

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 packardii - 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:

- (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
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 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)

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Wetlands

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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
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)

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)

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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

BACHELOR OF SCIENCE in ETHNOBOTANICAL ECOLOGY – *Interdisciplinary Degree*

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

EXPERIENCE

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

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

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

EXPERIENCE

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

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 danthanoides
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

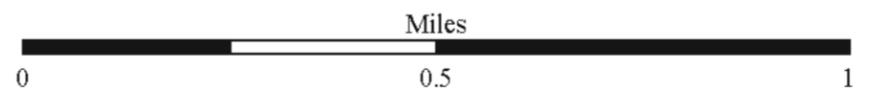


Habitat Types	Area (ft. ²)	Acres
Annual Grassland Total =	27254574.750	625.679
Dry Land Grain Crops Total =	11291416.641	259.215
Disturbed Area - Urban Area Total =	11898876.995	273.161
Forested Upland Total =	579161.871	13.296
Irrigated Row and Field Crops Total =	50831672.521	1166.935
Rice Total =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

- 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 3/3/07, 3/8/07, 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

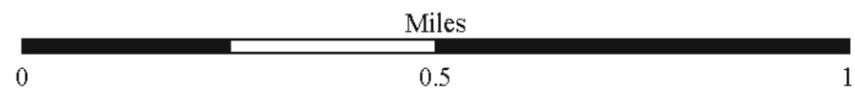




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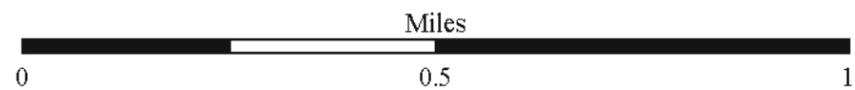


Habitat Types	Area (ft ²)	Acres
Annual Grassland Total =	27254574 750	625 679
Dry Land Grain Crops Total =	11291416 641	259 215
Disturbed Area - Urban Area Total =	11898876 995	273 161
Forested Upland Total =	579161 871	13 296
Irrigated Row and Field Crops Total =	50831672 521	1166 935
Rice Total =	29683985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

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, E.A., BT Survey Dates 5/3/07, 5/8/07, 5/14/07, 6/21/07
 Surveyor East, J.G.S./E.A. Survey Dates July 21, 24 - 28, Aug 10 & 25 2006
 Aerial Feb 2005 (NAIP) Map Date August 6, 2007



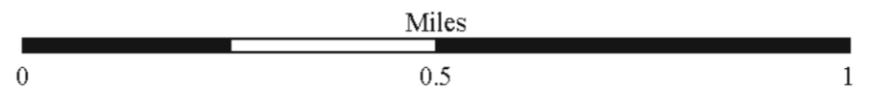


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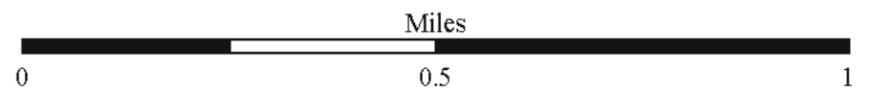


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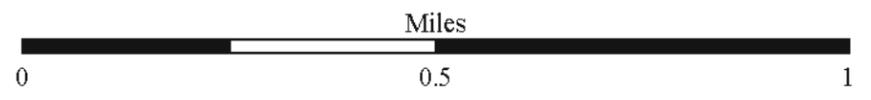


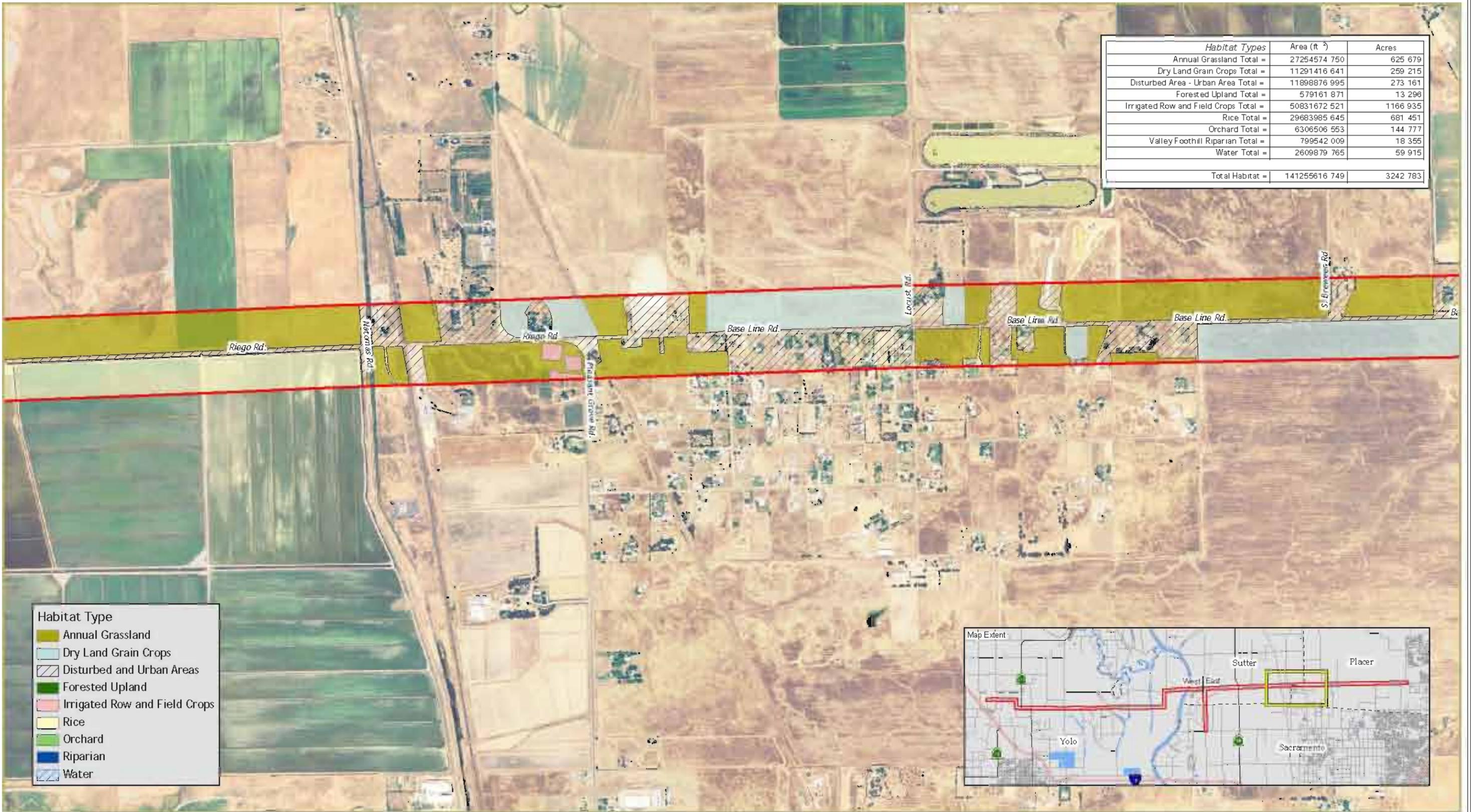
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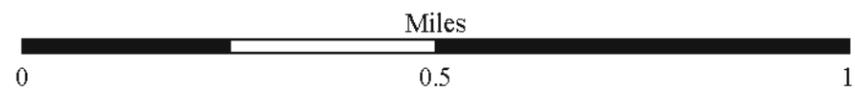


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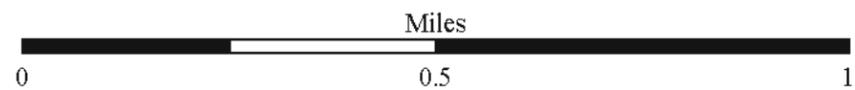


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 - Water



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





Habitat Types	Area (ft ²)	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
Total Habitat =	141255616 749	3242 783

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



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