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## **E-3: Line 407 East Plant Report**

**Special Status and Listed Plant Report**  
**PG&E Line 407 East Natural Gas Transmission Pipeline**  
Sacramento, Placer and Sutter Counties, California

August 2006



*Prepared for:*

**TRC**  
**80 Stone Pine Road, Suite 200**  
**Half Moon Bay, CA 94019**  
**Attn: Benjamin Hart**

*Prepared by:*



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Sacramento, Placer and Sutter Counties, California

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## **Introduction**

As requested by TRC, Gallaway Consulting Inc. performed rare plant surveys and a floristic inventory within the PG&E Line 407 East Natural Gas Transmission Pipeline (Project) study area. Surveys were conducted on May 5, and 12, and July 21, 24 and 26, 2006 to determine the presence of special-status botanical resources and to establish whether or not these resources would be impacted by the proposed project.

## **Project Description**

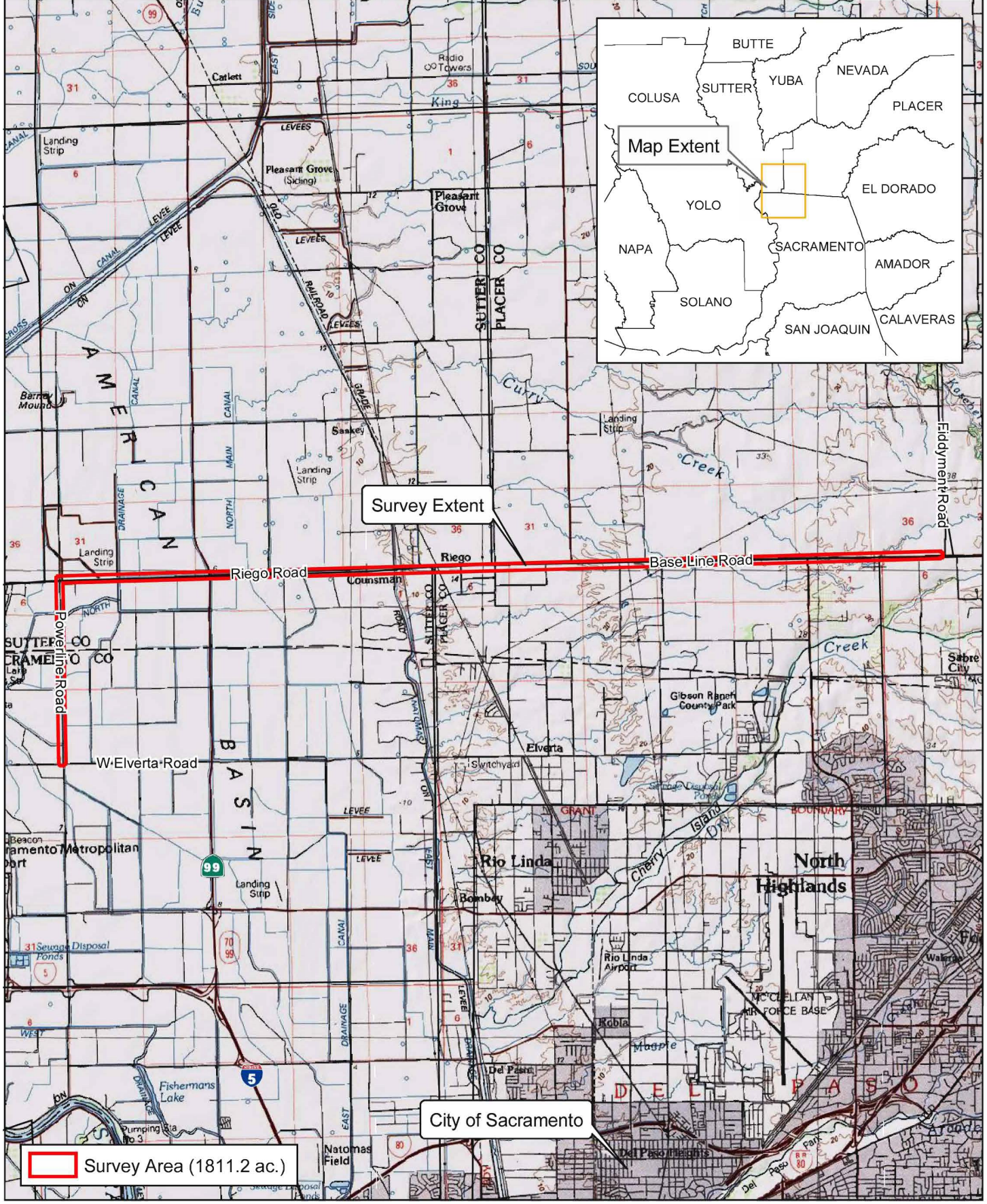
The survey area for the Project encompasses an approximately 1811.2-acre corridor of rural, urban, and developed land in portions of Verona, Rio Linda, Roseville, Citrus Heights, Taylor Monument, and Pleasant Grove USGS 7.5' quadrangles. Urban, commercial, and agricultural structures, as well as agricultural fields and open space, occupy the extent of the survey area. The survey area is located just west of the City of Roseville and north of Sacramento (**Figure 1**). Topography is flat to gently undulate with Project elevation ranging from 15 to 125 feet above sea level. The portion of the Survey area east of the Natomas East Main Drainage is largely comprised of gently sloping grasslands with low-density residential and commercial development and was the focus of the study. The Survey area west of the Natomas East Main Drainage is almost entirely active, irrigated agricultural land used for rice production.

## **Existing Conditions**

Topography within the survey area is flat to gently undulate with elevation ranging from 15-125 feet above sea level. Urban, commercial, and agricultural structures, as well as agricultural fields and open space, occupy the extent of the study area. The following soils series' and complexes occur within the study area:

- Alamo-Fiddymment Complex on 0-5percent slopes
- Capay Clay on 0-2percent slopes
- Clear Lake Clay on 0-2percent slopes
- Cometa Loam on 0-2percent slopes
- Cometa Sandy Loam on 1-5percent slopes
- Cometa-Fiddymment Complex on 1-5percent slopes
- Cometa-Ramona Sandy Loam on 1-5percent slopes
- Fiddymment Loam on 1-8percent slopes
- Galt Clay on 0-2percent slopes





Survey Area (1811.2 ac.)



USGS 7.5' Quad.  
Map Date: July 5, 2006.



GALLAWAY  
CONSULTING, INC.

Figure 1.

- Jacktone Clay on 0-2percent slopes
- Marcum Clay Loam on 0-1percent slopes
- Ramona Sandy Loam on 2-9percent slopes
- San Joaquin Sandy Loam on 0-5percent slopes
- San Joaquin Silt Loam on 0-1 slopes
- San Joaquin –Xerarents on 0-1 percent slopes
- San Joaquin-Arents-Durochrepts Comple on 0-1percent slopes
- San Joaquin-Cometa Sandy Loam on 1-5 percent slopes
- San Joaquin-Durixeralfs Complex on 0-1 percent slopes
- San Joaquin-Galt Complex on 0-1 percent slopes
- Xerarents-San Joaquin Complex on 0-1 percent slopes
- Xerofluvents, frequently flooded
- Xerofluvents, hardpan substrate

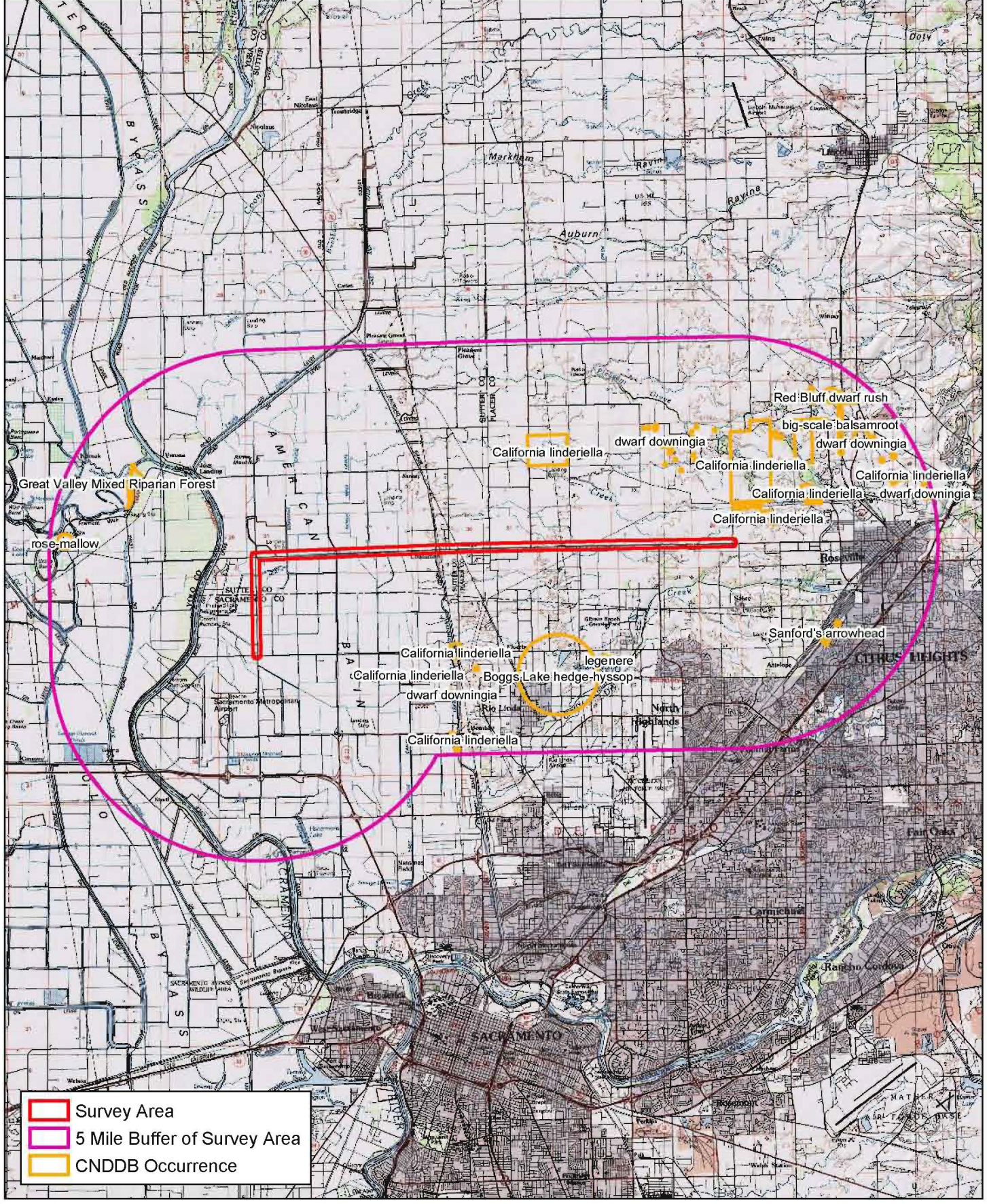
The average annual temperature for the study area ranges from 49-70°F, with the hottest temperatures occurring in July and August. The average annual rainfall for the area is 0.07 inches, with the wettest months receiving up to 0.14 inches of rain (The Weather Underground, Inc. 2006).

## Study Methods

Prior to conducting the onsite survey, we created a list of potentially occurring special-status plant species occurring within the study area by accessing all pertinent databases, and contacting appropriate state and federal agencies. Topographic maps and aerial photos of the site were reviewed and areas of potential impact noted. We then reviewed and edited the lists taking into account existing conditions present within the study area. The California Natural Diversity Database (CNDDDB), California Native Plant Society (CNPS) and U.S. Fish and Wildlife Service (USFWS) species lists are presented in **Appendix A**. A 5-mile radius CNDDDB search identified several documented special-status plant species occurrences in the surrounding area (**Figure 2**). The CNDDDB provides natural history and location information on rare, threatened, endangered, and special-status species and natural communities within California. The CNDDDB only documents known occurrences and is used as a preliminary tool, in addition to the USFWS species lists, to determine potential species occurrences within the study area. Surveys were conducted for all the plant species included on these lists because they each had varying degrees of potential to occur within the study area. For the purposes of this survey, special-status species are those that fall into one of the following categories:

- Designated as rare, threatened, or endangered by state or federal governments (ESA, 50 CFR 17.12 for listed plants and various notices in the Federal Register, California Endangered Species Act (CESA), 14 CCR 670.5);





Survey Area  
 5 Mile Buffer of Survey Area  
 CNDDB Occurrence

CNDDB Occurrence provided by CDFG (Feb. 7, 2006). CNDDB occurrences include plants only. Map Date: July 27, 2006.



Figure 2.



- Designated as Species of Concern and/or Special Concern by state or federal governments;
- Proposed for rare, threatened, or endangered designation by state and federal governments;
- Included on the CNPS List as 1A, 1B, and 2 (Skinner and Pavlik, 2001);
- Plants that meet the definitions of rare or endangered species under the California Environment Quality Act (CEQA) (State CEQA Guidelines, Section 15380).

On April 10, 11, and 27, May 23, and July 21, 24 and 28, 2006, a pedestrian survey of the site was undertaken. All accessible portions of the survey area were examined using transects and spot-checks of high quality habitat. Inaccessible property with the potential to support target species are identified in **Table 1**. Shirley Innecken and Elena Alfieri, botanists, conducted botanical surveys during the appropriate flowering window of the target species (See **Appendix B** for Botanist Qualifications). Surveys were floristic in nature and conducted in accordance with the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants (January 2000) (**Appendix C**). Federal and state listed species identification was confirmed by monitoring a known reference population for each target species (**Table 2**). The entire project site was traversed using parallel transects spaced no more than 15 feet apart. Transects were stratified according to plant community types and all suitable habitat was closely inspected (See **Appendix D** for a list of all plant species observed during surveys). A Trimble GeoXT was on hand to record special-status plant species occurrences.

**Table 1. Inaccessible Property with Potential for Target Species.**

Property Identification	Property Owner	Target Species with Potential of Occurrence
APN 023-150-023-000, 9777 Baseline Road, Elverta, 95626	Williard Lee and Kathleen M. Harless	<i>Hibiscus lasiocarpus</i> , <i>Sagittaria sanfordii</i> , <i>Downingia pusilla</i>

**Table 2. Locations of Reference Populations for Species with Potential to Occur in the Study Area Based on USFWS and CNDDDB Species Lists**

<b>Species</b>	<b>Location of Reference Population</b>
<b>Plants</b>	
<i>Astragalus tener</i> var. <i>ferrisiae</i>	On the south side of Evans-Reimer Road, about 1 mile east of Pennington Road, Gray Lodge Waterfowl Management Area
<i>Atriplex cordulata</i>	Gray Lodge Wildlife Area, 2 miles southeast of the headquarters building. Just south of Rutherford Road, west of Levee Road
<i>Atriplex depressa</i>	Delevan National Wildlife Refuge. One mile east of Excelsior Road in Cell 12 of the Refuge
<i>Atriplex joaquiniana</i>	About 3 miles southeast of woodland, north of Willow Slough, north and south of Road 25 and west of road 103
<i>Balsamorhiza marcolepis</i> var. <i>macrolepis</i>	On the south side of Evans-Reimer Road, about 1 mile east of Pennington Road, Gray Lodge Waterfowl Management Area
<i>Cordylanthus mollis</i> ssp. <i>hispidus</i>	City of Woodland site, near junction of Road 103 and Road 25
<i>Cordylanthus palmatus</i>	City of Woodland site, near junction of Road 103 and Road 25
<i>Downingia pusilla</i>	About 8 miles southeast of Corning, North Fork Hall Creek
<i>Gratiola heterosepala</i>	Archgate Reservoir, just west of the Shasta-Lassen county border, south of Pittville, west of Pittville Road
<i>Hibiscus lasiocarpus</i>	Upper Butte Sink Wildlife Area - Howard Slough
<i>Juncus leiospermus</i> var. <i>ahartii</i>	Along Powerline Road corridor between Fruitland Road and South Honcut Creek, west of Loma Rica
<i>Juncus leiospermus</i> var. <i>leiospermus</i>	Palermo, southeast of Daly Road
<i>Legenere limosa</i>	Stillwater Plains Mitigation Bank, Palermo
<i>Lepidium latipes</i> var. <i>heckardii</i>	West of Sacramento Northern Railroad
<i>Navarretia myersii</i> ssp. <i>myersii</i>	2 miles east of Sacramento-Amador Countyline, Howard Ranch
<i>Orcuttia viscida</i>	Grant Line Road about 2.9 miles north of Hwy 16
<i>Sagittaria sandfordii</i>	Along and between Beacon Creek and Elder Creek, east of Power Inn Road, Elk Grove

## Results

Plant species determined to have the potential to occur within the study area are discussed in **Table 3**.

**Table 3. Species with Potential to Occur in the Study Area Based on USFWS and CNDDDB Species Lists**

Species		Listing Status <sup>1</sup>	Habitat Association	Blooming Period	Potential to Occur <sup>2</sup>
SCIENTIFIC NAME	COMMON NAME				
<i>Astragalus tener</i> var. <i>ferrisiae</i>	Allkali Milk Vetch	CNPS 1B	vernally mesic meadows and seeps, valley and foothill grassland	April-May	No potential of occurring. Was not found during protocol-level surveys.
<i>Atriplex cordulata</i>	Heartscale	CNPS 1B	chenopod scrub/meadows and seeps/valley and foothill grassland/saline or alkaline soils	April-October	No potential of occurring. Was not found during protocol-level surveys.
<i>Atriplex depressa</i>	Brittlescale	CNPS 1B	chenopod scrub/meadows and seeps/valley and foothill grassland/saline or alkaline soils/vernal pools/playas/alkaline soils	May-October	No potential of occurring. Was not found during protocol-level surveys.
<i>Atriplex joaquiniana</i>	San Joaquin Spearscale	CNPS 1B	chenopod scrub/meadows and seeps/valley and foothill grassland/saline or alkaline soils/playas/alkaline clay soils	April-October	No potential of occurring. Was not found during protocol-level surveys.
<i>Balsamorhiza marcolepis</i> var. <i>macrolepis</i>	Big-scale Balsamroot	CNPS 1B	chaparral/cismontane woodland/valley and foothill grassland/sometimes serpentine	March-June	No potential of occurring. Was not found during protocol-level surveys.
<i>Cordylanthus mollis</i> ssp. <i>hispidus</i>	Hispid Bird's-beak	CNPS 1B	meadows and seeps/playas/valley and foothill grassland/alkaline soils	June-September	No potential of occurring. Was not found during protocol-level surveys.
<i>Cordylanthus palmatus</i>	Palmate-bracted Bird's-beak	FE, SE, CNPS 1B	chenopod scrub/valley and foothill grassland/alkaline soils	May-October	No potential of occurring. Was not found during protocol-level surveys.



Species		Listing Status <sup>1</sup>	Habitat Association	Blooming Period	Potential to Occur <sup>2</sup>
<i>Downingia pusilla</i>	Dwarf Downingia	CNPS 2	valley and foothill grassland/vernal pools	March-May	<b>Occurs within the study area.</b>
<i>Gratiola heterosepala</i>	Boggs Lake Hedge-hyssop	SE, CNPS 1B	marshes and swamps/vernal pools/clay	April-August	None, was not found during protocol-level surveys
<i>Hibiscus lasiocarpus</i>	Rose-mallow	CNPS 2	marshes and swamps	June-September	None, was not found during protocol-level surveys
<i>Juncus leiospermus</i> var. <i>ahartii</i>	Ahart's Dwarf Rush	CNPS 1B	valley and foothill grassland	March-May	No potential of occurring. Was not found during protocol-level surveys.
<i>Juncus leiospermus</i> var. <i>leiospermus</i>	Red Bluff Dwarf Rush	CNPS 1B	chaparral/cismontane woodland/valley and foothill grassland/meadows and seeps/vernal pools	March-May	No potential of occurring. Was not found during protocol-level surveys.
<i>Legenere limosa</i>	Legenere	CNPS 1B	vernal pools	April-June	No potential of occurring. Was not found during protocol-level surveys.
<i>Lepidium latipes</i> var. <i>heckardii</i>	Heckard's Pepper-grass	CNPS 1B	valley and foothill grassland (alkaline flats)	March-May	No potential of occurring. Was not found during protocol-level surveys.
<i>Navarretia myersii</i> ssp. <i>myersii</i>	Pincushion Navarretia	CNPS 1B	vernal pools	May	No potential of occurring. Was not found during protocol-level surveys.
<i>Orcuttia viscida</i>	Sacramento Orcutt Grass	FE, SE, CNPS 1B	vernal pools	April-June	No potential of occurring. Was not found during protocol-level surveys.
<i>Sagittaria sandfordii</i>	Sanford's Arrowhead	CNPS 1B	marshes and swamps (assorted shallow freshwater)	May-October	No potential of occurring. Was not found during protocol-level surveys.

<sup>1</sup> Listing Status		
<u>Federal Listing Codes</u> FE Federally endangered	<u>California Native Plant Society's Listing Codes</u> 1B Rare or endangered in California 2 Rare, threatened, or endangered in California, but more common elsewhere.	
<u>California State Listing Codes</u> SE State endangered		
<sup>2</sup> Potential to Occur determinations were made following habitat assessments and floristic surveys.		

### *Habitat Characterization*

The survey area includes six habitat characterizations based on the California Department of Fish and Game California Wildlife Habitat Relationship System (CWHR), and an additional category used to describe irrigation canals supporting fresh emergent wetland (**Attachment A**). The CWHR classification system was developed through a multi-agency effort to provide resource managers and scientists with a standardized habitat and wildlife management tool. The CWHR system is commonly used to discuss habitats in terms of wetland delineations, wildlife management plans and biological resource assessments. Habitat characterizations are divided by vegetative assemblage (i.e., tree dominated, shrub dominated, herbaceous dominated) then subdivided by location and unique vegetation. Habitats are first assessed from aerial photographs, then followed by ground truthing. The following habitats occur within the project boundaries:

**Annual Grassland.** There are approximately 617 acres of annual grassland within the survey boundary. According to Mayer and Laudenslayer (1988), annual grassland is an open vegetative community composed primarily of annual plant species. Wildlife species that utilize annual grassland include the western fence lizard (*Sceloporus occidentalis*), western meadowlark (*Sturnella neglecta*), northern harrier (*Circus cyaneus*), and American kestrel (*Falco sparverius*). Plant species inhabiting the annual grassland within the study area include silver European hairgrass (*Aira caryophyllea*), annual oatgrass (*Avena* sp.), star-thistle (*Centaurea solstitialis*), bindweed (*Convolvulus arvensis*), nit grass (*Gastridium ventricosum*), gumplant (*Grindelia* sp.), Fitch's tarweed (*Hemizonia fitchii*), annual rygrass (*Lolium multiflorum*), Medusae-head grass (*Taeniatherum caput-medusae*) and vinegar weed (*Trichostema lanceolatum*). Much of the grassland has been disked, plowed, and/or graded for various agricultural uses, or has been disturbed as a consequence of urbanization.

Vernal pools occur within annual grasslands, yet support a community distinct from the surrounding grassland community. They provide unique habitats for several endemic California plants and invertebrates, as well as amphibians. Plant species inhabiting vernal pools within the study area include annual hairgrass (*Deschampsia danthanoides*), dwarf downingia (*Downingia pusilla*), dove weed (*Eremocarpus setigerus*), coyote thistle (*Eryngium castrense*), bractless hedge hyssop (*Gratiola ebracteata*), toad rush (*Juncus bufonius*), tidy tips (*Layia* sp.),

white-flowered navarretia (*Navarretia leucocephala*), American pillwort (*Pilularia americana*), stalked popcorn flower (*Plagiobothrys stipitatus* var. *micranthus*), Sacramento Valley pogogyne (*Pogogyne zizyphoroides*) and common knotweed (*Polygonum arenastrum*).

**Rice.** A majority of the study area, approximately 667 acres, is rice fields. Some of the rice fields are currently fallow, or undergoing a seasonal dehydration period. Although a type of fresh emergent wetland, rice fields are subject to human-induced water regimes and function as an agricultural crop rather than a naturally occurring wetland. However, in the Sacramento Valley they do support many of the same species that naturally occurring fresh emergent wetlands do, including numerous waterfowl, egrets and northern harriers.

**Dryland Grain Crops.** Dryland grain crops include annual seed producing grasses, cereal rye (*Secale cereale*), oats (*Avena sativa*), and wheat (*Triticum aestivum*). They are usually planted in drilled rows in the fall and then harvested in the spring. They may also be rotated with other irrigated crops after the fall harvest of a previous crop, dry farmed, and then harvested in the late spring. Volunteer native or naturalized herbaceous species may colonize fallowed dryland grain fields. The dryland grain crop fields within the study area had been harvested at the time of the surveys. Many of the fields seemed fallow. In inhabited fields, specific crop species were indistinguishable. Many of the fields were inhabited by non-native annual grasses and forbs.

**Irrigated Row and Field Crops.** Most irrigated row and field crops are annuals, such as asparagus (*Asparagus officinalis*) and strawberries (*Fragaria ananassa*), and a few are perennials. The annuals are usually planted in the spring and harvested in the summer or fall. They may also be rotated with other irrigated crops after the fall harvest of a previous crop, dry farmed, and then harvested in the late spring. Small plots of strawberries were the only distinguishable irrigated row and field crop at the time of surveys.

**Canal/Fresh Emergent Wetland.** Irrigation canals associated with rice fields occur throughout the study area. Many of these canals support fresh emergent vegetation along their edges which include species such as cattails (*Typha* sp.), vervain (*Verbena* sp.), yellow nutsedge (*Cyperus esculentus*), tall cyperus (*Cyperus eragrostis*) and floating primrose willow (*Ludwigia peploides*).

**Water/Riverine.** The riverine classification include rivers, where water flows continually, as well as intermittently flowing creeks. Curry Creek, as well as a small unnamed intermittent channel, flows through portions of the study area. Riverine habitats tend to occur with contiguous wetlands and upland habitats.

**Urban.** Approximately 273 acres of the project site is characterized as urban, which includes commercial and residential development and associated infrastructure. As stated by Mayer and Laudenslayer, most units of the urban vegetation are relatively static in species composition due to maintenance. Species commonly associated with the urban environment include scrub jays (*Aphelocoma californica*), raccoons (*Procyon lotor*), European starlings (*Sturnus vulgaris*), mockingbirds (*Mimus polyglottos*), house finches (*Carpodacus mexicanus*), striped skunks (*Mephitis mephitis*), opossum (*Didelphis virginiana*), and rock doves (*Columba livia*).

### *Special-status Plant Species Known to Occur Within the Study Area*

**Dwarf Downingia.** The dwarf downingia (*Downingia pusilla*) is a diminutive annual herb of the family Campanulaceae, the Bellflower family. This CNPS 2 plant species is found in mesic valley and foothill grassland within vernal pools. It generally prefers the muddy, open banks of small to large pools where competition with other vernal pool species is minimal. Dwarf downingia is found from Merced and Mariposa counties in the south to Tehama County in the north (CNPS 2003). Five occurrences of dwarf downingia were located and mapped within the study area (**Figure 3**). A total of approximately 1,541 individual plants were counted.

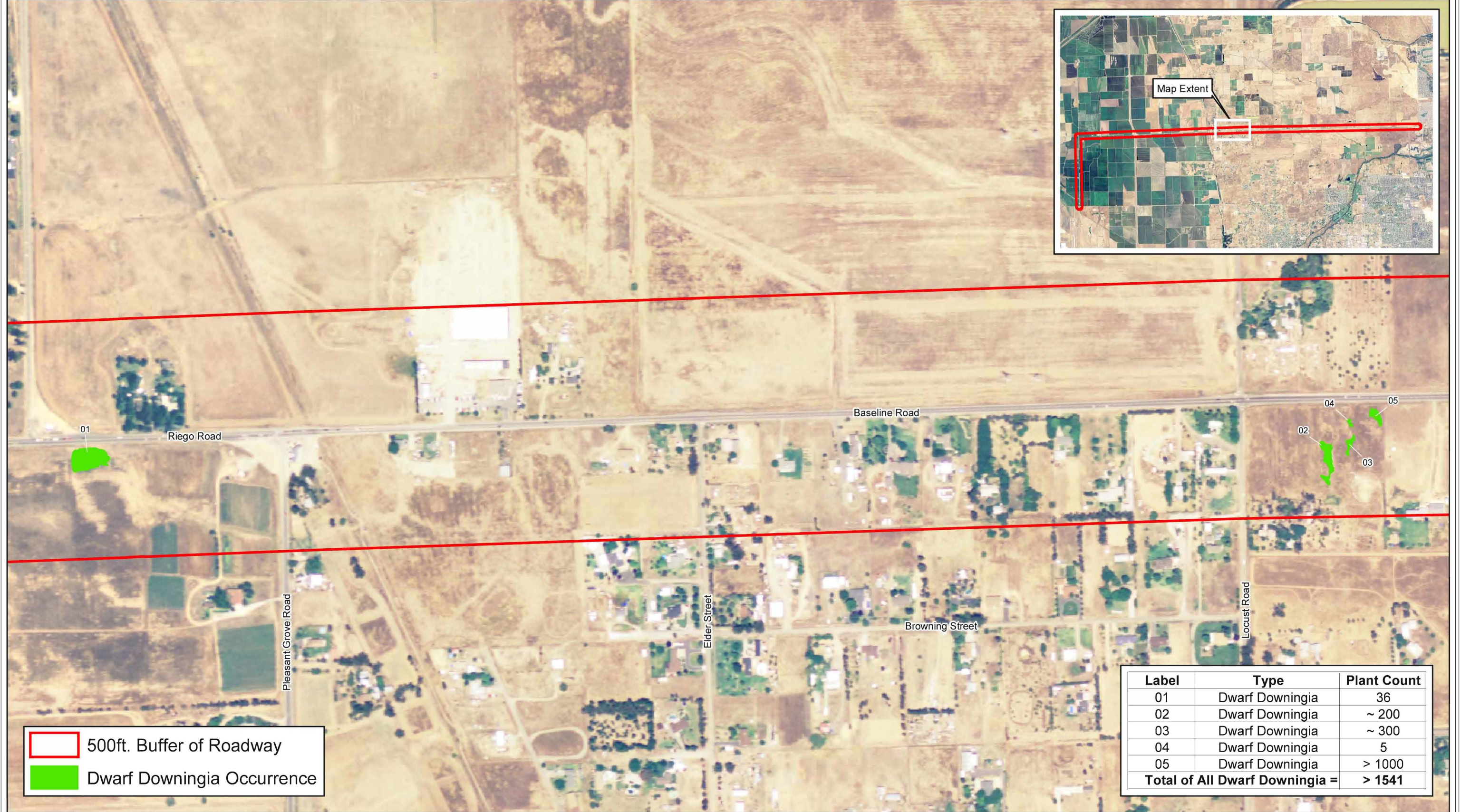
### **Potential Effects**

Direct and indirect effects to CNPS List 2 species:

The project has the potential to directly and indirectly effect dwarf downingia. Direct effects include any permanent impacts to the watershed which provides hydrology to the vernal pools in which the dwarf downingia inhabits. Direct impacts may be caused by the staging, construction, road-rerouting, and/or placement of the pipeline. Direct impacts to dwarf downingia would also occur in the case of disturbance to the topography of the habitat as well. Any soil displacement, including the fill of wetlands or contamination, may have permanent impacts to the dwarf downingia populations. Indirect impacts may include watershed pollution due to construction-related run-off and/or impacts to the plants themselves should the habitat be traversed. Indirect impacts are likely to be temporary.

There are 121 reported occurrences of dwarf downingia populations documented in the CNDDDB, 15 of which occur within the Roseville, Rio Linda or Pleasant Grove 7.5-minute quadrangle. California Native Plant Society List 2 species' are considered rare, threatened, or endangered in California, but more common elsewhere. The loss of all five of the populations located within the study area would be significant, but not detrimental because 15 other occurrences have been documented in close proximity. Hence, there is potential for the species to successfully propagate and establish new populations in the study area. However, if a negative population and habitat trend





500ft. Buffer of Roadway  
 Dwarf Downingia Occurrence

Label	Type	Plant Count
01	Dwarf Downingia	36
02	Dwarf Downingia	~ 200
03	Dwarf Downingia	~ 300
04	Dwarf Downingia	5
05	Dwarf Downingia	> 1000
<b>Total of All Dwarf Downingia =</b>		<b>&gt; 1541</b>

Project site derived from 500 ft. buffer of road centerline.  
 Survey Dates: May 5, 2006/Surveyors: CK,SI,EA.  
 Date of Aerial: Feb. 2005 (NAIP).  
 Map Date: July 27, 2006/Revisions:

0 200 400 Feet



Figure 3.



continues near the study area, the species may become eligible for a more stringent special-status including a state or federal listing. The loss of habitat for dwarf downingia would be even more significant considering that destruction of vernal pool habitat due to urbanization is what has made this species, and other California vernal pools species, vulnerable to extinction. Furthermore, the quality of the vernal pools, a designated federal critical habitat, inhabited by the dwarf downingia is stable and may provide habitat for federal and state listed invertebrates as well. Therefore, loss of this habitat would result in the loss of a healthy vernal pool community, a resource that is rapidly disappearing in California.

### **Impact Avoidance and Minimization Recommendations**

The following avoidance and minimization recommendations are taken from the CNPS Policy on Mitigation Guidelines Regarding Impacts to Rare, Threatened, and Endangered Plants (February 1991, revised April 1998) and have been adjusted to suit the target species in respect to the project. California Native Plant Society List 2 plants meet the definition of Section 1901, Chapter 10 (Native Plant Protection Act) or Section 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA. List 2 plants may require mitigation; these mitigation options are listed below (CEQA, Section 15370):

- 1) Avoiding the impacts altogether by not taking a certain action.
- 2) Minimizing impacts by limiting the degree or magnitude of the action.
- 3) Rectifying the impacts by repairing, rehabilitating, or restoring the impacted environment.
- 4) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the project.
- 5) Compensating for the impacts by replacing or providing substitute resources or environments.

The location of all dwarf downingia occurrences will not be submitted to the CDFG for inclusion into the CNDDB without client consent. Because seed dispersal relies on rainwater, new populations can spread throughout wetland complexes. In areas where these resources may be impacted by the project, additional surveys should be conducted to locate any new populations. The requirement for compensatory mitigation is at the discretion of the CEQA lead agency. Mitigation may consist of transplanting individuals, on-site mitigation, and purchasing off-site mitigation.

## Conclusions and Determinations

If the recommended avoidances and minimizations (mitigations) are implemented, overall project impacts to dwarf downingia and its habitat should be temporary, and should not result in a net loss of dwarf downingia populations.

The following determination has been made regarding impacts to dwarf downingia populations within the study area: **No affect with appropriate avoidance, minimization, and mitigation implementation.**

## References

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<http://www.wunderground.com/NORMS/DisplayNORMS.asp?AirportCode=KSAC&StateCode=CA&SafeCityName=Sacramento&Units=none&IATA=SAC&normals=on>

## Personal Observation

Shirley Innecken, Gallaway Consulting, Inc. 2006.

Elena Alfieri, Gallaway Consulting, Inc. 2006



**Appendix A: California Natural Diversity Database, California Native Plant Society and US Fish and Wildlife Service Species Lists**

Status: search results - Mon, Aug. 6, 2007, 13:05 b

{QUADS\_123} = ~ m/513A|529C|529D|512B|512C|528C|513B|513C Search

**Tip:** Words meant to be searched as a unit should be wrapped in quotes, e.g., "coastal dunes". [all tips and help.] [search history]

**Your Quad Selection:** Taylor Monument (513A) 3812165, Knights Landing (529C) 3812176, Verona (529D) 3812175, Rio Linda (512B) 3812164, Sacramento East (512C) 3812154, Pleasant Grove (528C) 3812174, Grays Bend (513B) 3812166, Davis (513C) 3812166, Sacramento West (513D) 3812155

Hits 1 to 12 of 12

Requests that specify topo quads will return only Lists 1-3.

























To save selected records for later study, click the ADD button.

ADD checked items to Plant Press

check all

check none

Selections will appear in a new window.

open	save	hits	scientific	common	family	CNPS
	<input type="checkbox"/>	1	<u><a href="#">Astragalus tener</a></u> var. <u><a href="#">tener</a></u> 	alkali milk-vetch	Fabaceae	List 1B.2
	<input type="checkbox"/>	1	<u><a href="#">Atriplex cordulata</a></u> 	heartscale	Chenopodiaceae	List 1B.2
	<input type="checkbox"/>	1	<u><a href="#">Atriplex depressa</a></u> 	brittlescale	Chenopodiaceae	List 1B.2
	<input type="checkbox"/>	1	<u><a href="#">Atriplex joaquiniana</a></u> 	San Joaquin spearscale	Chenopodiaceae	List 1B.2
	<input type="checkbox"/>	1	<u><a href="#">Carex lenticularis</a></u> var. <u><a href="#">limnophila</a></u> 	lakeshore sedge	Cyperaceae	List 2.2
	<input type="checkbox"/>	1	<u><a href="#">Cordylanthus palmatus</a></u> 	palmate-bracted bird's-beak	Scrophulariaceae	List 1B.1
	<input type="checkbox"/>	1	<u><a href="#">Downingia pusilla</a></u> 	dwarf downingia	Campanulaceae	List 2.2
	<input type="checkbox"/>	1	<u><a href="#">Gratiola heterosepala</a></u> 	Boggs Lake hedge-hyssop	Scrophulariaceae	List 1B.2
	<input type="checkbox"/>	1	<u><a href="#">Hibiscus lasiocarpus</a></u> 	rose-mallow	Malvaceae	List 2.2
	<input type="checkbox"/>	1	<u><a href="#">Legenere limosa</a></u> 	legenere	Campanulaceae	List 1B.1
	<input type="checkbox"/>	1	<u><a href="#">Lepidium latipes</a></u> var. <u><a href="#">heckardii</a></u> 	Heckard's pepper-grass	Brassicaceae	List 1B.2
	<input type="checkbox"/>	1	<u><a href="#">Sagittaria sanfordii</a></u> 	Sanford's arrowhead	Alismataceae	List 1B.2

To save selected records for later study, click the ADD button.

ADD checked items to Plant Press

check all

check none

Selections will appear in a new window.

No more hits.



Status: search results - Mon, Aug. 6, 2007, 13:02 b

{QUADS\_123} = ~ m/528D|512A|512B|527B|527C|511B|528A|528E

**Tip:** Words meant to be searched as a unit should be wrapped in quotes, e.g., "coastal dunes". [\[all tips and help.\]](#) [\[search history\]](#)





















**Your Quad Selection:** Roseville (528D) 3812173, Citrus Heights (512A) 3812163, Rio Linda (512B) 3812164, Gold Hill (527B) 3812182, Rocklin (527C) 3812172, Folsom (511B) 3812162, Lincoln (528A) 3812183, Sheridan (528B) 3812184, Pleasant Grove (528C) 3812174

Hits 1 to 11 of 11

Requests that specify top o quads will return only Lists 1-3.

To save selected records for later study, click the ADD button.

Selections will appear in a new window.

open	save	hits	scientific	common	family	CNPS
	<input type="checkbox"/>	1	<u>Balsamorhiza macrolepis</u> var. <u>macrolepis</u> 	big-scale balsamroot	Asteraceae	List 1B.2
	<input type="checkbox"/>	1	<u>Clarkia biloba</u> ssp. <u>brandegeeae</u> 	Brandegee's clarkia	Onagraceae	List 1B.2
	<input type="checkbox"/>	1	<u>Cordylanthus mollis</u> ssp. <u>hispidus</u>	hispid bird's-beak	Scrophulariaceae	List 1B.1
	<input type="checkbox"/>	1	<u>Downingia pusilla</u> 	dwarf downingia	Campanulaceae	List 2.2
	<input type="checkbox"/>	1	<u>Gratiola heterosepala</u> 	Boggs Lake hedge-hyssop	Scrophulariaceae	List 1B.2
	<input type="checkbox"/>	1	<u>Juncus leiospermus</u> var. <u>ahartii</u> 	Ahart's dwarf rush	Juncaceae	List 1B.2
	<input type="checkbox"/>	1	<u>Juncus leiospermus</u> var. <u>leiospermus</u> 	Red Bluff dwarf rush	Juncaceae	List 1B.1
	<input type="checkbox"/>	1	<u>Legenere limosa</u> 	legenere	Campanulaceae	List 1B.1
	<input type="checkbox"/>	1	<u>Navarretia myersii</u> ssp. <u>myersii</u> 	pincushion navarretia	Polemoniaceae	List 1B.1
	<input type="checkbox"/>	1	<u>Orcuttia viscida</u> 	Sacramento Orcutt grass	Poaceae	List 1B.1
	<input type="checkbox"/>	1	<u>Sagittaria sanfordii</u> 	Sanford's arrowhead	Alismataceae	List 1B.2

To save selected records for later study, click the ADD button.

Selections will appear in a new window.

No more hits.





Status: search results - Mon, Aug. 6, 2007, 13:01 b

{QUADS\_123} = ~ m/512B|528C|528D|513A|513D|529D|512A|512t

**Tip:** Having trouble with a multi-word search? Try a single word, e.g. ginger or cobra.  
[\[all tips and help.\]](#) [\[search history\]](#)
















**Your Quad Selection:** Rio Linda (512B) [3812164](#), Pleasant Grove (528C) [3812174](#), Roseville (528D) [3812173](#), Taylor Monument (513A) [3812166](#), Sacramento West (513D) [3812166](#), Verona (529D) [3812175](#), Citrus Heights (512A) [3812163](#), Sacramento East (512C) [3812154](#), Carmichael (512D) [3812163](#)

Hits 1 to 9 of 9

Requests that specify topo quads will return only Lists 1-3.

To save selected records for later study, click the ADD button:

Selections will appear in a new window.

open	save	hits	scientific	common	family	CNPS
	<input type="checkbox"/>	1	<u><b>Balsamorhiza macrolepis</b></u> <u>var. macrolepis</u> 	big-scale balsamroot	Asteraceae	List 1B.2
	<input type="checkbox"/>	1	<u><b>Cordylanthus mollis</b></u> ssp. <u>hispidus</u>	hispid bird's- beak	Scrophulariaceae	List 1B.1
	<input type="checkbox"/>	1	<u><b>Downingia pusilla</b></u> 	dwarf downingia	Campanulaceae	List 2.2
	<input type="checkbox"/>	1	<u><b>Gratiola heterosepala</b></u> 	Boggs Lake hedge-hyssop	Scrophulariaceae	List 1B.2
	<input type="checkbox"/>	1	<u><b>Hibiscus lasiocarpus</b></u> 	rose-mallow	Malvaceae	List 2.2
	<input type="checkbox"/>	1	<u><b>Juncus leiospermus</b></u> var. <u>ahartii</u> 	Ahart's dwarf rush	Juncaceae	List 1B.2
	<input type="checkbox"/>	1	<u><b>Juncus leiospermus</b></u> var. <u>leiospermus</u> 	Red Bluff dwarf rush	Juncaceae	List 1B.1
	<input type="checkbox"/>	1	<u><b>Legenere limosa</b></u> 	legenere	Campanulaceae	List 1B.1
	<input type="checkbox"/>	1	<u><b>Sagittaria sanfordii</b></u> 	Sanford's arrowhead	Alismataceae	List 1B.2

To save selected records for later study, click the ADD button:

Selections will appear in a new window.

No more hits.



Status: search results - Mon, Aug. 6, 2007, 13:06 b

{QUADS\_123} = ~ m/528C|512A|512B|529D|529A|513A|528D|528/

**Tip:** Word fragments must be completed with a wildcard, e.g., *esch\** *hyp\** for *Eschscholzia hypocoides*. [\[all tips and help\]](#) [\[search history\]](#)








**Your Quad Selection:** Pleasant Grove (528C) 3812174, Citrus Heights (512A) 3812163, Rio Linda (512B) 3812164, Verona (529D) 3812175, Nicolaus (529A) 3812165, Taylor Monument (513A) 3812165, Roseville (528D) 3812173, Lincoln (528A) 3812163, Sheridan (528B) 3812164

Hits 1 to 9 of 9

Requests that specify topo quads will return only Lists 1-3.

To save selected records for later study, click the ADD button.

Selections will appear in a new window.

open	save	hits	scientific	common	family	CNPS
	<input type="checkbox"/>	1	<b><u>Balsamorhiza macrolepis</u></b> <b>var. <u>macrolepis</u></b> 	big-scale balsamroot	Asteraceae	List 1B.2
	<input type="checkbox"/>	1	<b><u>Cordylanthus mollis</u> ssp.</b> <b><u>hispidus</u></b>	hispid bird's- beak	Scrophulariaceae	List 1B.1
	<input type="checkbox"/>	1	<b><u>Downingia pusilla</u></b> 	dwarf downingia	Campanulaceae	List 2.2
	<input type="checkbox"/>	1	<b><u>Gratiola heterosepala</u></b> 	Boggs Lake hedge-hyssop	Scrophulariaceae	List 1B.2
	<input type="checkbox"/>	1	<b><u>Juncus leiospermus</u> var.</b> <b><u>ahartii</u></b> 	Ahart's dwarf rush	Juncaceae	List 1B.2
	<input type="checkbox"/>	1	<b><u>Juncus leiospermus</u> var.</b> <b><u>leiospermus</u></b> 	Red Bluff dwarf rush	Juncaceae	List 1B.1
	<input type="checkbox"/>	1	<b><u>Legenere limosa</u></b> 	legenere	Campanulaceae	List 1B.1
	<input type="checkbox"/>	1	<b><u>Navarretia myersii</u> ssp.</b> <b><u>myersii</u></b> 	pin-cushion navarretia	Polemoniaceae	List 1B.1
	<input type="checkbox"/>	1	<b><u>Sagittaria sanfordii</u></b> 	Sanford's arrowhead	Alismataceae	List 1B.2

To save selected records for later study, click the ADD button.

Selections will appear in a new window.

No more hits.



Status: search results - Mon, Aug. 6, 2007, 13:03 b

{QUADS\_123} = ~ m/512A|528C|528D|511B|511C|527C|512B|512C

**Tip:** Want to search by habitat? Try the **Checkbox and Preset** search page. [\[all tips and help.\]](#)  
[\[search history\]](#)
























**Your Quad Selection:** Citrus Heights (512A) 3812163, Pleasant Grove (528C) 3812174, Roseville (528D) 3812173, Folsom (511B) 3812162, Buffalo Creek (511C) 3812152, Rocklin (527C) 3812172, Rio Linda (512B) 3812164, Sacramento East (512C) 3812154, Carmichael (512D) 3812153

Hits 1 to 12 of 12

Requests that specify topo quads will return only Lists 1-3.

To save selected records for later study, click the ADD button:

Selections will appear in a new window.

open	save	hits	scientific	common	family	CNPS
	<input type="checkbox"/>	1	<b><u>Balsamorhiza macrolepis</u></b> var. <b><u>macrolepis</u></b> 	big-scale balsamroot	Asteraceae	List 1B.2
	<input type="checkbox"/>	1	<b><u>Clarkia biloba</u></b> ssp. <b><u>brandegeeae</u></b> 	Brandegee's clarkia	Onagraceae	List 1B.2
	<input type="checkbox"/>	1	<b><u>Cordylanthus mollis</u></b> ssp. <b><u>hispidus</u></b>	hispid bird's-beak	Scrophulariaceae	List 1B.1
	<input type="checkbox"/>	1	<b><u>Downingia pusilla</u></b> 	dwarf downingia	Campanulaceae	List 2.2
	<input type="checkbox"/>	1	<b><u>Gratiola heterosepala</u></b> 	Boggs Lake hedge-hyssop	Scrophulariaceae	List 1B.2
	<input type="checkbox"/>	1	<b><u>Juncus leiopermus</u></b> var. <b><u>ahartii</u></b> 	Ahart's dwarf rush	Juncaceae	List 1B.2
	<input type="checkbox"/>	1	<b><u>Juncus leiopermus</u></b> var. <b><u>leiopermus</u></b> 	Red Bluff dwarf rush	Juncaceae	List 1B.1
	<input type="checkbox"/>	1	<b><u>Legenere limosa</u></b> 	legenere	Campanulaceae	List 1B.1
	<input type="checkbox"/>	1	<b><u>Navarretia myersii</u></b> ssp. <b><u>myersii</u></b> 	pincushion navarretia	Polemoniaceae	List 1B.1
	<input type="checkbox"/>	1	<b><u>Orcuttia tenuis</u></b> 	slender Orcutt grass	Poaceae	List 1B.1
	<input type="checkbox"/>	1	<b><u>Orcuttia viscida</u></b> 	Sacramento Orcutt grass	Poaceae	List 1B.1
	<input type="checkbox"/>	1	<b><u>Sagittaria sanfordii</u></b> 	Sanford's arrowhead	Alismataceae	List 1B.2

To save selected records for later study, click the ADD button:

Selections will appear in a new window.



No more hits.



Status: search results - Mon, Aug. 6, 2007, 13:00 b

{QUADS\_123} = ~ m/529D|513A|513B|528B|528C|512B|529A|529E

**Tip:** Want to search by habitat? Try the **Checkbox and Preset** search page. [\[all tips and help.\]](#)  
[\[search history\]](#)

**Your Quad Selection:** Verona (529D) 3812175, Taylor Monument (513A) 3812166, Grays Bend (513B) 3812166, Sheridan (528B) 3812164, Pleasant Grove (528C) 3812174, Rio Linda (512B) 3812164, Nicolaus (529A) 3812166, Sutter Causeway (529B) 3812166, Knights Landing (529C) 3812176

Hits 1 to 10 of 10

Requests that specify topo quads will return only Lists 1-3.

To save selected records for later study, click the ADD button.

Selections will appear in a new window.

open	save	hits	scientific	common	family	CNPS
	<input type="checkbox"/>	1	<u><a href="#">Astragalus tener</a></u> var. <u><a href="#">tener</a></u>	alkali milk-vetch	Fabaceae	List 1B.2
	<input type="checkbox"/>	1	<u><a href="#">Atriplex depressa</a></u>	brittlescale	Chenopodiaceae	List 1B.2
	<input type="checkbox"/>	1	<u><a href="#">Atriplex joaquiniana</a></u>	San Joaquin spearscale	Chenopodiaceae	List 1B.2
	<input type="checkbox"/>	1	<u><a href="#">Carex lenticularis</a></u> var. <u><a href="#">limnophila</a></u>	lakeshore sedge	Cyperaceae	List 2.2
	<input type="checkbox"/>	1	<u><a href="#">Cordylanthus palmatus</a></u>	palmate-bracted bird's-beak	Scrophulariaceae	List 1B.1
	<input type="checkbox"/>	1	<u><a href="#">Downingia pusilla</a></u>	dwarf downingia	Campanulaceae	List 2.2
	<input type="checkbox"/>	1	<u><a href="#">Gratiola heterosepala</a></u>	Boggs Lake hedge-hyssop	Scrophulariaceae	List 1B.2
	<input type="checkbox"/>	1	<u><a href="#">Hibiscus lasiocarpus</a></u>	rose-mallow	Malvaceae	List 2.2
	<input type="checkbox"/>	1	<u><a href="#">Legenere limosa</a></u>	legenere	Campanulaceae	List 1B.1
	<input type="checkbox"/>	1	<u><a href="#">Lepidium latipes</a></u> var. <u><a href="#">heckardii</a></u>	Heckard's pepper-grass	Brassicaceae	List 1B.2

To save selected records for later study, click the ADD button.

Selections will appear in a new window.

No more hits.



**Sacramento Fish & Wildlife Office**  
Federal Endangered and Threatened Species  
that Occur in or may be Affected by Projects in the  
TAYLOR MONUMENT (513A)  
U.S.G.S. 7 1/2 Minute Quad

Database Last Updated: April 11, 2006

Document Number: 060428034013

## Listed Species

### *Invertebrates*

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

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

*Lepidurus packardi* - vernal pool tadpole shrimp (E)

### *Fish*

*Hypomesus transpacificus* - delta smelt (T)

*Oncorhynchus mykiss* - Central Valley steelhead (T)

*Oncorhynchus mykiss* - Critical habitat, Central Valley steelhead (X)

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

*Oncorhynchus tshawytscha* - Critical Habitat, Central Valley spring-run chinook (X)

*Oncorhynchus tshawytscha* - Critical habitat, winter-run chinook salmon (X)

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

### *Amphibians*

*Ambystoma californiense* - California tiger salamander, central population (T)

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

### *Reptiles*

*Thamnophis gigas* - giant garter snake (T)

### *Birds*

*Haliaeetus leucocephalus* - bald eagle (T)

## Candidate Species

### *Fish*

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

*Oncorhynchus tshawytscha* - Critical habitat, Central Valley fall/late fall-run chinook (C)

### *Birds*

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

## Key:

- (E) *Endangered* - Listed (in the Federal Register) as being in danger of extinction.
- (T) *Threatened* - Listed as likely to become endangered within the foreseeable future.
- (P) *Proposed* - Officially proposed (in the Federal Register) for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the [National Marine Fisheries Service](#). Consult with them directly about these species.
- *Critical Habitat* - Area essential to the conservation of a species.
- (PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.
- (C) *Candidate* - Candidate to become a proposed species.
- (X) *Critical Habitat* designated for this species

## Important Information About Your Species List

### How We Make Species Lists

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

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

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

### Plants

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

### Surveying

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

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

### Your Responsibilities Under the Endangered Species Act

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

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

## **Take incidental to an otherwise lawful activity may be authorized by one of two procedures:**

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

## **Critical Habitat**

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

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

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

## **Candidate Species**

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

## **Wetlands**

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by

section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

## **Updates**

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be July 27, 2006.

Sacramento Fish & Wildlife Office  
Federal Endangered and Threatened Species  
that Occur in or may be Affected by Projects in the  
ROSEVILLE (528D)  
U.S.G.S. 7 1/2 Minute Quad  
Database Last Updated: April 11, 2006  
Document Number: 060428034150

## Listed Species

### *Invertebrates*

- Branchinecta lynchi* - vernal pool fairy shrimp (T)
- Desmocerus californicus dimorphus* - valley elderberry longhorn beetle (T)
- Lepidurus packardi* - vernal pool tadpole shrimp (E)

### *Fish*

- Hypomesus transpacificus* - delta smelt (T)
- Oncorhynchus mykiss* - Central Valley steelhead (T)
- Oncorhynchus mykiss* - Critical habitat, Central Valley steelhead (X)
- Oncorhynchus tshawytscha* - Central Valley spring-run chinook salmon (T)
- Oncorhynchus tshawytscha* - winter-run chinook salmon, Sacramento River (E)

### *Amphibians*

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

### *Reptiles*

- Thamnophis gigas* - giant garter snake (T)

### *Birds*

- Haliaeetus leucocephalus* - bald eagle (T)

## Candidate Species

### *Fish*

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

## Key:

- (E) *Endangered* - Listed (in the Federal Register) as being in danger of extinction.
- (T) *Threatened* - Listed as likely to become endangered within the foreseeable future.
- (P) *Proposed* - Officially proposed (in the Federal Register) for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the [National Marine Fisheries Service](#). Consult with them directly about these species.
- *Critical Habitat* - Area essential to the conservation of a species.



- (PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.
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## Important Information About Your Species List

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## **Wetlands**

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## **Updates**

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recommend that you get an updated list every 90 days. That would be July 27, 2006.

Sacramento Fish & Wildlife Office  
Federal Endangered and Threatened Species  
that Occur in or may be Affected by Projects in the  
RIO LINDA (512B)  
U.S.G.S. 7 1/2 Minute Quad  
Database Last Updated: August 10, 2006  
Document Number: 060821025821

**Species of Concern** - The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. See [www.fws.gov/sacramento/es/spp\\_concern.htm](http://www.fws.gov/sacramento/es/spp_concern.htm) for more information and links to these sensitive species lists.

**Red-Legged Frog Critical Habitat** - The Service has designated final critical habitat for the California red-legged frog. The designation became final on May 15, 2006. See our [map index](#).

## Listed Species

### *Invertebrates*

*Branchinecta lynchi*

vernal pool fairy shrimp (T)

*Desmocerus californicus dimorphus*

valley elderberry longhorn beetle (T)

*Lepidurus packardii*

vernal pool tadpole shrimp (E)

### *Fish*

*Hypomesus transpacificus*

delta smelt (T)

*Oncorhynchus mykiss*

Central Valley steelhead (T) (NMFS)

Critical habitat, Central Valley steelhead (X) (NMFS)

*Oncorhynchus tshawytscha*

Central Valley spring-run chinook salmon (T) (NMFS)

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

### *Amphibians*

*Ambystoma californiense*

California tiger salamander, central population (T)

*Rana aurora draytonii*

California red-legged frog (T)

## Reptiles

*Thamnophis gigas*

giant garter snake (T)

## Birds

*Haliaeetus leucocephalus*

bald eagle (T)

## Candidate Species

### Fish

*Oncorhynchus tshawytscha*

Central Valley fall/late fall-run chinook salmon (C) (NMFS)

### Key:

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## **Updates**

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**Sacramento Fish & Wildlife Office**  
Federal Endangered and Threatened Species  
that Occur in or may be Affected by Projects in the  
PLEASANT GROVE (528C)  
U.S.G.S. 7 1/2 Minute Quad

Database Last Updated: April 11, 2006

Document Number: 060428034129

## Listed Species

### *Invertebrates*

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

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

*Lepidurus packardi* - vernal pool tadpole shrimp (E)

### *Fish*

*Hypomesus transpacificus* - delta smelt (T)

*Oncorhynchus mykiss* - Central Valley steelhead (T)

*Oncorhynchus mykiss* - Critical habitat, Central Valley steelhead (X)

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

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

### *Amphibians*

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

### *Reptiles*

*Thamnophis gigas* - giant garter snake (T)

### *Birds*

*Haliaeetus leucocephalus* - bald eagle (T)

## Candidate Species

### *Fish*

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

### *Birds*

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

## Key:

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Sacramento Fish & Wildlife Office  
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CITRUS HEIGHTS (512A)  
U.S.G.S. 7 1/2 Minute Quad

Database Last Updated: August 10, 2006

Document Number: 060821025711

**Species of Concern** - The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. See [www.fws.gov/sacramento/es/spp\\_concern.htm](http://www.fws.gov/sacramento/es/spp_concern.htm) for more information and links to these sensitive species lists.

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#### *Lepidurus packardii*

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### *Fish*

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delta smelt (T)

#### *Oncorhynchus mykiss*

Central Valley steelhead (T) (NMFS)

Critical habitat, Central Valley steelhead (X) (NMFS)

#### *Oncorhynchus tshawytscha*

Central Valley spring-run chinook salmon (T) (NMFS)

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

### *Amphibians*

#### *Ambystoma californiense*

California tiger salamander, central population (T)

*Rana aurora draytonii*

California red-legged frog (T)

## Reptiles

*Thamnophis gigas*

giant garter snake (T)

## Birds

*Haliaeetus leucocephalus*

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## Candidate Species

### Fish

*Oncorhynchus tshawytscha*

Central Valley fall/late fall-run chinook salmon (C) (NMFS)

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**Federal Endangered and Threatened Species**  
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**VERONA (529D)**  
**U.S.G.S. 7 1/2 Minute Quad**  
**Database Last Updated: April 11, 2006**  
**Document Number: 060428034046**

## Listed Species

### *Invertebrates*

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

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### *Fish*

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*Oncorhynchus mykiss* - Central Valley steelhead (T)

*Oncorhynchus mykiss* - Critical habitat, Central Valley steelhead (X)

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

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*Oncorhynchus tshawytscha* - Critical habitat, winter-run chinook salmon (X)

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

### *Amphibians*

*Ambystoma californiense* - California tiger salamander, central population (T)

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

### *Reptiles*

*Thamnophis gigas* - giant garter snake (T)

### *Birds*

*Haliaeetus leucocephalus* - bald eagle (T)

## Candidate Species

### *Fish*

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

*Oncorhynchus tshawytscha* - Critical habitat, Central Valley fall/late fall-run chinook (C)

### *Birds*

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

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

### Surveying

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

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

### Your Responsibilities Under the Endangered Species Act

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

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

## **Take incidental to an otherwise lawful activity may be authorized by one of two procedures:**

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

## **Critical Habitat**

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

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

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

## **Candidate Species**

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

## **Wetlands**

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by



section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

## **Updates**

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be July 27, 2006.

California Department of Fish and Game  
 Natural Diversity Database  
 Taylor Monument Quad

Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 Sacramento splittail <i>Pogonichthys macrolepidotus</i>	AFCJB34020			G2	S2	SC
2 Swainson's hawk <i>Buteo swainsoni</i>	ABNKC19070		Threatened	G5	S2	
3 black-crowned night heron <i>Nycticorax nycticorax</i>	ABNGA11010			G5	S3	
4 burrowing owl <i>Athene cunicularia</i>	ABNSB10010			G4	S2	SC
5 giant garter snake <i>Thamnophis gigas</i>	ARADB36150	Threatened	Threatened	G2G3	S2S3	
6 great egret <i>Ardea alba</i>	ABNGA04040			G5	S4	
7 snowy egret <i>Egretta thula</i>	ABNGA06030			G5	S4	
8 tricolored blackbird <i>Agelaius tricolor</i>	ABPBXB0020			G2G3	S2	SC
9 valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	IICOL48011	Threatened		G3T2	S2	

California Department of Fish and Game  
 Natural Diversity Database  
 Roseville Quad

Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 A vernal pool andrenid bee <i>Andrena subapasta</i>	IIHYM35050			G1G3	S1S3	
2 Alkali Meadow	CTT45310CA			G3	S2.1	
3 Alkali Seep	CTT45320CA			G3	S2.1	
4 Boggs Lake hedge-hyssop <i>Gratiola heterosepala</i>	PDSCR0R060		Endangered	G3	S3.1	1B.2
5 California linderiella <i>Linderiella occidentalis</i>	ICBRA06010			G3	S2S3	
6 Northern Hardpan Vernal Pool	CTT44110CA			G3	S3.1	
7 Northern Volcanic Mud Flow Vernal Pool	CTT44132CA			G1	S1.1	
8 Red Bluff dwarf rush <i>Juncus leiospermus var. leiospermus</i>	PMJUN011L2			G2T2	S2.2	1B.1
9 Ricksecker's water scavenger beetle <i>Hydrochara rickseckeri</i>	IICOL5V010			G1G2	S1S2	
10 Swainson's hawk <i>Buteo swainsoni</i>	ABNKC19070		Threatened	G5	S2	
11 big-scale balsamroot <i>Balsamorhiza macrolepis var. macrolepis</i>	PDAST11061			G3G4T2	S2.2	1B.2
12 burrowing owl <i>Athene cunicularia</i>	ABNSB10010			G4	S2	SC
13 dwarf downingia <i>Downingia pusilla</i>	PDCAM060C0			G3	S3.1	2.2
14 grasshopper sparrow <i>Ammodramus savannarum</i>	ABPBXA0020			G5	S2	
15 hispid bird's-beak <i>Cordylanthus mollis ssp. hispidus</i>	PDSCR0J0D1			G2T2	S2.1	1B.1
16 legenere <i>Legenere limosa</i>	PDCAM0C010			G2	S2.2	1B.1
17 tricolored blackbird <i>Agelaius tricolor</i>	ABPBXB0020			G2G3	S2	SC
18 vernal pool fairy shrimp <i>Branchinecta lynchi</i>	ICBRA03030	Threatened		G3	S2S3	
19 vernal pool tadpole shrimp <i>Lepidurus packardi</i>	ICBRA10010	Endangered		G3	S2S3	
20 western spadefoot <i>Spea hammondii</i>	AAABF02020			G3	S3	SC
21 white-tailed kite <i>Elanus leucurus</i>	ABNKC06010			G5	S3	

California Department of Fish and Game  
Natural Diversity Database  
Rio Linda Quad

Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 Boggs Lake hedge-hyssop <i>Gratiola heterosepala</i>	PDSCR0R060		Endangered	G3	S3.1	1B.2
2 California linderiella <i>Linderiella occidentalis</i>	ICBRA06010			G3	S2S3	
3 Northern Claypan Vernal Pool	CTT44120CA			G1	S1.1	
4 Northern Hardpan Vernal Pool	CTT44110CA			G3	S3.1	
5 Swainson's hawk <i>Buteo swainsoni</i>	ABNKC19070		Threatened	G5	S2	
6 burrowing owl <i>Athene cunicularia</i>	ABNSB10010			G4	S2	SC
7 dwarf downingia <i>Downingia pusilla</i>	PDCAM060C0			G3	S3.1	2.2
8 giant garter snake <i>Thamnophis gigas</i>	ARADB36150	Threatened	Threatened	G2G3	S2S3	
9 great blue heron <i>Ardea herodias</i>	ABNGA04010			G5	S4	
10 great egret <i>Ardea alba</i>	ABNGA04040			G5	S4	
11 legenere <i>Legenere limosa</i>	PDCAM0C010			G2	S2.2	1B.1
12 purple martin <i>Progne subis</i>	ABPAU01010			G5	S3	SC
13 tricolored blackbird <i>Agelaius tricolor</i>	ABPBXB0020			G2G3	S2	SC
14 vernal pool fairy shrimp <i>Branchinecta lynchi</i>	ICBRA03030	Threatened		G3	S2S3	
15 vernal pool tadpole shrimp <i>Lepidurus packardii</i>	ICBRA10010	Endangered		G3	S2S3	
16 western pond turtle <i>Actinemys marmorata</i>	ARAAD02030			G3G4	S3	SC
17 white-tailed kite <i>Elanus leucurus</i>	ABNKC06010			G5	S3	



California Department of Fish and Game  
 Natural Diversity Database  
 Citrus Heights Quad

Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 A vernal pool andrenid bee <i>Andrena subapasta</i>	IIHYM35050			G1G3	S1S3	
2 California linderiella <i>Linderiella occidentalis</i>	ICBRA06010			G3	S2S3	
3 Northern Volcanic Mud Flow Vernal Pool	CTT44132CA			G1	S1.1	
4 Sanford's arrowhead <i>Sagittaria sanfordii</i>	PMALI040Q0			G3	S3.2	1B.2
5 bank swallow <i>Riparia riparia</i>	ABPAU08010		Threatened	G5	S2S3	
6 great blue heron <i>Ardea herodias</i>	ABNGA04010			G5	S4	
7 valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	IICOL48011	Threatened		G3T2	S2	
8 white-tailed kite <i>Elanus leucurus</i>	ABNKC06010			G5	S3	

California Department of Fish and Game  
 Natural Diversity Database  
 Pleasant Grove Quad

Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 California linderiella <i>Linderiella occidentalis</i>	ICBRA06010			G3	S2S3	
2 Swainson's hawk <i>Buteo swainsoni</i>	ABNKC19070		Threatened	G5	S2	
3 burrowing owl <i>Athene cunicularia</i>	ABNSB10010			G4	S2	SC
4 dwarf downingia <i>Downingia pusilla</i>	PDCAM060C0			G3	S3.1	2.2
5 vernal pool fairy shrimp <i>Branchinecta lynchi</i>	ICBRA03030	Threatened		G3	S2S3	
6 vernal pool tadpole shrimp <i>Lepidurus packardii</i>	ICBRA10010	Endangered		G3	S2S3	
7 western spadefoot <i>Spea hammondi</i>	AAABF02020			G3	S3	SC

California Department of Fish and Game  
 Natural Diversity Database  
 Verona Quad

Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 Sacramento splittail <i>Pogonichthys macrolepidotus</i>	AFCJB34020			G2	S2	SC
2 Swainson's hawk <i>Buteo swainsoni</i>	ABNKC19070		Threatened	G5	S2	
3 bank swallow <i>Riparia riparia</i>	ABPAU08010		Threatened	G5	S2S3	
4 black-crowned night heron <i>Nycticorax nycticorax</i>	ABNGA11010			G5	S3	
5 burrowing owl <i>Athene cunicularia</i>	ABNSB10010			G4	S2	SC
6 giant garter snake <i>Thamnophis gigas</i>	ARADB36150	Threatened	Threatened	G2G3	S2S3	
7 tricolored blackbird <i>Agelaius tricolor</i>	ABPBXB0020			G2G3	S2	SC
8 vernal pool fairy shrimp <i>Branchinecta lynchi</i>	ICBRA03030	Threatened		G3	S2S3	
9 vernal pool tadpole shrimp <i>Lepidurus packardi</i>	ICBRA10010	Endangered		G3	S2S3	

## **Appendix B: Botanist Qualifications**

**Shirley Innecken, Botanist.** Shirley Innecken has over 6 years of experience conducting wetland delineations ranging from 5 to 2,400 acres, performs valley elderberry longhorn beetle surveys (VELB), rare plant surveys, and habitat classification and mapping for the California Department of Water Resources in Northern California. Ms. Innecken has also participated in the Camp Tehama science education segment of the camp annual elementary school retreat. For four consecutive years she co-taught a unit introducing students to the field of plant ecology. Her areas of expertise include wetland delineation, general botanical surveys, rare plant surveys, habitat characterization, and VELB surveys. Her work experience includes providing botanical support for the Oroville Dam Hydroelectric Relicensing Project (Federal Energy Regulatory Commission) and the Sites Reservoir Feasibility Project. In addition, Ms. Innecken was the project coordinator and botanist for the *Big Chico Creek Stream Condition Inventory* and co-wrote the final document for the Big Chico Creek Watershed Alliance. Ms. Innecken was also employed by the CSUC Research Foundation as the Environmental Projects Coordinator for the Bidwell Environmental Institute. Her more recent work experience includes conducting protocol-level rare plant surveys and a wetland inventory for a 2,400 acre Butte County meadowfoam (BCM) preserve in the northern Sierra Nevada foothills, and conducting a wetland inventory for the 1,700 acre Wildlands-Daley Ranch Mitigation Bank project in Palermo, CA. Ms. Innecken was instrumental in preparing the innovative Greenway Management Plan for the New Urban Builders Meriam Park project, Chico, CA.

## EDUCATION

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### **BACHELOR OF SCIENCE in ETHNOBOTANICAL ECOLOGY – *Interdisciplinary Degree***

Department of Biological Sciences and Anthropology, California State University, Chico  
Awarded in May 1999

## EXPERIENCE

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### ***BOTANIST***

**Gallaway Consulting, Inc.**

**115 Meyers Street, Suite 120, Chico, CA 95928**

**Starting and ending dates: May 2004 – present**

Conduct and manage rare plant surveys using standardized US Fish (USFWS) and Wildlife, Department of Fish and Game (CDFG) and California Native Plant Society protocols. Supervise, manage, and conduct wetland delineations using the U.S. Army Corp of Engineers (COE) 1987 protocol. Conduct Valley Elderberry Longhorn Beetle Surveys consistent with the USFWS 1999 Guidelines. Gather and organize baseline data for various environmental projects. Prepare Biological Resource Assessments, Preliminary Wetland Evaluations and Wetland Delineations. Assist in the preparation of CEQA/NEPA documents. Participate in interviewing and selecting field personnel. Facilitate client compliance with COE Section 404, Regional Water Quality Control Board Section 401 and DFG 1600 Streambed Alteration Agreement requirements. Utilize various habitat characterization guides to create habitat maps, restoration plans, Preserve Plans, and Vegetation Management Plans. Develop proposals in response to project solicitations. Organize and manage multiple projects and administrative responsibilities.



***ENVIRONMENTAL PROJECTS COORDINATOR***

**The University Research Foundation – Bidwell Environmental Institute  
California State University, Chico, Chico, CA 95928  
Starting and ending dates: May 2004 – October 2004**

Managed the budgets and performed the administrative responsibilities for multiple environmental projects. Coordinated all projects for the local DFG Aquatic Bioassessment Lab (ABL). Developed and maintained working relationships with various non-profits, private consultants and state, and federal government agencies. Developed Scopes of Work and contracts below \$5,000 for the ABL. Worked cooperatively with Research Foundation Proposal Development Specialists and Fiscal Analysts.

***WILDLIFE SURVEYOR***

**Gallaway Consulting, Inc.  
7 Sierra Nevada Court, Chico, CA 95928  
Starting and ending dates: 2001 Field Season**

Participated in northern goshawk surveys in the Plumas National Forest using GIS and orienteering skills. Surveyed portions of the extensive Poison/Last Chance survey area.

***EXPEDITION PARTICIPANT***

**Geo Explorers  
Western Sumatra, Indonesia**

Participated in an expedition to the Gunung Nalu region of western Sumatra, Indonesia. Assisted in collecting data supportive of efforts in establishing a forest reserve area in collaboration with the Indonesian government. Contributed to filming a documentary about western Sumatran rainforest resources and the need for conservation.

***BOTANIST/PROJECT COORDINATOR***

**Streamminders  
PO Box 68, Forest Ranch, CA 95942  
Starting and ending dates: Fall 2000**

Organized and conducted a Streams Conditions Inventory for a stretch of Big Chico Creek in lower Bidwell Park. Data was used to create a restoration plan for the site. Assisted in the production of the final document.

***SCIENTIFIC AID***

**Department of Water Resources – Northern District  
2440 Main Street, Red Bluff, CA 96080  
Starting and ending dates: May 1999 – May 2004**

Conducted rare plant surveys using standardized US Fish (USFWS) and Wildlife, Department of Fish and Game (CDFG) and California Native Plant Society protocols. Conducted wetland delineations using the U.S. Army Corp of Engineers (COE) 1987 protocol. Conducted Valley Elderberry Longhorn Beetle Surveys consistent with the USFWS 1999 Guidelines. Gathered and organized baseline data for various environmental projects. Maintained restoration sites. Conducted botanical and habitat assessment surveys for the Federal Energy Regulatory Committee (FERC) Feather River Project.

### ***SCIENTIFIC AID***

Department of Water Resources – Northern District

2440 Main Street, Red Bluff, CA 96080

Starting and ending dates: Fall 1998 – May 1999

Assisted in monitoring efforts for emigrating juvenile Chinook salmon and other native fishes on the Sacramento River from Los Molinos to Cottonwood, CA. Efforts included carcass surveys and juvenile collection and tagging.

### ***RESTORATION ASSISTANT (Seasonal Position)***

Kok'ee State Park, Kauai, HI

Starting and ending dates: Summer 1997

Participated in the eradication of invasive species in Kauai's mesic forests. Incorporated various eradication methods including manual and chemical elimination techniques and replanting of native species.

### **KNOWLEDGE AND ABILITIES**

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Knowledge of:

- Sacramento Valley flora including portions of the Sierra Nevada, Coast, and Cascade Ranges
- Wetland regulation and mitigation
- Incorporation of COE Section 404, Regional Water Quality Control Board Section 401 and DFG 1600 Streambed Alteration Agreement requirements in project planning
- Listed wildlife and plant species within and surrounding the Sacramento Valley
- Sacramento Valley area habitats
- Biological assessment and environmental impacts analysis

Ability to:

- Organize and manage multiple projects simultaneously
- Develop and maintain productive working relationships with a diverse community including private land-owners, agency and non-profit personnel
- Proficiently and effectively train and supervise field personnel
- Utilize contemporary Geographic Information System (GIS) technology

**Elena Alfieri, Botanist.** Elena Alfieri has over 1 year of experience conducting botanical/rare plant surveys, wetland delineations, and valley elderberry longhorn beetle surveys (VELB) in project sites ranging from 1 to 2,000 acres, and habitat classification and mapping for the U.S. Department of Agriculture Forest Service. Ms. Alfieri has also acquired extensive knowledge of greenhouse management and exotic and native plant maintenance and identification through her many years working for the U.C. Davis Botanical Conservatory. Course work for Ms. Alfieri during her attendance at U.C. Davis included multiple plant taxonomy, plant biology and paleobotany classes. Her areas of expertise include general botanical surveys and plant identification, rare plant surveys, and wetland delineations.

## **EDUCATION**

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**BACHELOR OF SCIENCE in ENVIRONMENTAL BIOLOGY AND MANAGEMENT –  
*Interdisciplinary Degree***  
Department of Biological Sciences, University of California, Davis  
Awarded in December 2004

## **EXPERIENCE**

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### ***BOTANIST***

**Gallaway Consulting, Inc.**  
**115 Meyers Street, Suite 120, Chico, CA 95928**  
**Starting and ending dates:** May 2006 – present

Conduct rare plant surveys using standardized US Fish (USFWS) and Wildlife, Department of Fish and Game (CDFG) and California Native Plant Society protocols. Conduct wetland delineations using the U.S. Army Corp of Engineers (COE) 1987 protocol. Conduct Valley Elderberry Longhorn Beetle Surveys consistent with the USFWS 1999 Guidelines. Gather and organize baseline data for various environmental projects. Prepare Biological Resource Assessments, Preliminary Wetland Evaluations and Wetland Delineations. Utilize various habitat characterization guides to create habitat maps.

### ***BIOLOGICAL SCIENCE TECHNICIAN (PLANTS) – (seasonal position)***

**U.S.D.A. Forest Service, Truckee Ranger District**  
**9646 Donner Pass Road, Truckee, CA 96161**  
**Starting and ending dates:** June-September 2004, May-October 2005

Participated in botanical field surveys in the Truckee and Sierraville Ranger districts located within the Tahoe National Forest and identified sensitive plant species and noxious weeds. Used the Jepson Manual and other plant keys to identify plants, and GPS units, compasses, and topographical maps to record point data. Assessed the health of aspen stands using Forest Service protocol. Participated in noxious weed eradication.

### ***FIELD BOTANIST – (seasonal position)***

**Jones and Stokes**  
**2600 V Street, Sacramento, CA 95818**  
**Starting and ending dates:** March 2005 – May 2005

Conducted vegetation surveys at various project sites with an emphasis on rare and special-status plant species. Keyed out wetland/vernal pool-specific plant species using the Jepson Manual.

### ***NURSERY TECHNICIAN***

Department of Biological Sciences, Botanical Conservatory  
University of California at Davis, Davis, CA 95616  
Starting and ending dates: December 2004 – March 2005

Monitored and maintained specimen plants in the Botanical Conservatory and university research greenhouses.

### ***ASSISTANT III***

Department of Biological Sciences, Botanical Conservatory  
University of California at Davis, Davis, CA 95616  
Starting and ending dates: June 2002 – December 2004

Planted, propagated, pruned, and groomed collection specimens and research plants. Trained and supervised student staff, interns, and volunteers. Set up displays for special events and led conservatory tours.

### **KNOWLEDGE AND ABILITIES**

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#### Knowledge of:

- Sacramento Valley flora including the Sierra Nevada foothills, and eastern Sierra Nevada mountain range
- Wetland, including fen, delineation requirements
- Listed plant species within and surrounding the Sacramento Valley
- Sacramento Valley and Sierra Nevada area habitats
- Biological resource assessment protocol

#### Ability to:

- Organize and produce multiple projects/reports simultaneously
- Utilize contemporary Geographic Information System (GIS) technology
- Read topographical and aerial maps
- Perform field surveys

**Appendix C: U.S. Fish and Wildlife Service Guidelines for Conducting and Reporting Botanical Inventories of Federally Listed, Proposed and Candidate Plants**



## **Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants**

January, 2000

These guidelines describe protocols for conducting botanical inventories for federally listed, proposed and candidate plants, and describe minimum standards for reporting results. The Service will use, in part, the information outlined below in determining whether the project under consideration may affect any listed, proposed, or candidate plants, and in determining the direct, indirect, and cumulative effects.

Field inventories should be conducted in a manner that will locate listed, proposed, or candidate species (target species) that may be present. The entire study area requires a botanical inventory, except developed agricultural lands. The field investigator(s) should:

1. Conduct inventories at the appropriate times of year when target species are present and identifiable. Inventories will include all potential habitats. Multiple site visits during a field season may be necessary to make observations during the appropriate phenological stage of all target species.
2. If available, use a regional or local reference population to obtain a visual image of the target species and associated habitat(s). If access to reference populations(s) is not available, investigators should study specimens from local herbaria.
3. List every species observed and compile a comprehensive list of vascular plants for the entire project site. Vascular plants need to be identified to a taxonomic level which allows rarity to be determined.
4. Report results of botanical field inventories that include:
  - a. a description of the biological setting, including plant community, topography, soils, potential habitat of target species, and an evaluation of environmental conditions, such as timing or quantity of rainfall, which may influence the performance and expression of target species
  - b. a map of project location showing scale, orientation, project boundaries, parcel size, and map quadrangle name
  - c. survey dates and survey methodology(ies)
  - d. if a reference population is available, provide a written narrative describing the target species reference population(s) used, and date(s) when observations were made
  - e. a comprehensive list of all vascular plants occurring on the project site for each habitat type
  - f. current and historic land uses of the habitat(s) and degree of site alteration
  - g. presence of target species off-site on adjacent parcels, if known
  - h. an assessment of the biological significance or ecological quality of the project site in a local and regional context
5. If target species is(are) found, report results that additionally include:
  - a. a map showing federally listed, proposed and candidate species distribution as they relate to the proposed project
  - b. if target species is (are) associated with wetlands, a description of the direction and integrity of flow of surface hydrology. If target species is (are) affected by adjacent off-site hydrological influences, describe these factors.
  - c. the target species phenology and microhabitat, an estimate of the number of individuals of each target species per unit

area; identify areas of high, medium and low density of target species over the project site, and provide acres of occupied habitat of target species. Investigators could provide color slides, photos or color copies of photos of target species or representative habitats to support information or descriptions contained in reports. d. the degree of impact(s), if any, of the proposed project as it relates to the potential unoccupied habitat of target habitat.

6. Document findings of target species by completing California Native Species Field Survey Form(s) and submit form(s) to the Natural Diversity Data Base maintained by the Natural Heritage Division of the California Department of Fish & Game. Documentation of determinations and/or voucher specimens may be useful in cases of taxonomic ambiguities, habitat or range extensions.

7. Report as an addendum to the original survey, any change in abundance and distribution of target plants in subsequent years. Project sites with inventories older than 3 years from the current date of project proposal submission will likely need additional survey.

8. Adverse conditions may prevent investigator(s) from determining presence or identifying some target species in potential habitat(s) of target species. Disease, drought, predation, or herbivory may preclude the presence or identification of target species in any year. An additional botanical inventory(ies) in a subsequent year(s) may be required if adverse conditions occur in a potential habitat(s). Investigator(s) may need to discuss such conditions.

**Appendix D: List of All Plant Species Observed on May 5, and 12, and July 21, 24 and 26, 2006 (Boldface type indicates a special-status species).**

**Scientific Name**

*Aira caryophyllea*  
*Alisma lanceolatum*  
*Avena sp.*  
*Centaurea solstitialis*  
*Convolvulus arvensis*  
*Cynodon dactylon*  
*Cyperus eragrostis*  
*Cyperus esculentus*  
*Deschampsia danthanooides*  
*Deschampsia sp.*  
*Digitaria sanguinalis*  
***Downingia pusilla***  
*Eleocharis macrostachya*  
*Eremocarpus setigerus*  
*Eryngium castrense*  
*Eucalyptus sideroxylon*  
*Gastridium ventricosum*  
*Gratiola ebracteata*  
*Grindelia sp.*  
*Hemizonia fitchii*  
*Heteranthera limosa*  
*Juncus bufonius*  
*Lactuca serriola*  
*Lasthenia fremontii*  
*Layia sp.*  
*Lolium multiflorum*  
*Ludwigia peploides*  
*Lythrum hyssopifolium*  
*Lythrum sp.*  
*Madia sp.*  
*Navarretia leucocephala*  
*Paspalum distichum*  
*Phalaris sp.*  
*Pilularia americana*  
*Plagiobothrys stipitatus var. micranthus*  
*Pogogyne zizyphoroides*  
*Polygonum arenastrum*  
*Polypogon sp.*  
*Populus fremontii*  
*Psilocarphus brevissimus*  
*Ranunculus bonariensis*  
*Rumex crispus*  
*Sagittaria latifolia*  
*Salix sp.*  
*Scirpus acutus*

**Common Name**

Silver European Hairgrass  
Water Plantain  
Annual Oatgrass  
Star-thistle  
Bindweed  
Bermuda Grass  
Tall Cyperus  
Yellow Nutsedge  
Annual Hairgrass  
Hairgrass  
Crab Grass  
**Dwarf Downingia**  
Pale Spike-rush  
Dove Weed  
Coyote Thistle  
Pink Ironbark  
Nit Grass  
Bractless Hedge Hyssop  
Gumplant  
Fitch's Tarweed  
Mud Plantain  
Toad Rush  
Prickly Lettuce  
Fremont's Goldfields  
Tidy Tips  
Annual Ryegrass  
Floating Primrose-willow  
Hyssop Loosestrife  
Loosestrife  
Tarweed  
White-flowered navarretia  
Knotgrass  
Canary Grass  
American Pillwort  
Stalked Popcorn Flower  
Sacramento Valley Pogogyne  
Common Knotweed  
Beardgrass  
Fremont's Cottonwood  
Wooly Marbles  
Carter's Buttercup  
Curly Dock  
Tule Potato  
Willow  
Hard-stemmed Bulrush

**Scientific Name**

*Silybum marianum*

*Taeniatherum caput-medusae*

*Trichostema lanceolatum*

*Trifolium variegatum*

*Typha sp.*

*Verbena sp.*

*Vulpia sp.*

*Xanthium strumarium*

**Common Name**

Milk Thistle

Medusae-head Grass

Vinegar Weed

White-tipped Clover

Cattail

Vervain

Vulpia

Cocklebur

\* Species shown in bold are special-status plants



## **Attachment A: Habitat Characterization**

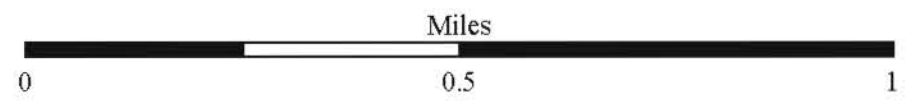




Habitat Types	Area (ft. <sup>2</sup> )	Acres
Annual Grassland Total =	27254574.750	625.679
Dry Land Grain Crops Total =	11291416.641	259.215
Disturbed Area - Urban Area Total =	11898876.995	273.161
Forested Upland Total =	579161.871	13.296
Irrigated Row and Field Crops Total =	50831672.521	1166.935
Rice Total =	29683985.645	681.451
Orchard Total =	6306506.553	144.777
Valley Foothill Riparian Total =	799542.009	18.355
Water Total =	2609879.765	59.915
<b>Total Habitat =</b>	<b>141255616.749</b>	<b>3242.783</b>

- Habitat Type**
- Annual Grassland
  - Dry Land Grain Crops
  - Disturbed and Urban Areas
  - Forested Upland
  - Irrigated Row and Field Crops
  - Rice
  - Orchard
  - Riparian
  - Water

Survey area derived from 300 ft. buffer of roadway  
 Surveyor West EA, BT Survey Dates 5/3/07, 5/8/07, 5/14/07, 6/21/07  
 Surveyor East JG, SLEA Survey Dates July 21, 24 - 28, Aug 10 & 25 2006  
 Aerial Feb 2005 (NAIP) Map Date August 6, 2007





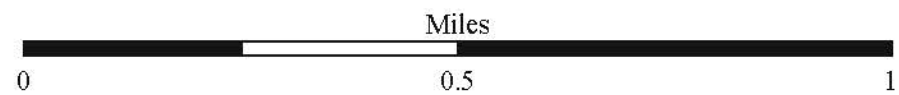


Habitat Types	Area (ft <sup>2</sup> )	Acres
Annual Grassland Total =	27254574 750	625 679
Dry Land Grain Crops Total =	11291416 641	259 215
Disturbed Area - Urban Area Total =	11898876 995	273 161
Forested Upland Total =	579161 871	13 296
Irrigated Row and Field Crops Total =	50831672 521	1166 935
Rice Total =	29683985 645	681 451
Orchard Total =	6306506 553	144 777
Valley Foothill Riparian Total =	799542 009	18 355
Water Total =	2609879 765	59 915
<b>Total Habitat =</b>	<b>141255616 749</b>	<b>3242 783</b>

- Habitat Type
- Annual Grassland
  - Dry Land Grain Crops
  - Disturbed and Urban Areas
  - Forested Upland
  - Irrigated Row and Field Crops
  - Rice
  - Orchard
  - Riparian
  - Water



Survey area derived from 500 ft buffer of roadway  
 Surveyor West: EA, BT Survey Dates 5/3/07, 5/8/07, 5/14/07, 6/21/07  
 Surveyor East: JG, SLEA Survey Dates July 21, 24 - 28, Aug 10 & 25 2006  
 Aerial: Feb 2005 (NAIP) Map Date August 6, 2007





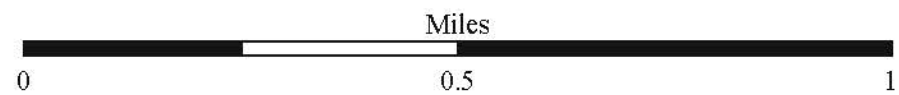


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Habitat Type	
	Annual Grassland
	Dry Land Grain Crops
	Disturbed and Urban Areas
	Forested Upland
	Irrigated Row and Field Crops
	Rice
	Orchard
	Riparian
	Water



Survey area derived from 500 ft. buffer of roadway  
 Surveyor West: EA, BT Survey Dates 5/3/07, 5/8/07, 5/14/07, 6/21/07  
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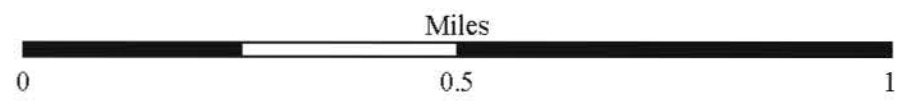


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<b>Total Habitat =</b>	<b>141255616 149</b>	<b>3242 183</b>



Survey area derived from 500 ft buffer of roadway  
 Surveyor West EA, BT Survey Dates 5/3/07, 5/8/07, 5/14/07, 6/21/07)  
 Surveyor East JG, SLEA Survey Dates July 21, 24 - 28, Aug 10 & 25 2006  
 Aerial Feb 2005 (NAIP) Map Date August 6, 2007





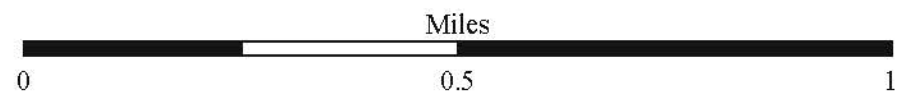


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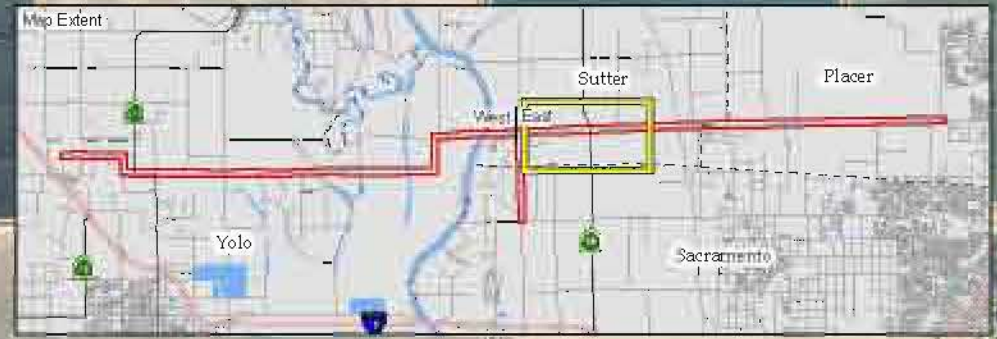




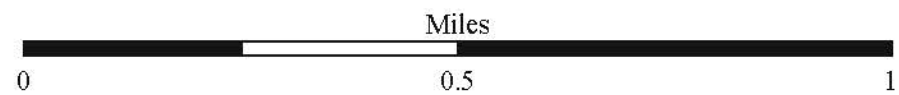


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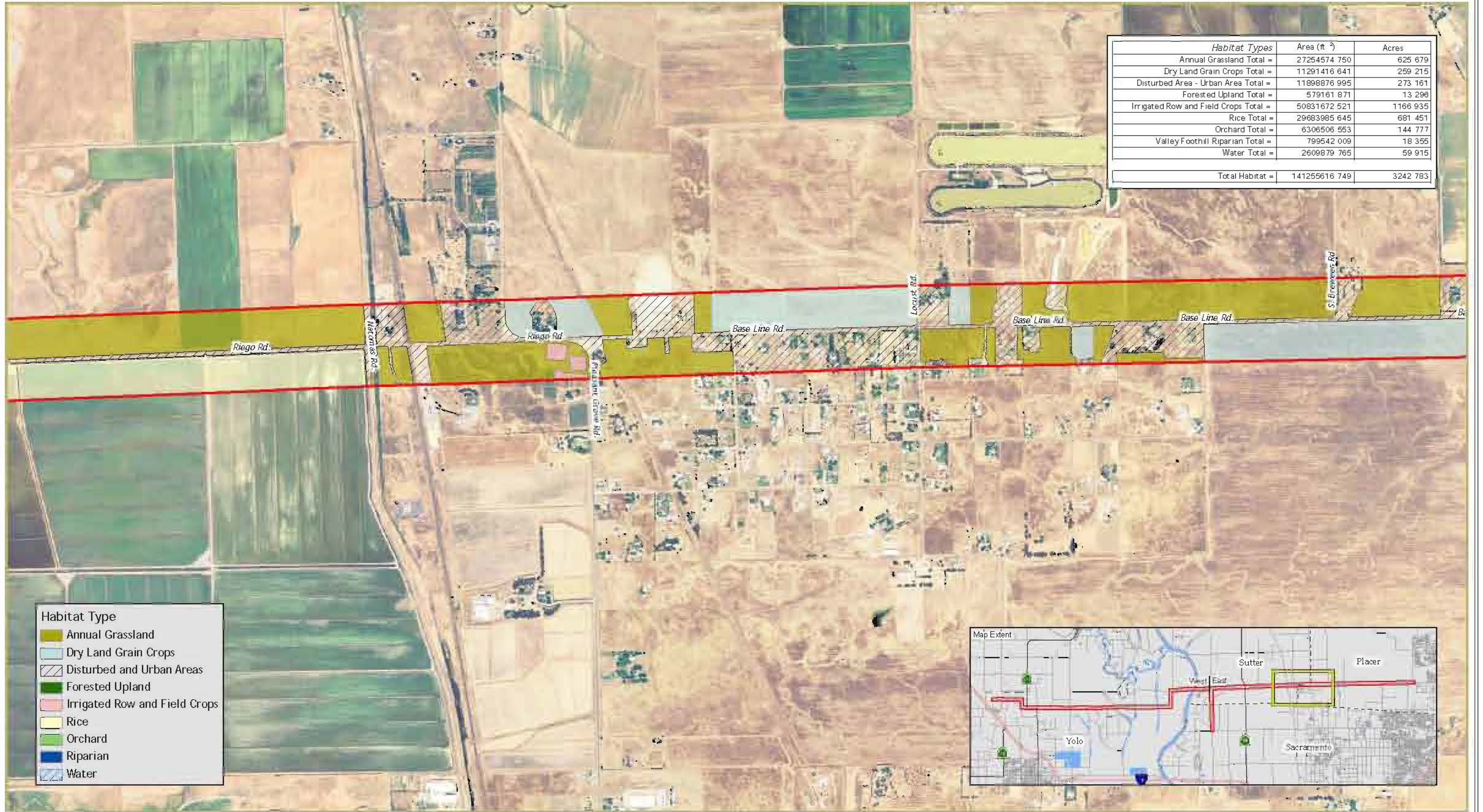
Habitat Type
Annual Grassland
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Disturbed and Urban Areas
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Orchard
Riparian
Water



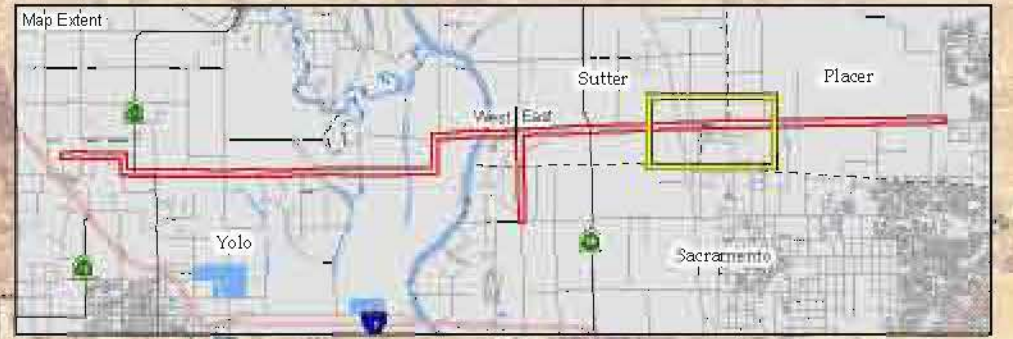
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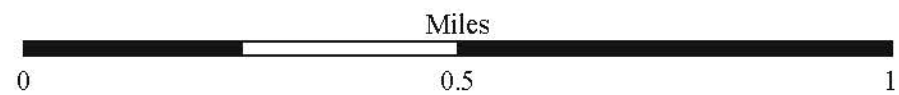




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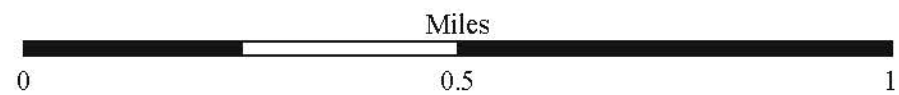


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