METERS & THE WATER DEPTH WAS 16 CM. WETLAND COMPENSATION/MITIGATION PRESERVE. ALSO, A MANMADE VERNAL POOL SOMEWHERE IN SEC 29.

Threat:

General: POOL #C2: 50+ ADULTS OBSERVED; 3 ADULTS COLLECTED & DEPOSITED IN CAS. THE INFORMATION PROVIDED BY THE CONSULTANT HAS CONFLICTING DATA ON THE LOCATION OF THIS POOL; THIS SITE WAS MAPPED ACCORDING TO THE MAP THEY PROVIDED, NOT THE T-R-S GIVEN

Owner/Manager: PVT-SARES REGIS GROUP

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<i>Lepidurus packardi</i>		
vernal pool tadpole shrimp		Element Code: ICBRA10010
Status	NDDB Element Ranks	Other Lists
Federal: Endangered State: None	Global: G2G3 State: S2S3	CDFG Status:
Habitat Associations		
General: INHABITS VERNAL POOLS AND SWALES IN THE SACRAMENTO VALLEY CONTAINING CLEAR TO HIGHLY TURBID WATER.		
Micro: POOLS COMMONLY FOUND IN GRASS BOTTOMED SWALES OF UNPLOWED GRASSLANDS. SOME POOLS ARE MUD-BOTTOMED & HIGHLY TURBID.		

Occurrence No. 27	Map Index: 32503	EO Index: 30805	— Dates Last Seen —
Occ Rank: Good			Element: 1996-02-15
Origin: Natural/Native occurrence			Site: 1996-02-15
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1997-03-27
Main Source: LACY, T. 1995 (LIT)			

Quad Summary: PLEASANT GROVE (3812174/528C)

County Summary: PLACER

Lat/Long: 38.87335° / -121.38786°	Township: 12N
UTM: Zone-10 N4303957 E639850	Range: 05E
Mapping Precision: SPECIFIC	Section: 23 Qtr: SW
Symbol Type: POLYGON	Meridian: M
Area: 15.2 ac	Elevation: 93 ft

Location: USAF LINCOLN COMMUNICATIONS FACILITY; 1.1 KM WNW OF MOORE ROAD X DOWD AVENUE.

Location Detail: FACILITY ~231 ACRES W/ABOUT 236 VERNAL POOLS. 36 POOLS SAMPLED IN 1995, 15 POOLS SAMPLED IN 1994 & 2 POOLS SAMPLED IN 1993. ONLY 1 LIVE TADPOLE SHRIMP FOUND IN 1 POOL DURING THESE 3 YEARS. IN 1996 100'S FOUND IN 4 POOLS IN NE CORNER OF SITE

Ecological: ANNUAL GRASSLAND & OAK SAVANNAH WITH VERNAL POOLS INTERSPERSED AMONG THESE HABITATS. TADPOLES, OSTRACODS, COPEPODS, FLATWORMS, BEETLES & INSECT LARVAE ALSO FOUND.

Threat: DISCING OF POOLS; POSSIBLE HERBICIDE RUNOFF FROM ANTENNA PADS; AGRICULTURE-CATTLE & SHEEP GRAZING, RICE FARMING NEARBY.

General: POOL #215: GRASS & ALGAE BOTTOM. POOL EST TO BE 180 X 20 FT. & 10 INCHES DEEP. 1 INDIVIDUAL FOUND 2/9/95, NONE FOUND 3/1 OR 3/15/95. ONLY DISSOLVED CARAPACES FOUND IN 1994. 100'S FOUND IN POOLS 180, 140, 141 & 143 ON 2/15/96.

Owner/Manager: DOD-LINCOLN COMMUNICATIONS FAC

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<i>Lepidurus packardi</i>		
vernal pool tadpole shrimp		Element Code: ICBRA10010
<hr/>		
Status	NDDB Element Ranks	Other Lists
Federal: Endangered State: None	Global: G2G3 State: S2S3	CDFG Status:
<hr/>		
Habitat Associations		
General: INHABITS VERNAL POOLS AND SWALES IN THE SACRAMENTO VALLEY CONTAINING CLEAR TO HIGHLY TURBID WATER.		
Micro: POOLS COMMONLY FOUND IN GRASS BOTTOMED SWALES OF UNPLOWED GRASSLANDS. SOME POOLS ARE MUD-BOTTOMED & HIGHLY TURBID.		

Occurrence No. 103	Map Index: 33706	EO Index: 30603	— Dates Last Seen —
Occ Rank: Unknown	Origin: Natural/Native occurrence	Element: 1993-03-12	Site: 1993-03-12
Presence: Presumed Extant	Trend: Unknown	Record Last Updated: 1997-03-11	
Main Source: SUGNET & ASSOC. 1993 (PERS)			

Quad Summary:
County Summary: SUTTER

Lat/Long: 38.81675° / -121.49758°	Township: 11N
UTM: Zone-10 N4297513 E630435	Range: 04E
Mapping Precision: NON-SPECIFIC	Section: 11 Qtr: XX
Symbol Type: POINT	Meridian: M
Radius: 3/5 mile	Elevation: 40 ft

Location: SOUTHWEST OF THE INTERSECTION OF PLEASANT GROVE ROAD AND HOWSLEY ROAD.
Location Detail: ROADSIDE DITCHES SOMEWHERE IN SECTION 11.
Ecological: MANMADE ROADSIDE DITCHES.
Threat:
General: LEPIDURUS PACKARDI OBSERVED IN THE 2 FEATURES INSPECTED. SUGNET RECORD #185. NO B. LYNCHI OBSERVED.
Owner/Manager: UNKNOWN

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<i>Lepidurus packardi</i>		
vernal pool tadpole shrimp		
		Element Code: ICBRA10010
Status	NDDB Element Ranks	Other Lists
Federal: Endangered State: None	Global: G2G3 State: S2S3	CDFG Status:
Habitat Associations		
General: INHABITS VERNAL POOLS AND SWALES IN THE SACRAMENTO VALLEY CONTAINING CLEAR TO HIGHLY TURBID WATER.		
Micro: POOLS COMMONLY FOUND IN GRASS BOTTOMED SWALES OF UNPLOWED GRASSLANDS. SOME POOLS ARE MUD-BOTTOMED & HIGHLY TURBID.		

Occurrence No. 104	Map Index: 33707	EO Index: 30605	Dates Last Seen
Occ Rank: Unknown			Element: 1993-03-12
Origin: Natural/Native occurrence			Site: 1993-03-12
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1997-03-11
Main Source: SUGNET & ASSOC. 1993 (PERS)			

Quad Summary:
County Summary: SUTTER

Lat/Long: 38.77305° / -121.49794°	Township: 11N
UTM: Zone-10 N4292663 E630483	Range: 04E
Mapping Precision: NON-SPECIFIC	Section: 26 Qtr: XX
Symbol Type: POINT	Meridian: M
Radius: 3/5 mile	Elevation: 35 ft

Location: SOUTHWEST OF THE INTERSECTION OF PLEASANT GROVE ROAD AND SANKEY ROAD.
Location Detail: ROADSIDE DITCHES SOMEWHERE IN SECTION 26.
Ecological: MANMADE ROADSIDE DITCHES.
Threat:
General: LEPIDURUS PACKARDI OBSERVED IN THE ONE FEATURE INSPECTED. SUGNET RECORD #186. B. LYNCHI ALSO OBSERVED.
Owner/Manager: UNKNOWN

Agelaius tricolor		Element Code: ABPBXB0020	
tricolored blackbird			
_____ Status _____		NDDB Element Ranks _____	
Federal: Species of Concern		Global: G2G3	
State: None		State: S2	
_____ Other Lists _____		CDFG Status: SC	
_____ Habitat Associations _____			
General: (NESTING COLONY) HIGHLY COLONIAL SPECIES, MOST NUMEROUS IN CENTRAL VALLEY & VICINITY. LARGELY ENDEMIC TO CALIFORNIA.			
Micro: REQUIRES OPEN WATER, PROTECTED NESTING SUBSTRATE, & FORAGING AREA WITH INSECT PREY WITHIN A FEW KM OF THE COLONY.			

* SENSITIVE *

Occurrence No. 242	Map Index: 23971	EO Index: 4277	— Dates Last Seen —
Occ Rank: Unknown			Element: 1994-04-30
Origin: Natural/Native occurrence			Site: 1994-04-30
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1995-01-31
Main Source: WHITMORE, D. 1992 (OBS)			

Quad Summary: ROSEVILLE (3812173/528D)
County Summary: PLACER

* SENSITIVE *	Lat/Long:	Township:
	UTM:	Range:
	Mapping Precision:	Section: Qtr:
	Symbol Type:	Meridian:
	Radius:	Elevation:

Location: *SENSITIVE* Location information suppressed.

Location Detail: Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.

Ecological: NESTING SUBSTRATE CONSISTS OF SCIRPUS ACUTUS (BULRUSH) GROWING IN A SHALLOW FARM POND.

Threat: THREATENED BY FUTURE DEVELOPMENT.

General:

Owner/Manager:

<i>Athene cunicularia</i>		
burrowing owl		
		Element Code: ABNSB10010
<hr/>		
Status	NDDB Element Ranks	Other Lists
Federal: Species of Concern	Global: G4	CDFG Status: SC
State: None	State: S2	
<hr/>		
Habitat Associations		
General: (BURROW SITES) OPEN, DRY ANNUAL OR PERENIAL GRASSLANDS, DESERTS & SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION.		
Micro: SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL.		

Occurrence No. 339 **Map Index:** 42028 **EO Index:** 42028 **Dates Last Seen** —
Occ Rank: Good **Element:** 1998-05-08
Origin: Natural/Native occurrence **Site:** 2003-05-05
Presence: Presumed Extant
Trend: Unknown **Record Last Updated:** 2003-08-21
Main Source: WILLIAMS, B. 1998 (OBS)

Quad Summary:

County Summary: PLACER

Lat/Long: 38.78190° / -121.37308°	Township: 11N
UTM: Zone-10 N4293831 E641313	Range: 05E
Mapping Precision: NON-SPECIFIC	Section: 24 Qtr: XX
Symbol Type: POLYGON	Meridian: M
Area: 26.8 ac	Elevation: 100 ft

Location: NORTH SIDE OF PHILIP ROAD, APPROXIMATELY 0.75 MILE WEST OF FIDDYMENT ROAD, NW OF ROSEVILLE.

Location Detail:

Ecological: HABITAT CONSISTS OF MODERATELY-GRAZED, ROLLING GRASSLAND, WITH NO EVIDENCE OF HISTORIC SOIL DISTURBANCE. SITE WOULD BE BETTER IF MORE BURROWS WERE PRESENT; HARD SOILS AND LACK OF GROUND SQUIRRELS MAY BE THE CAUSE.

Threat: THREATS INCLUDE POSSIBLE FUTURE DEVELOPMENT OR LOSS OF GRAZERS.

General: OWLS (NEVER MORE THAN 2) OBSERVED YEAR-ROUND DURING 1998. HABITAT APPEARS EXTANT, BUT NO OWLS WERE OBSERVED ON 5 MAY 2003 - DATE OF SITE VISIT LIKELY TO EARLY.

Owner/Manager: PVT

<i>Spea (=Scaphiopus) hammondii</i>		Element Code: AAABF01030
western spadefoot		
Status	NDDB Element Ranks	Other Lists
Federal: Species of Concern	Global: G3	CDFG Status: SC
State: None	State: S3	
Habitat Associations		
General: OCCURS PRIMARILY IN GRASSLAND HABITATS, BUT CAN BE FOUND IN VALLEY-FOOTHILL HARDWOOD WOODLANDS.		
Micro: VERNAL POOLS ARE ESSENTIAL FOR BREEDING AND EGG-LAYING.		

Occurrence No. 171 **Map Index:** 42145 **EO Index:** 42145 **Dates Last Seen**

Occ Rank: Unknown **Element:** 1991-04-12

Origin: Natural/Native occurrence **Site:** 1991-04-12

Presence: Presumed Extant

Trend: Unknown **Record Last Updated:** 2000-01-20

Main Source: BALFOUR, P. 1991 (OBS)

Quad Summary: ROSEVILLE (3812173/528D)

County Summary: PLACER

Lat/Long: 38.76197° / -121.33795°	Township: 11N
UTM: Zone-10 N4291674 E644405	Range: 06E
Mapping Precision: SPECIFIC	Section: 32 Qtr: NW
Symbol Type: POINT	Meridian: M
Radius: 80 meters	Elevation: 115 ft

Location: TRIB TO KASEBERG CREEK, 1.3 MILES NE OF JCT BASE LINE & FIDDYMENT ROADS, ROSEVILLE.

Location Detail: 5 CONSTRUCTED VERNAL POOLS AND TRIB TO KASEBERG CREEK. MAPPED TO SITE DESCRIPTION (ELEVATION GIVEN DOESN'T MATCH)

Ecological: VERNAL POOLS AND INERMITTENT CREEK. SURROUNDING LAND USE: MITIGATION SITE, VARIOUS DEVELOPMENTS.

Threat: INCREASED HYDROLOGY, NON NATIVE FISHES

General: SERVERAL TADPOLES OBSERVED, 1991

Owner/Manager: UNKNOWN

<i>Spea (=Scaphiopus) hammondii</i>		Element Code: AAABF01030
western spadefoot		
Status	NDDB Element Ranks	Other Lists
Federal: Species of Concern	Global: G3	CDFG Status: SC
State: None	State: S3	
Habitat Associations		
General: OCCURS PRIMARILY IN GRASSLAND HABITATS, BUT CAN BE FOUND IN VALLEY-FOOTHILL HARDWOOD WOODLANDS.		
Micro: VERNAL POOLS ARE ESSENTIAL FOR BREEDING AND EGG-LAYING.		

Occurrence No. 172	Map Index: 42147	EO Index: 42147	Dates Last Seen
Occ Rank: Poor			Element: 1994-03-19
Origin: Natural/Native occurrence			Site: 1994-03-19
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2000-01-20
Main Source: BALFOUR, P. 1994 (OBS)			

Quad Summary:

County Summary: PLACER

Lat/Long: 38.76934° / -121.25377°	Township: 11N
UTM: Zone-10 N4292628 E651704	Range: 06E
Mapping Precision: SPECIFIC	Section: 25 Qtr: SE
Symbol Type: POINT	Meridian: M
Radius: 80 meters	Elevation: 200 ft

Location: POOLS ADJACENT TO RAILROAD TRACKS NEAR TAYLOR ROAD, 0.4 MILE SOUTH OF SEWAGE DISPOSAL PONDS, ROSEVILLE.

Location Detail: POOLED AREAS BETWEEN TRACKS AND DEVELOPMENT.

Ecological: SURROUNDING LAND USE: RAILROAD EASEMENT

Threat: DEVELOPMENT

General: 5 TADPOLES OBSERVED, 1994. CALIFORNIA LINDERIELLA ALSO PRESENT.

Owner/Manager: UNKNOWN

<i>Spea (=Scaphiopus) hammondii</i>		Element Code: AAABF01030
western spadefoot		
Status	NDDB Element Ranks	Other Lists
Federal: Species of Concern	Global: G3	CDFG Status: SC
State: None	State: S3	
Habitat Associations		
General: OCCURS PRIMARILY IN GRASSLAND HABITATS, BUT CAN BE FOUND IN VALLEY-FOOTHILL HARDWOOD WOODLANDS.		
Micro: VERNAL POOLS ARE ESSENTIAL FOR BREEDING AND EGG-LAYING.		

Occurrence No. 173 **Map Index:** 42150 **EO Index:** 42150 **Dates Last Seen** —
Occ Rank: Poor **Element:** 1990-02-XX
Origin: Natural/Native occurrence **Site:** 1990-02-XX
Presence: Presumed Extant
Trend: Unknown **Record Last Updated:** 2000-01-12
Main Source: MUTH, D. 1990 (OBS)

Quad Summary:

County Summary: PLACER

Lat/Long: 38.76985° / -121.33078°	Township: 11N
UTM: Zone-10 N4292560 E645012	Range: 06E
Mapping Precision: NON-SPECIFIC	Section: 29 Qtr: XX
Symbol Type: POINT	Meridian: M
Radius: 2/5 mile	Elevation: 140 ft

Location: NEAR THE INTERSECTION OF WOODCREEK OAKS BLVD AND PLEASANT GROVE BLVD, WOODCREEK OAKS SUBDIVISION IN WESTERN ROSEVILLE

Location Detail: MAPPED TO DESCRIPTION GIVEN (TOWNSHIP, SECTION AND ELEVATION DON'T MATCH SITE DESCRIPTION).

Ecological: GRASSLAND WITH NUMEROUS VERNAL POOLS AND SWALES.

Threat: LAND HAS BEEN DEVELOPED SINCE OBSERVATION

General: 30+ METAMORPHS OBSERVED IN A DRYING INTERMITTENT DRAINAGE, 1990.

Owner/Manager: PVT

<i>Spea (=Scaphiopus) hammondii</i>		Element Code: AAABF01030
western spadefoot		
Status	NDDB Element Ranks	Other Lists
Federal: Species of Concern	Global: G3	CDFG Status: SC
State: None	State: S3	
Habitat Associations		
General: OCCURS PRIMARILY IN GRASSLAND HABITATS, BUT CAN BE FOUND IN VALLEY-FOOTHILL HARDWOOD WOODLANDS.		
Micro: VERNAL POOLS ARE ESSENTIAL FOR BREEDING AND EGG-LAYING.		

Occurrence No. 174 **Map Index:** 42151 **EO Index:** 42151 **Dates Last Seen**

Occ Rank: Good **Element:** 1993-03-21

Origin: Natural/Native occurrence **Site:** 1993-03-21

Presence: Presumed Extant

Trend: Unknown **Record Last Updated:** 2000-01-20

Main Source: BALFOUR, P. 1993 (OBS)

Quad Summary: PLEASANT GROVE (3812174/528C)

County Summary: PLACER

Lat/Long: 38.79154° / -121.38455°	Township: 11N
UTM: Zone-10 N4294883 E640298	Range: 05E
Mapping Precision: SPECIFIC	Section: 23 Qtr: SE
Symbol Type: POINT	Meridian: M
Radius: 80 meters	Elevation: 100 ft

Location: BEND IN PHILLIP ROAD, 1.5 MILE W OF JCT WITH FIDDYMENT ROAD, 0.3 MILE WEST WHERE ROAD PARALLELS PLEASANT GROVE CREEK.

Location Detail:

Ecological: ANNUAL GRASSLAND

Threat: CHANGES IN HYDROLOGY/URBAN RUNOFF

General: 1 ADULT FOUND CROSSING THE ROAD

Owner/Manager: UNKNOWN

Balsamorhiza macrolepis var. macrolepis

big-scale balsamroot

Element Code: PDAST11061

_____ **Status** _____ **NDDB Element Ranks** _____ **Other Lists** _____
Federal: Species of Concern **Global:** G3T2 **CNPS List:** 1B
State: None **State:** S2.2 **R-E-D Code:** 2-2-3

_____ **Habitat Associations** _____
General: VALLEY AND FOOTHILL GRASSLAND, CISMONTANE WOODLAND.
Micro: SOMETIMES ON SERPENTINE. 35-1000M.

Occurrence No. 9 **Map Index:** 32045 **EO Index:** 3757 — **Dates Last Seen** —
Occ Rank: Unknown **Origin:** Natural/Native occurrence **Element:** 1957-05-07
Presence: Presumed Extant **Site:** 1957-05-07
Trend: Unknown **Record Last Updated:** 1995-03-24
Main Source: CRAMPTON #3983 UC #1278006 (HERB)

Quad Summary: ROSEVILLE (3812173/528D)

County Summary: PLACER

Lat/Long: 38.79393° / -121.30792° **Township:** 11N
UTM: Zone-10 N4295269 E646948 **Range:** 06E
Mapping Precision: SPECIFIC **Section:** 21 **Qtr:** XX
Symbol Type: POLYGON **Meridian:** M
Area: 98.3 ac **Elevation:** 125 ft

Location: ALONG RAILROAD AND U.S. HIGHWAY 99, 3.2 MILES NORTH OF ROSEVILLE.

Location Detail: UNCULTIVATED STRIP ALONG ROADWAY.

Ecological:

Threat:

General: NOT ANNOTATED AND LABEL AS BALSAMORHIZA HOOKERI, BUT IN THIS FOLDER AND LOOKS RIGHT, (RB 1987).

Owner/Manager: UNKNOWN

Cordylanthus mollis ssp. hispidus

hispid bird's-beak

Element Code: PDSCR0J0D1

_____ Status _____ NDDB Element Ranks _____ Other Lists _____

Federal: Species of Concern

Global: G2T2

CNPS List: 1B

State: None

State: S2.1

R-E-D Code: 2-3-3

_____ Habitat Associations _____

General: MEADOWS, PLAYAS, VALLEY AND FOOTHILL GRASSLAND.

Micro: IN DAMP ALKALINE SOILS, ESPECIALLY IN ALKALINE MEADOWS AND ALKALI SINKS WITH DISTICHLIS. 10-155M.

Occurrence No. 11

Map Index: 11763

EO Index: 17846

— Dates Last Seen —

Occ Rank: Good

Element: 1991-10-16

Origin: Natural/Native occurrence

Site: 1997-06-18

Presence: Presumed Extant

Trend: Unknown

Record Last Updated: 1997-12-22

Main Source: HOLLAND & DAINS 1982 (OBS)

Quad Summary:

County Summary: PLACER

Lat/Long: 38.81335° / -121.26006°

Township: 11N

UTM: Zone-10 N4297502 E651064

Range: 06E

Mapping Precision: SPECIFIC

Section: 12 Qtr: SW

Symbol Type: POLYGON

Meridian: M

Area: 25.4 ac

Elevation: 150 ft

Location: APPROXIMATELY 4 MILES NORTHEAST OF ROSEVILLE.

Location Detail: STANFORD RANCH ALKALI SEEP PRESERVE, SPRING VALLEY. SITE IS NEAR JUNCTION OF PARK DRIVE AND STANFORD RANCH ROAD.

Ecological: ALKALI MEADOW WITH SCIRPUS, AND DISTICHLIS SPICATA. AREA SURROUNDED BY ALMO VARIANT CLAY, BUT SOIL AT SITE IS UNCLASSIFIED.

Threat: GRAZING REMOVED BY 1991, FILL HAD BEEN DUMPED ON SITE IN 1989; SUBSEQUENTLY REMOVED TO RESOLVE WETLANDS VIOLATIONS.

General: OVER 10,000 PLANTS SEEN IN 1985, ABOUT 3500 SEEN IN 1989, 2500 IN 1991. ACCORDING TO DAINS, DECLINE IN POPULATION PROBABLY DUE TO WEATHER, NOT MANAGEMENT. SITE FENCED, HABITAT LOOKED GOOD IN LATE SEASON (JUNE) 1997 WINDSHIELD SURVEY.

Owner/Manager: PVT

<i>Downingia pusilla</i>		Element Code: PDCAM060C0
dwarf downingia		
Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G3	CNPS List: 2
State: None	State: S3.1	R-E-D Code: 1-2-1
Habitat Associations		
General: VALLEY AND FOOTHILL GRASSLAND (MESIC SITES), VERNAL POOLS.		
Micro: VERNAL LAKE AND POOL MARGINS WITH A VARIETY OF ASSOCIATES. IN SEVERAL TYPES OF VERNAL POOLS. 1-485M.		

Occurrence No. 36 **Map Index:** 11732 **EO Index:** 13217 **Dates Last Seen**

Occ Rank: None **Element:** 1987-04-15

Origin: Natural/Native occurrence **Site:** 1997-06-18

Presence: Possibly Extirpated

Trend: Decreasing **Record Last Updated:** 1997-08-11

Main Source: STROMBERG, L. 1987 (OBS)

Quad Summary:

County Summary: PLACER

Lat/Long: 38.76878° / -121.26884°	Township: 11N
UTM: Zone-10 N4292541 E650396	Range: 06E
Mapping Precision: NON-SPECIFIC	Section: 26 Qtr: SE
Symbol Type: POINT	Meridian: M
Radius: 1/5 mile	Elevation: 210 ft

Location: NE OF ROSEVILLE & SW OF ROCKLIN POWER LINE.

Location Detail:

Ecological: VERNAL POOL ON INKS-EXCHEQUER SOILS. ASSOCIATED WITH ALLOCARYA STIPITATA MICRANTHA, ALOPECURUS HOWELLII, LASTHENIA CHRYSOSTOMA AND ERYNGIUM VASEYI.

Threat: SITE GRAZED AND RUTED BY VEHICLE TRACKS. ROSEVILLE PLANS TO RETAIN AS URBAN RESERVE, BUT DEVELOPMENT SURROUNDS.

General: 1000-1500 PLANTS IN 1987. THIS AREA WAS GRADED WHEN VISITED IN 1997. SITE IS NOW LOCATED S OF ROSEVILLE PARKWAY AT DIAMOND OAKES RD.

Owner/Manager: UNKNOWN

Downingia pusilla		
dwarf downingia		
		Element Code: PDCAM060C0
Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G3	CNPS List: 2
State: None	State: S3.1	R-E-D Code: 1-2-1
Habitat Associations		
General: VALLEY AND FOOTHILL GRASSLAND (MESIC SITES), VERNAL POOLS.		
Micro: VERNAL LAKE AND POOL MARGINS WITH A VARIETY OF ASSOCIATES. IN SEVERAL TYPES OF VERNAL POOLS. 1-485M.		

Occurrence No. 60 **Map Index:** 26041 **EO Index:** 5230 **Dates Last Seen**

Occ Rank: Excellent **Element:** 1990-04-14

Origin: Natural/Native occurrence **Site:** 1990-04-14

Presence: Presumed Extant

Trend: Unknown **Record Last Updated:** 1994-08-08

Main Source: MARTZ, C. 1989 (OBS)

Quad Summary:

County Summary: PLACER

Lat/Long: 38.85815° / -121.30393°	Township: 12N
UTM: Zone-10 N4302402 E647162	Range: 06E
Mapping Precision: SPECIFIC	Section: 28 Qtr: SE
Symbol Type: POLYGON	Meridian: M
Area: 10.1 ac	Elevation: 130 ft

Location: BETWEEN HIGHWAY 65 AND INDUSTRIAL BLVD NORTH OF ORCHARD CREEK, 2.2 MILES SOUTH OF LINCOLN.

Location Detail: MAPPED ABOUT 0.6 AIR MILE SSW OF THE LINCOLN RODEO GROUNDS. WITHIN THE NE 1/4 OF THE SE 1/4 OF SECTION 28 AND THE NW 1/4 OF THE SW 1/4 OF SECTION 27.

Ecological: NORTHERN CLAYPAN VERNAL POOLS ON SAN JOAQUIN SOIL SERIES AND NORTHERN VOLCANIC MUDFLOW VERNAL POOLS ON EXCHEQUER SERIES SOILS. ASSOCIATED WITH PLAGIOBOTHRYUS STIPITATUS, DOWNINGIA BICORNUTA, LASTHENIA FREMONTII, NAVARRETIA LEUCOCEPHALA ETC.

Threat: SITE IS CURRENTLY GRAZED BY CATTLE. GENERAL AREA IS BEING DEVELOPED RAPIDLY.

General: MORE THAN 1000 PLANTS OBSERVED IN 1989, 237 PLANTS OBSERVED IN 1990. SITE HAS MANY LARGE POOLS, SWALES AND VERNAL FLATS. SAN JOAQUIN SERIES AND MUDFLOW POOLS BOTH PRESENT. AREA SHOULD BE EVALUATED FOR REGIONAL POOL PRESERVE.

Owner/Manager: PVT

<i>Downingia pusilla</i>		
dwarf downingia		
		Element Code: PDCAM060C0
_____ Status _____	_____ NDDB Element Ranks _____	_____ Other Lists _____
Federal: None	Global: G3	CNPS List: 2
State: None	State: S3.1	R-E-D Code: 1-2-1
_____ Habitat Associations _____		
General: VALLEY AND FOOTHILL GRASSLAND (MESIC SITES), VERNAL POOLS.		
Micro: VERNAL LAKE AND POOL MARGINS WITH A VARIETY OF ASSOCIATES. IN SEVERAL TYPES OF VERNAL POOLS. 1-485M.		

Occurrence No. 61	Map Index: 26040	EO Index: 1727	— Dates Last Seen —
Occ Rank: Unknown			Element: 1993-04-26
Origin: Natural/Native occurrence			Site: 1993-04-26
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1995-09-12
Main Source: HOLLAND, R. 1993 (OBS)			

Quad Summary: PLEASANT GROVE (3812174/528C), SHERIDAN (3812184/528B)

County Summary: PLACER

Lat/Long: 38.87484° / -121.38761°	Township: 12N
UTM: Zone-10 N4304123 E639869	Range: 05E
Mapping Precision: SPECIFIC	Section: 23 Qtr: SW
Symbol Type: POINT	Meridian: M
Radius: 80 meters	Elevation: 93 ft

Location: LINCOLN COMMUNICATION ANNEX (USAF) NORTH OF MOORE ROAD, ABOUT 5 AIR MILES WEST OF LINCOLN.

Location Detail: MAPPED ABOUT 0.75 MILE NNW OF THE INTERSECTION OF DOWD AVENUE AND MOORE ROAD WITHIN THE NE 1/4 OF THE SW 1/4 OF SECTION 23.

Ecological: GROWING IN SATURATED SOIL IN NORTHERN HARDPAN VERNAL POOL. ASSOCIATED WITH PLAGIOBOTHRYIS BRACTEATUS, ELEOCHARIS MACROSTACHYA, MARSILEA VESTITA, AND PSILOCARPUS OREGANUS. SOILS ARE A HYDRIC INCLUSION WITHIN COMETA LOAM.

Threat: CATTLE GRAZING; SITE HAS BEEN LEASED TO THE LINCOLN HIGH SCHOOL FFA.

General:

Owner/Manager: DOD-USAF

Downingia pusilla		
dwarf downingia		
		Element Code: PDCAM060C0
_____ Status _____	_____ NDDB Element Ranks _____	_____ Other Lists _____
Federal: None	Global: G3	CNPS List: 2
State: None	State: S3.1	R-E-D Code: 1-2-1
_____ Habitat Associations _____		
General: VALLEY AND FOOTHILL GRASSLAND (MESIC SITES), VERNAL POOLS.		
Micro: VERNAL LAKE AND POOL MARGINS WITH A VARIETY OF ASSOCIATES. IN SEVERAL TYPES OF VERNAL POOLS. 1-485M.		

Occurrence No. 98	Map Index: 43406	EO Index: 43406	— Dates Last Seen —
Occ Rank: Good			Element: 2000-04-12
Origin: Natural/Native occurrence			Site: 2000-04-12
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2000-08-10
Main Source: ROBISON, R. 2000 (OBS)			

Quad Summary:

County Summary: PLACER

Lat/Long: 38.79160° / -121.37589°	Township: 11N
UTM: Zone-10 N4294903 E641050	Range: 05E
Mapping Precision: SPECIFIC	Section: 24 Qtr: NW
Symbol Type: POLYGON	Meridian: M
Area: 7.1 ac	Elevation: 90 ft

Location: ABOUT 0.7 MILE WEST OF CONFLUENCE OF KASEBERG CREEK AND PLEASANT GROVE CREEK, NORTHWEST OF ROSEVILLE.

Location Detail: FOUR POOLS MAPPED WITHIN THREE POLYGONS AT CNDDb, ABOUT 1 MILE WEST OF ELBOW IN FIDDYMENT ROAD. POOLS ARE WITHIN THE W 1/2 NW 1/4 SECTION 24.

Ecological: VERNAL POOLS DOMINATED BY PLAGIOBOTHRYUS STIPITATUS, POGOGYNE ZIZIPHOROIDES, PSILOCARPHUS BREVISSIMUS, NAVARETTIA LEUCOCEPHALA, AND HORDEUM MURINUM SSP. GOSSONEANUM.

Threat: SITE IS GRAZED AND RECEIVES RUNOFF FROM ADJACENT HOUSING. AREA IS SLATED FOR DEVELOPMENT.

General: UNKNOWN NUMBER OF PLANTS OBSERVED IN FOUR POOLS IN 2000.

Owner/Manager: PVT

Downingia pusilla		
dwarf downingia		
		Element Code: PDCAM060C0
<hr/>		
Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G3	CNPS List: 2
State: None	State: S3.1	R-E-D Code: 1-2-1
<hr/>		
Habitat Associations		
General: VALLEY AND FOOTHILL GRASSLAND (MESIC SITES), VERNAL POOLS.		
Micro: VERNAL LAKE AND POOL MARGINS WITH A VARIETY OF ASSOCIATES. IN SEVERAL TYPES OF VERNAL POOLS. 1-485M.		

Occurrence No. 100 **Map Index:** 43408 **EO Index:** 43408 **Dates Last Seen** —
Occ Rank: Good **Element:** 2000-04-12
Origin: Natural/Native occurrence **Site:** 2000-04-12
Presence: Presumed Extant
Trend: Unknown **Record Last Updated:** 2000-08-10
Main Source: ROBISON, R. 2000 (OBS)

Quad Summary: PLEASANT GROVE (3812174/528C)

County Summary: PLACER

Lat/Long: 38.79362° / -121.39263°	Township: 11N
UTM: Zone-10 N4295102 E639592	Range: 05E
Mapping Precision: SPECIFIC	Section: 23 Qtr: NW
Symbol Type: POLYGON	Meridian: M
Area: 8.5 ac	Elevation: 90 ft

Location: SOUTH SIDE OF PHILLIP ROAD ABOUT 3 MILES EAST OF BREWER ROAD, NORTHWEST OF ROSEVILLE.

Location Detail: FIVE POOLS MAPPED IN THREE POLYGONS AT CNDDDB, JUST SOUTH OF PHILIP ROAD. POOLS ARE WITHIN THE NW 1/4 NW 1/4 SECTION 23 AND THE NE CORNER OF SECTION 22.

Ecological: VERNAL POOLS DOMINATED BY PLAGIOBOTHRYIS STIPITATUS, POGOGYNE ZIZIPHOROIDES, PSILOCARPUS BREVISSIMUS, NAVARETTIA LEUCOCEPHALA, AND HORDEUM MURINUM SSP. GOSSONEANUM.

Threat: SITE IS GRAZED AND RECEIVES RUNOFF FROM ADJACENT HOUSING. AREA IS SLATED FOR DEVELOPMENT.

General: UNKNOWN NUMBER OF PLANTS OBSERVED IN FIVE POOLS IN 2000.

Owner/Manager: PVT

Downingia pusilla		
dwarf downingia		Element Code: PDCAM060C0
<hr/>		
Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G3	CNPS List: 2
State: None	State: S3.1	R-E-D Code: 1-2-1
<hr/>		
Habitat Associations		
General: VALLEY AND FOOTHILL GRASSLAND (MESIC SITES), VERNAL POOLS.		
Micro: VERNAL LAKE AND POOL MARGINS WITH A VARIETY OF ASSOCIATES. IN SEVERAL TYPES OF VERNAL POOLS. 1-485M.		

Occurrence No. 101 Map Index: 43409 EO Index: 43409 — Dates Last Seen —
 Occ Rank: Good Element: 2002-05-01
 Origin: Natural/Native occurrence Site: 2002-05-01
 Presence: Presumed Extant
 Trend: Unknown Record Last Updated: 2003-03-04
 Main Source: ROBISON, R. 2000 (OBS)

Quad Summary:
 County Summary: PLACER

Lat/Long: 38.78435° / -121.38631°	Township: 11N
UTM: Zone-10 N4294083 E640159	Range: 05E
Mapping Precision: SPECIFIC	Section: 23 Qtr: SW
Symbol Type: POLYGON	Meridian: M
Area: 13.4 ac	Elevation: 100 ft

Location: SOUTH OF PHILLIP ROAD ABOUT 3.5 MILES EAST OF BREWER ROAD, NORTHWEST OF ROSEVILLE.
Location Detail: SEVERAL POOLS MAPPED IN SEVEN POLYGONS AT CNDDDB, ABOUT 0.5 MILE SOUTH OF PHILIP ROAD. POOLS ARE NEAR THE CENTER OF THE S 1/2 SECTION 23 AND SOUTH INTO THE N1/2 SEC 26.
Ecological: VERNAL POOLS DOMINATED BY PLAGIOBOTHRYIS STIPITATUS, POGOGYNE ZIZIPHOROIDES, PSILOCARPHUS BREVISSIMUS, NAVARETTIA LEUCOCEPHALA, AND HORDEUM MURINUM SSP. GOSSONEANUM.
Threat: SITE IS GRAZED AND RECEIVES RUNOFF FROM ADJACENT HOUSING. AREA IS SLATED FOR DEVELOPMENT.
General: UNKNOWN NUMBER OF PLANTS OBSERVED IN FIVE POOLS IN 2000. LESS THAN 10 PLANTS OBSERVED IN 2002 AT TWO NEW LOCATIONS. INCLUDES FORMER OCCURRENCE # 102.
Owner/Manager: PVT

Downingia pusilla		Element Code: PDCAM060C0
dwarf downingia		
Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G3	CNPS List: 2
State: None	State: S3.1	R-E-D Code: 1-2-1
Habitat Associations		
General: VALLEY AND FOOTHILL GRASSLAND (MESIC SITES), VERNAL POOLS.		
Micro: VERNAL LAKE AND POOL MARGINS WITH A VARIETY OF ASSOCIATES. IN SEVERAL TYPES OF VERNAL POOLS. 1-485M.		

Occurrence No. 110 **Map Index:** 50379 **EO Index:** 50379 **Dates Last Seen** —
Occ Rank: Excellent **Element:** 2002-05-03
Origin: Natural/Native occurrence **Site:** 2002-05-03
Presence: Presumed Extant
Trend: Unknown **Record Last Updated:** 2003-03-04
Main Source: PRESTON, R. 2002 (OBS)

Quad Summary: ROSEVILLE (3812173/528D)

County Summary: PLACER

Lat/Long: 38.85082° / -121.32974°	Township: 12N
UTM: Zone-10 N4301547 E644938	Range: 06E
Mapping Precision: SPECIFIC	Section: 32 Qtr: NE
Symbol Type: POINT	Meridian: M
Radius: 80 meters	Elevation: 118 ft

Location: NORTH SIDE OF ORCHARD CREEK, 3 MILES SW OF LINCOLN, 1.4 MILES NW OF INDUSTRIAL AVE AT ATHENS AVE, NORTH OF ROSEVILLE.

Location Detail: MAPPED WITHIN THE NW 1/4 OF THE NE 1/4 OF SECTION 32.

Ecological: LARGE VERNAL POOLS WITH DOWNINGIA BICORNUTA, LASTHENIA FREMONTII, PSILOCARPHUS BREVISSIMUS, GRATIOLA EBRACTEATA, AND PLAGIOBOTHRYUS STIPITATUS. LEGENERE LIMOSA ALSO PRESENT.

Threat: LIGHT GRAZING.

General: LESS THAN 100 PLANTS OBSERVED IN 2002 IN TWO POOLS. LIKELY TO OCCUR IN OTHER ADJACENT POOLS AS WELL. WITHIN CONSERVATION BANK.

Owner/Manager: PVT-WILDLANDS INC

Gratiola heterosepala		
Boggs Lake hedge-hyssop		
		Element Code: PDSCR0R060
<hr/>		
Status	NDDB Element Ranks	Other Lists
Federal: Species of Concern	Global: G3	CNPS List: 1B
State: Endangered	State: S3.1	R-E-D Code: 1-2-2
<hr/>		
Habitat Associations		
General: MARSHES AND SWAMPS (FRESHWATER), VERNAL POOLS.		
Micro: CLAY SOILS; USUALLY IN VERNAL POOLS, SOMETIMES ON LAKE MARGINS. 5-2400M.		

Occurrence No. 16	Map Index: 11749	EO Index: 7258	— Dates Last Seen —
Occ Rank: Good			Element: 1987-04-22
Origin: Natural/Native occurrence			Site: 1997-06-18
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1997-08-11
Main Source: STROMBERG, L. 1987 (OBS)			

Quad Summary:

County Summary: PLACER

Lat/Long: 38.76720° / -121.26365°	Township: 11N
UTM: Zone-10 N4292374 E650850	Range: 06E
Mapping Precision: SPECIFIC	Section: 25 Qtr: SW
Symbol Type: POLYGON	Meridian: M
Area: 6.4 ac	Elevation: 230 ft

Location: N OF ROSEVILLE, W OF ANTELOPE CREEK, WSW OF ROCKLIN.

Location Detail:

Ecological: NORTHERN HARDPAN VERNAL POOL ON EXCHEQUER VERY STONY LOAM SOIL. ASSOCIATED VEGETATION INCLUDES ERYNGIUM VASEYI, ALLOCARYA STIPATATA MICRANTHA AND GRATIOLA EBRACTEATA.

Threat: AREA GRAZED AND PROPOSED FOR REGIONAL SHOPPING CENTER.

General: OVER 40 PLANTS IN 2 SUBPOPULATIONS IN 1987. DEVELOPMENT IMMINENT IN 1997; ROSEVILLE BLVD EXPANSION HAS/WILL PROBABLY WIPE OUT MOST OF THIS OCCURRENCE UNLESS SET ASIDE.

Owner/Manager: PVT

<i>Juncus leiospermus var. leiospermus</i>		
Red Bluff dwarf rush		
		Element Code: PMJUN011L2
<hr/>		
Status	NDDB Element Ranks	Other Lists
Federal: Species of Concern	Global: G2T2	CNPS List: 1B
State: None	State: S2.2	R-E-D Code: 2-3-3
<hr/>		
Habitat Associations		
General: CHAPARRAL, VALLEY AND FOOTHILL GRASSLAND, CISMONTANE WOODLANDS, VERNAL POOLS.		
Micro: VERANLLY MESIC SITES. SOMETIMES ON EDGES OF VERNAL POOLS. 30-1020M.		

Occurrence No. 10	Map Index: 11642	EO Index: 22188	— Dates Last Seen —
Occ Rank: Unknown			Element: 1982-04-28
Origin: Natural/Native occurrence			Site: 1997-06-18
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2003-04-08
Main Source: HOLLAND, R. 1982 (OBS)			

Quad Summary:

County Summary: PLACER

Lat/Long: 38.80377° / -121.31189°	Township: 11N
UTM: Zone-10 N4296354 E646583	Range: 06E
Mapping Precision: NON-SPECIFIC	Section: 16 Qtr: NE
Symbol Type: POINT	Meridian: M
Radius: 1/5 mile	Elevation: 110 ft

Location: APPROX 0.5 MI N OF SCOW RD INDUSTRIAL BLVD, ROSEVILLE.

Location Detail: WEST OF RR TRACKS, SOUTH OF INDUSTRIAL WASTE PONDS AND EAST OF A POWERLINE.

Ecological: MARGINS OF VERNAL POOLS, LARGELY ON KILAGA LOAM SOILS.

Threat: THREATS INCLUDE HOUSING OR LIGHT INDUSTRY DEVELOPMENT.

General: NO PLANTS SEEN IN 1997 WINDSHIELD SURVEY; HABITAT APPEARED INTACT. WITHAM CONSIDERS THIS SITE TO BE ERROUNEOUS; IT IS WELL OUTSIDE THE REPORTED RANGE OF THIS SPECIES. IT MAY BE VAR. AHARTII OR A MISIDENTIFICATION. NEEDS FIELDWORK.

Owner/Manager: PVT

<i>Legenere limosa</i>		
legenere	Element Code: PDCAM0C010	
_____ Status _____	NDDB Element Ranks	_____ Other Lists _____
Federal: Species of Concern	Global: G2	CNPS List: 1B
State: None	State: S2.2	R-E-D Code: 2-3-3
_____ Habitat Associations _____		
General: VERNAL POOLS. MANY HISTORICAL OCCURRENCES ARE EXTIRPATED.		
Micro: IN BEDS OF VERNAL POOLS. 1-880M.		

Occurrence No. 11	Map Index: 11680	EO Index: 28357	— Dates Last Seen —
Occ Rank: Unknown			Element: 1984-04-XX
Origin: Natural/Native occurrence			Site: 1997-06-18
Presence: Presumed Extant			
Trend: Decreasing			Record Last Updated: 1997-08-11
Main Source: DAINS, V. 1983 (OBS)			

Quad Summary:

County Summary: PLACER

Lat/Long: 38.81155° / -121.29521°	Township: 11N
UTM: Zone-10 N4297245 E648016	Range: 06E
Mapping Precision: SPECIFIC	Section: 10 Qtr: SW
Symbol Type: POLYGON	Meridian: M
Area: 58.7 ac	Elevation: 120 ft

Location: N TRIBUTARY OF PLEASANT GROVE CR, N OF PLEASANT GROVE CR, S OF PLACER BLVD, E OF HWY 65.

Location Detail:

Ecological: VERNAL POOL AREA ON FLOODPLAIN OF INTERMITTENT STREAM.

Threat: PART OF AREA PLANNED FOR INDUSTRIAL PARK USE (AREA GRADED IN 1983). GRAVEL PIT TO SOUTH.

General: ABOUT 200 PLANTS IN 1984. NONE FOUND IN 1997 (TOO LATE IN SEASON). THE NORTHERN POOLS WHICH WERE MAPPED HERE IN 1984 APPEAR TO BE EXTIRPATED. S POOLS UNDISTURBED IN 1997.

Owner/Manager: PVT

<i>Legenere limosa</i>		
legenere	Element Code: PDCAM0C010	
----- Status ----- NDDB Element Ranks ----- Other Lists -----		
Federal: Species of Concern	Global: G2	CNPS List: 1B
State: None	State: S2.2	R-E-D Code: 2-3-3
----- Habitat Associations -----		
General: VERNAL POOLS. MANY HISTORICAL OCCURRENCES ARE EXTIRPATED.		
Micro: IN BEDS OF VERNAL POOLS. 1-880M.		

Occurrence No. 14	Map Index: 11739	EO Index: 17380	----- Dates Last Seen -----
Occ Rank: None			Element: 1984-04-05
Origin: Natural/Native occurrence			Site: 1997-06-18
Presence: Extirpated			
Trend: Unknown			Record Last Updated: 1997-08-11
Main Source: HOLLAND, R. 1984 (OBS)			

Quad Summary:

County Summary: PLACER

Lat/Long: 38.81156° / -121.26800°	Township: 11N
UTM: Zone-10 N4297290 E650379	Range: 06E
Mapping Precision: NON-SPECIFIC	Section: 11 Qtr: SE
Symbol Type: POINT	Meridian: M
Radius: 1/5 mile	Elevation: 150 ft

Location: FLOODPLAIN OF PLEASANT GROVE CREEK, APPROX 2.2 AIRMI E OF JCT PLACER BLVD & SPRR TRACKS.

Location Detail: WHEN VISITED IN 1997, WHAT APPEARS TO BE DEDICATED OPEN SPACE WAS SEEN JUST TO THE E OF MAPPED LOCATION FOR THIS SITE. FUTURE SURVEYS SHOULD TARGET THIS AREA.

Ecological: VERNAL POOL AREA IN FLOODPLAIN OF INTERMITTENT STREAM. ASSOCIATED WITH RANUNCULUS BONARIENSIS TRISEPALUS.

Threat:

General: ABOUT 100 PLANTS IN 1984. WINDSHIELD SURVEY CONDUCTED IN 1997 TO CONFIRM PRESENCE OR ABSENCE OF HABITAT; IF MAPS ARE ACCURATE, THIS SITE IS NOW UNDER THE PAVEMENT AT DEVON DR, FARRIER RD & RACHEL CT IN THE STANFORD RANCH SUBDIVISION.

Owner/Manager: PVT



Appendix C

List of Plant Species Observed During Field Surveys

Appendix C. Plant species observed during 2003 botanical surveys for the REP project.

Scientific Name	Common Name	N/I*
<i>Aegilops triuncialis</i>	Barbed goatgrass	I
<i>Aira caryophylla</i>	Silver hairgrass	I
<i>Avena fatua</i>	Wild oat	I
<i>Asclepias fascicularis</i>	Narrow-leaf milkweed	N
<i>Asclepias speciosa</i>	Showy milkweed	N
<i>Brassica nigra</i>	Black mustard	I
<i>Bromus catharticus</i>	Brome	I
<i>Bromus diandrus</i>	Ripgut brome	I
<i>Bromus hordeaceus</i>	Soft chess	I
<i>Centaurea solstitialis</i>	Yellow star thistle	I
<i>Cirsium vulgare</i>	Bull thistle	I
<i>Convolvulus arvensis</i>	Bindweed	I
<i>Cyperus eragrostis</i>	Tall flatsedge	N
<i>Eleocharis machrostachya</i>	Spikerush	N
<i>Epilobium densiflorum</i>	Dense boisduvalia	N
<i>Eremocarpus setigerus</i>	Turkey mullein	N
<i>Erodium</i> spp.	Filarees	I
<i>Eryngium vaseyi</i>	Coyote thistle	N
<i>Hemizonia fitchii</i>	Fitch's spikeweed	N
<i>Hemizonia pungens</i>	Common spikeweed	N
<i>Holocarpha virgata</i>	Tarweed	N
<i>Hordeum marinum</i> ssp. <i>gussoneanum</i>	Mediterranean barley	I
<i>Hordeum murinum</i> ssp. <i>leporinum</i>	Hare barley	N
<i>Hypochaeris radicata</i>	Rough cat's ear	I
<i>Juncus bufonius</i>	Common toad rush	N
<i>Juglans californica</i> var. <i>hindsii</i>	N. California black walnut	N
<i>Lactuca serriola</i>	Prickly lettuce	I
<i>Lolium multiflorum</i>	Annual ryegrass	I
<i>Lotus corniculatus</i>	Bird's foot trefoil	I
<i>Quercus douglasii</i>	Blue oak	N
<i>Quercus lobata</i>	Valley oak	N
<i>Phalaris</i> sp.	Canary grass	--
<i>Polygonum</i> sp.	Knotweed	--
<i>Polypogon monspeliensis</i>	Rabbitsfoot grass	I
<i>Raphanus sativus</i>	Wild radish	I
<i>Senecio vulgaris</i>	Common groundsel	I
<i>Sisymbrium</i> sp.	Mustard	--
<i>Sonchus asper</i>	Sowthistle	I

*N=Native; I=Introduced; --Unknown



Appendix D

List of Wildlife Species Observed During Field Surveys

**Appendix D. Wildlife species observed during 2003 wildlife surveys
for the REP project.**

Common Name	Scientific name
Pacific tree frog	<i>Pseudacris regilla</i>
Western fence lizard	<i>Scleroporis occidentalis</i>
Barn owl	<i>Tyto alba</i>
Brewer's blackbird	<i>Euphagus cyanocephalus</i>
Common crow	<i>Corvus brachyrhynchos</i>
Killdeer	<i>Charadrius vociferus</i>
Mallard	<i>Anas platyrhynchos</i>
Mourning dove	<i>Zenaida macroura</i>
Northern harrier	<i>Circus cyaneus</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Scrub jay	<i>Aphelocoma coerulescens</i>
Western meadowlark	<i>Sturnella neglecta</i>
White-tailed kite	<i>Elanus leucurus</i>
Black tailed-hare	<i>Lepus californicus</i>
Striped skunk	<i>Mephitis mephitis</i>

Appendix E

Dry-Season Sampling for Federally Listed Large Branchiopods at the Roseville Energy Park Project

**DRY-SEASON SAMPLING
FOR
FEDERALLY LISTED LARGE BRANCHIOPODS
AT THE
ROSEVILLE ENERGY PARK PROJECT, SACRAMENTO COUNTY, CALIFORNIA**



Prepared for: TETRA TECH FW, INC.
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Prepared by: HELM BIOLOGICAL CONSULTING
5998 Windbreaker Way
Sacramento, CA 95823
Contact: Brent Helm
(916) 428-7584

December 2003



**DRY-SEASON SAMPLING
FOR
FEDERALLY LISTED LARGE BRANCHIOPODS
AT THE
ROSEVILLE ENERGY PARK PROJECT, SACRAMENTO COUNTY, CALIFORNIA**

INTRODUCTION

Helm Biological Consulting was contracted by Lenny Malo of Tetra Tech FW Inc. to conduct dry-season sampling for large branchiopods at the Roseville Energy Park Project.

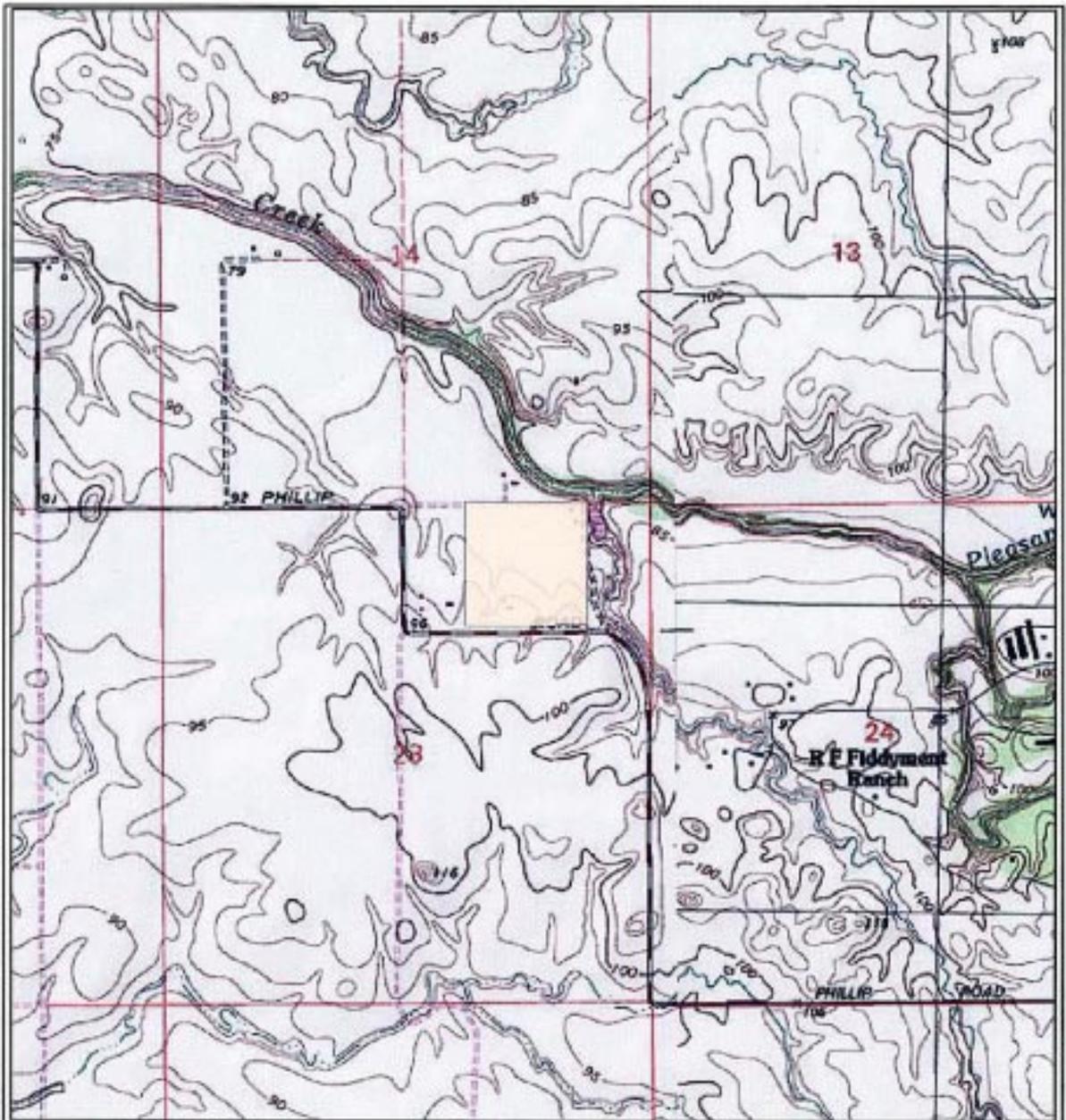
The City of Roseville's electric department, doing business as Roseville Electric, proposes to construct, own, and operate an electrical generating plant in the City of Roseville, Placer County, California. The Roseville Energy Park (REP) will be a natural gas-fired, combined-cycle electrical generating facility rated at a nominal net generating capacity of 119 to 125 megawatts (MW), with the ability to peak-fire to 160 MW. The project site is owned by the City of Roseville and is zoned Public/Quasi-Public. The 40-acre project site is located on City of Roseville property within the limits of the City of Roseville, adjacent to and north of the City's Pleasant Grove Waste Water Treatment Plant (PGWWTP) just north of Phillip Road, and south of the Pleasant Grove Creek (North ½ of northeast ¼ of Section 23, Township 11 North, and Range 5 East Pleasant Grove US. Geological 7.5-minute topographic quadrangle map) (Figure 1).

This report discusses the methods and results of the dry-season sampling for the presence of large branchiopods at the Roseville Energy Park Project.

METHODS

Dr. Brent Helm conducted dry-season sampling on October 3, 2003 under permit TE-795930-2 of Section 10 (a)(1)(A) of the federal Endangered Species Act, 16 U.S.C. 1531 *et seq.*, and its implementing regulations. Methods generally followed U.S. Fish and Wildlife Service (USFWS) *Interim Survey Guidelines to Permittees for Recovery Permits under Section 10 (a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods* (1996) and are described below.

D:\Projects_2009\roseville_gsa_smp\map\project_location.mxd Date: Sept 17, 2009
Wayne's Office

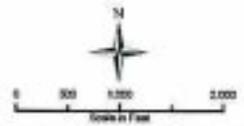


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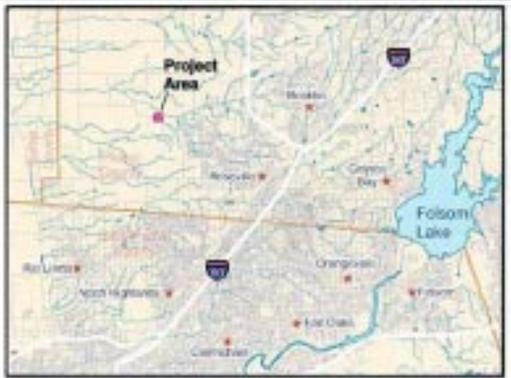
 Project Location

Figure 1

Project Location
Roseville Energy Park
City of Roseville
Placer County, California



Source: National Geographic Topo, 2000
Placer County USGS 7.5' Quadrange
Collection Area Located in Township 11N, Range 9E, Section 33





All areas that potentially could support federally listed large branchiopods were sampled. Potential habitat for large branchiopods is defined as any seasonal inundated depression that on average ponds water two (2) inches or greater in depth for 30 or more consecutive days. Potential habitat characteristics of large branchiopods are based on the life history of Central Valley endemics (Helm 1998, 1999, Helm and Volmar 2002). The presence of water marks, algae mats, driftlines, hydrophytic (“water-loving”) vegetation, slope, contributing watershed, maximum potential ponding depth and aquatic arthropods (i.e., crustaceans and insects) exoskeletons were helpful indicators for evidence of ponding depth and duration. Habitats that flow water (e.g., creeks, streams, ephemeral drainages) or semi-to-permanently inundated areas were not considered suitable habitat for federally listed large branchiopods.

Sampling involved the collection of a minimum of ten soil sub-samples mainly from the lowest topographic areas within each suitable habitat on site. Soil samples were placed in 1-liter size plastic freezer bags and marked with the project name, basin number, and date. The soil was transported to a laboratory for processing and analysis.

The collected soil material was placed in a large container and filled with water. The soil material was then gently worked by hand to breakdown any persistent soil structure. Table salt (NaCl) was then added to the container to form a brine solution. The organic material rising to the top of the brine solution was skimmed off and placed in a 900-micron pore-size sieve stacked atop a 75-micron diameter pore-size sieve. The soil material was processed through the top sieve by flushing it with lukewarm water while gently rubbing it with a soft-bristle brush. The soil retained from the 75-micron diameter pore size sieve was then removed and thinly spread into plastic petri dishes.

The contents of each petri dish were examined under a 10 to 240-power zoom binocular microscope. A minimum of 0.5-hour was spent searching the contents of each petri dish for large branchiopod cysts. Dr. Helm’s large branchiopod cyst reference collection and scanning electron micrographs of cysts (Hill and Shepard 1998, Mura 1991, and Gilchrist 1978) were used to identify and compare cysts within samples.

RESULTS

A total of 32 basins were evaluated for their suitability to support federally listed large branchiopods (Figure 2). Two (P31 and P33) of these 32 basins were considered unsuitable habitat for federally listed large branchiopods because they were permanently



to semi-permanently inundated. The 30 basins that were considered habitat for large brachiopods were dry-sampled. Visual examinations of the soils collected revealed the presence of *Branchinecta* sp. cysts in 11 of the basins (P1, P2, P5, P6, P7, P8, P11, P13, P14, P15 and P18) (Table 1). Representative photographs of the project site are located in Appendix A.

Table 1. Results of Soil Analysis

Basin No.	Large Branchiopod Cysts	Insect Parts	Micro-Turbularian Cysts	Ostracod	Cladoceran Ehippia	Springtails
	<i>Branchinecta</i> Sp.					
P1	32	X	X		X	
P2	23	X	X		X	
P3		X				
P4		X	X			
P5	2	X				
P6	5	X				
P7	7	X			X	
P8	2	X			X	
P9		X			X	
P10		X				
P11	1	X			X	
P12		X	X		X	
P13	4	X	X		X	
P14	11	X	X	X		
P15	6	X			X	
P16		X	X		X	
P17		X			X	
P18	21	X	X	X	X	
P19		X		X		
P20		X				
P21		X				
P22						
P23						
P24		X			X	
P26		X				
P27						
P28		X				
P29		X			X	
P30						X
P31		X			X	



DISCUSSION

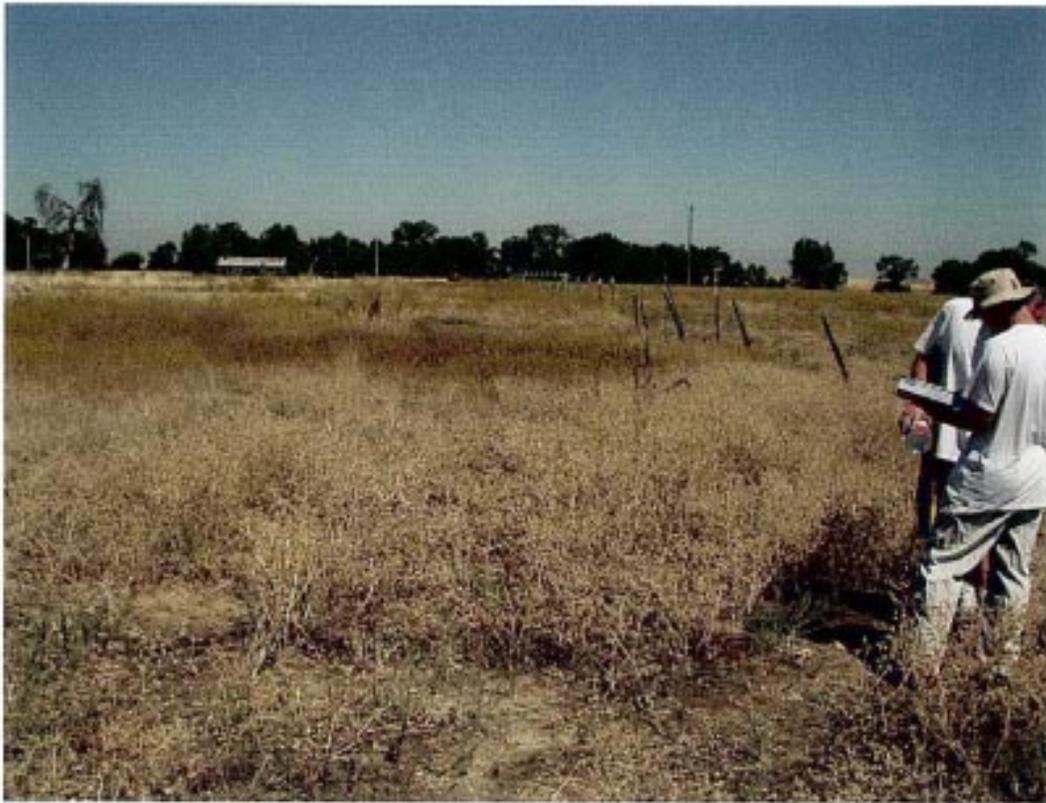
Several species within the genus *Branchinecta* are listed as threatened or endangered under the federal Endangered Species Act. Given the morphology of the *Branchinecta* cysts, the location of the project site vicinity, and generally types of habitats in which they were found, the cysts most likely belong to the threatened vernal pool fairy shrimp (*Branchinecta lynchi*). Nonetheless, positive identification of the cysts to species would entail hatching and rearing the cysts to maturity or the collection of mature large branchiopod specimens from the suitable habitat during the wet-season.

LITERATURE CITED

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APPENDIX A. REPRESENTATIVE PHOTOGRAPHS



Photograph of basin number P1.



Photograph of basin number P2.



Photograph of basin number P3.



Photograph of basin number P4.



Photograph of basin number P5.



Photograph of basin number P6.



Photograph of basin number P7.



Photograph of basin number P8.



Photograph of basin number P9.



Photograph of basin number P10.



Photograph of basin number P11.



Photograph of basin number P12.



Photograph of basin number P13.



Photograph of basin number P14.



Photograph of basin number P15.



Photograph of basin number P16.



Photograph of basin number P17.



Photograph of basin number P18.



Photograph of basin number P20.



Photograph of basin number P21.



Photograph of basin number P22.



Photograph of basin number P23.



Photograph of basin number P24.



Photograph of basin number P26.



Photograph of basin number P27.



Photograph of basin number P28.



Photograph of basin number P29.



Photograph of basin number P30.



Photograph of basin number P31.

Appendix F

Wet-Season Sampling for Federally Listed Large Branchiopods at the Roseville Energy Park Project

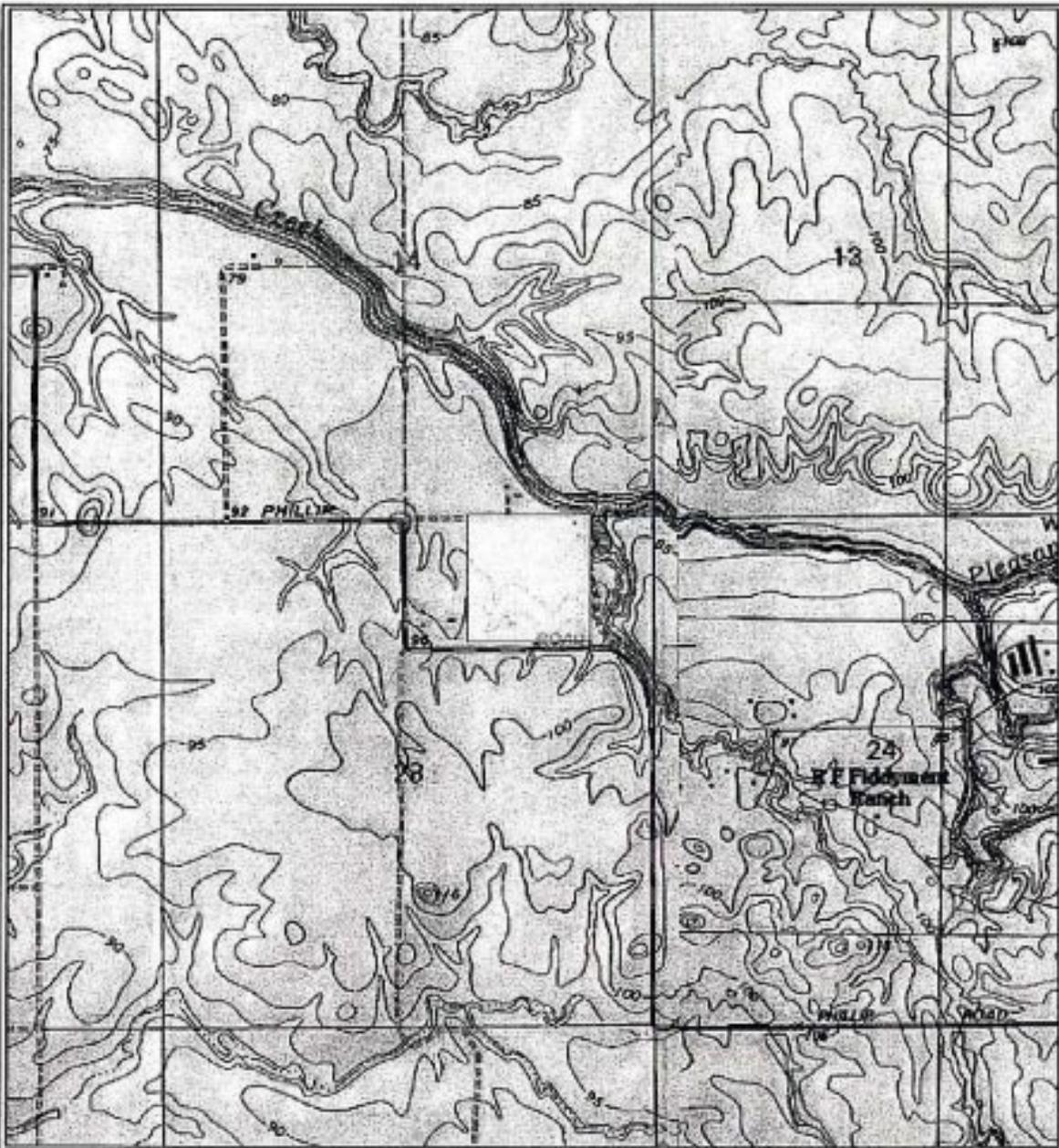
**WET-SEASON SAMPLING
FOR
FEDERALLY LISTED LARGE BRANCHIOPODS
AT THE
ROSEVILLE ENERGY PARK PROJECT, SACRAMENTO COUNTY, CALIFORNIA**



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Prepared by: HELM BIOLOGICAL CONSULTING
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Sacramento, CA 95823
Contact: Brent Helm
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February 2004

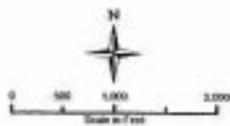


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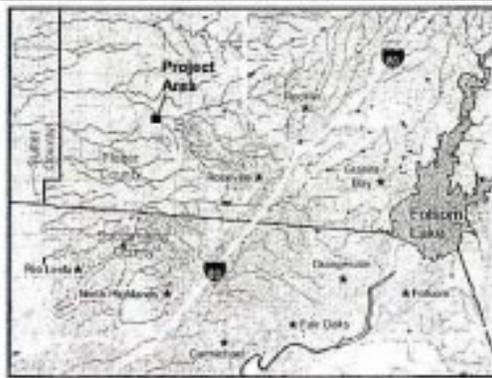
□ Project Location

Figure 1

Project Location
 Roseville Energy Park
 City of Roseville
 Placer County, California



Source: National Geographic Topo, 2000
 Placer County 15000 1:250,000
 Derivation Area Located in Township 11N, Range 9E, Section 23





METHODS

Dr. Brent Helm conducted wet-season sampling under permit TE-795930-2 of Section 10 (a)(1)(A) of the federal Endangered Species Act, 16 U.S.C. 1531 *et seq.*, and its implementing regulations. Methods generally followed U.S. Fish and Wildlife Service (USFWS) *Interim Survey Guidelines to Permittees for Recovery Permits under Section 10 (a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods* (1996) and are described below.

All areas that potentially could support federally listed large branchiopods were sampled. Potential habitat for large branchiopods is defined as any seasonal inundated depression that on average ponds water two (2) inches or greater in depth for 30 or more consecutive days. Potential habitat characteristics of large branchiopods are based on the life history of Central Valley endemics (Helm 1998, 1999, Helm and Volmar 2002). Habitats that flow water (e.g., creeks, streams, ephemeral drainages) or semi-to-permanently inundated areas were not considered suitable habitat for federally listed large branchiopods.

Sampling was conducted on December 23, 2003; and January 6, 20, and 27, 2004.

Wet-season sampling entailed dip netting all potential habitats for large branchiopods at roughly two-week intervals from the time the habitats first pond water until they dry. All macroscopic organisms captured within the dipnet were identified to the lowest taxonomic group justifiable (in the field) and then released back into the habitat from which they were collected. After tentative identification of species in the field, all large branchiopod specimens were preserved in 80% ethyl alcohol and transported to the laboratory for further examination. All preserved specimens were examined under a 10 to 240-power zoom binocular microscope in the laboratory. Dr. Helm's large branchiopod reference collection and species keys (Eriksen and Belk 1999) were used to identify specimens to species level.

Table 1. Results of the Round 1 (12/23/03) Wet-Season Sampling

Site Id.	Ostracod	Copepod	Cladocera	PDB* Larvae	Mosquito	Nonnectid	Large Branchiopods		Micro- Turbellaria	Cortid	Chironomid	Pacific Chorus Frog	Notes
								Instars					
P1		X											
P2									X				
P3													
P4									X				
P5													
P6													
P7													
P8													
P9													
P10													
P11									X				
P12													
P13									X				
P14	X												
P15													
P16													
P17									X				
P18	X												
P19	X												
P20													
P21													
P22													
P23													
P24													
P26													
P27													
P28													
P29													
P30													
P31													

* Predacious Diving Beetle larvae

Table 3. Results of the Round 3 (1/20/04) Wet-Season Sampling

Site Id.	Ostracod	Copepod	Cladocera	PDB* Larvae	Mosquito	Nonnectid	Large Branchiopods <i>Branchinecta</i> sp. Immature	Micro- Turbularia	Corixid	Chironomid	Pacific Chorus Frog	Notes
P1		X	X				X		X			
P2		X	X					X				
P3		X										
P4			X					X				
P5												
P6												
P7			X									
P8			X									
P9		X	X									
P10												
P11			X									
P12	X		X					X				
P13	X		X					X				
P14	X							X				
P15			X									
P16		X	X					X				
P17			X					X				
P18	X							X				
P19	X							X				
P20												
P21												
P22												
P23	X											
P24		X	X									
P25	X											
P27												
P28	X											
P29		X										
P30	X											
P31		X	X									

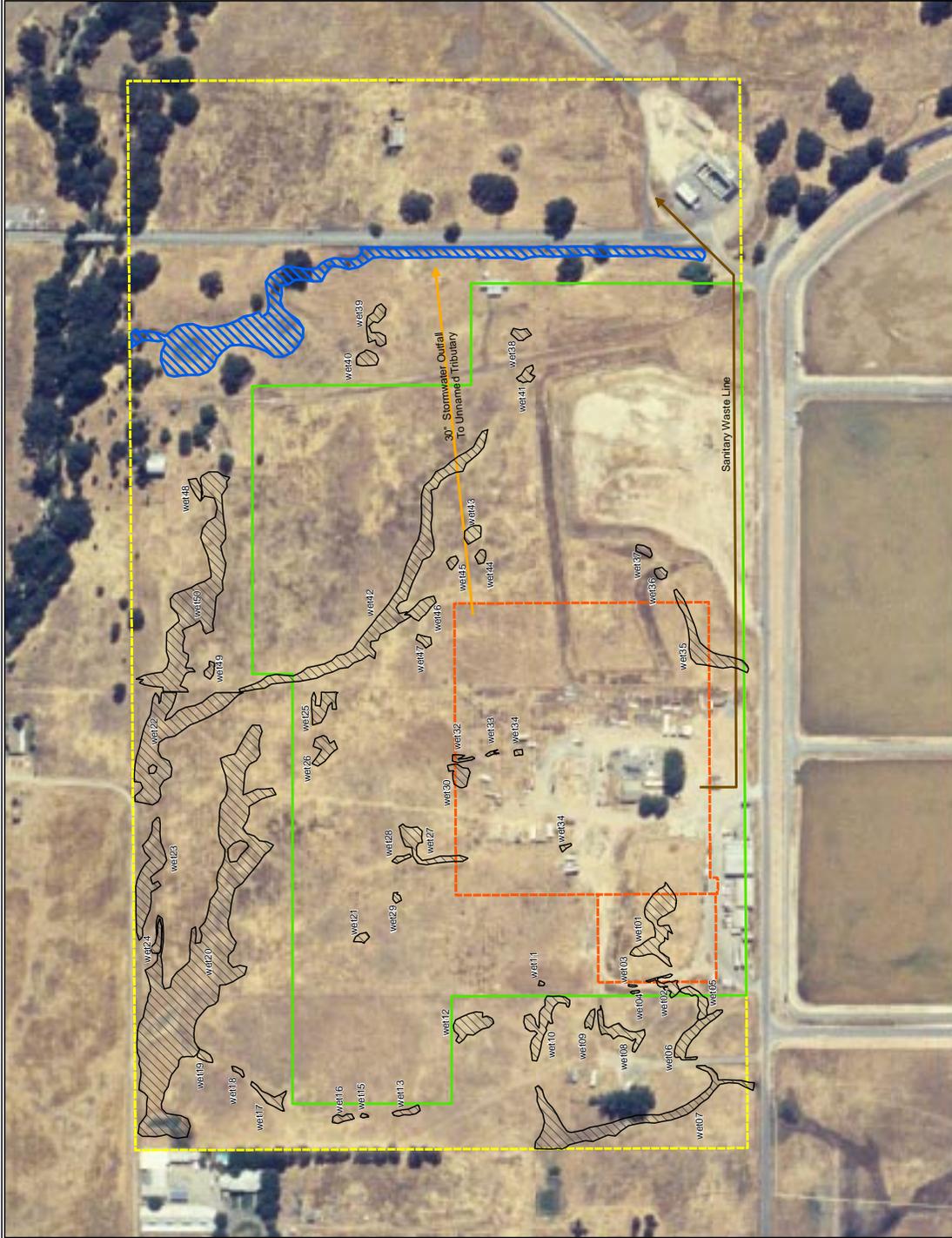
* Predacious Diving Beetle larvae

ATTACHMENT BIO-2

**Revised Wetland Delineation
And Wetland Acreage Table**

Revised Wetland Delineation
for
Roseville Energy Park
Placer County, California

- Legend**
-  Building Footprint
 -  Stormwater Outfall
 -  Sanitary Waste Line
 -  Additional City Property
 -  Project Boundary
 -  Revised Wetland
 -  Water/Riparian



ROSEVILLE ENERGY PARK WETLAND DELINEATION
Wetlands and Waters of the U.S. and Their Acreages

Wetland ID	Acres
water01	1.11
wet01	0.15
wet02	0.03
wet03	0.00
wet04	0.00
wet05	0.03
wet06	0.07
wet07	0.31
wet08	0.06
wet09	0.01
wet10	0.10
wet11	0.00
wet12	0.07
wet13	0.02
wet15	0.00
wet16	0.01
wet17	0.03
wet18	0.01
wet19	0.01
wet20	1.65
wet21	0.01
wet22	0.41
wet23	0.18
wet24	0.02
wet25	0.05
wet26	0.04
wet27	0.08
wet28	0.01
wet29	0.01
wet30	0.04
wet32	0.01
wet33	0.00
wet34	0.00
wet34a	0.00
wet35	0.13
wet36	0.01
wet37	0.01
wet38	0.02
wet39	0.05
wet40	0.03
wet41	0.02
wet42	0.48
wet43	0.02
wet44	0.01
wet45	0.01
wet46	0.04
wet47	0.01
wet48	0.02
wet49	0.01
wet50	0.55