

APPENDIX B
CALIFORNIA RED-LEGGED FROG SURVEY

***CALIFORNIA RED-LEGGED FROG
SURVEY***

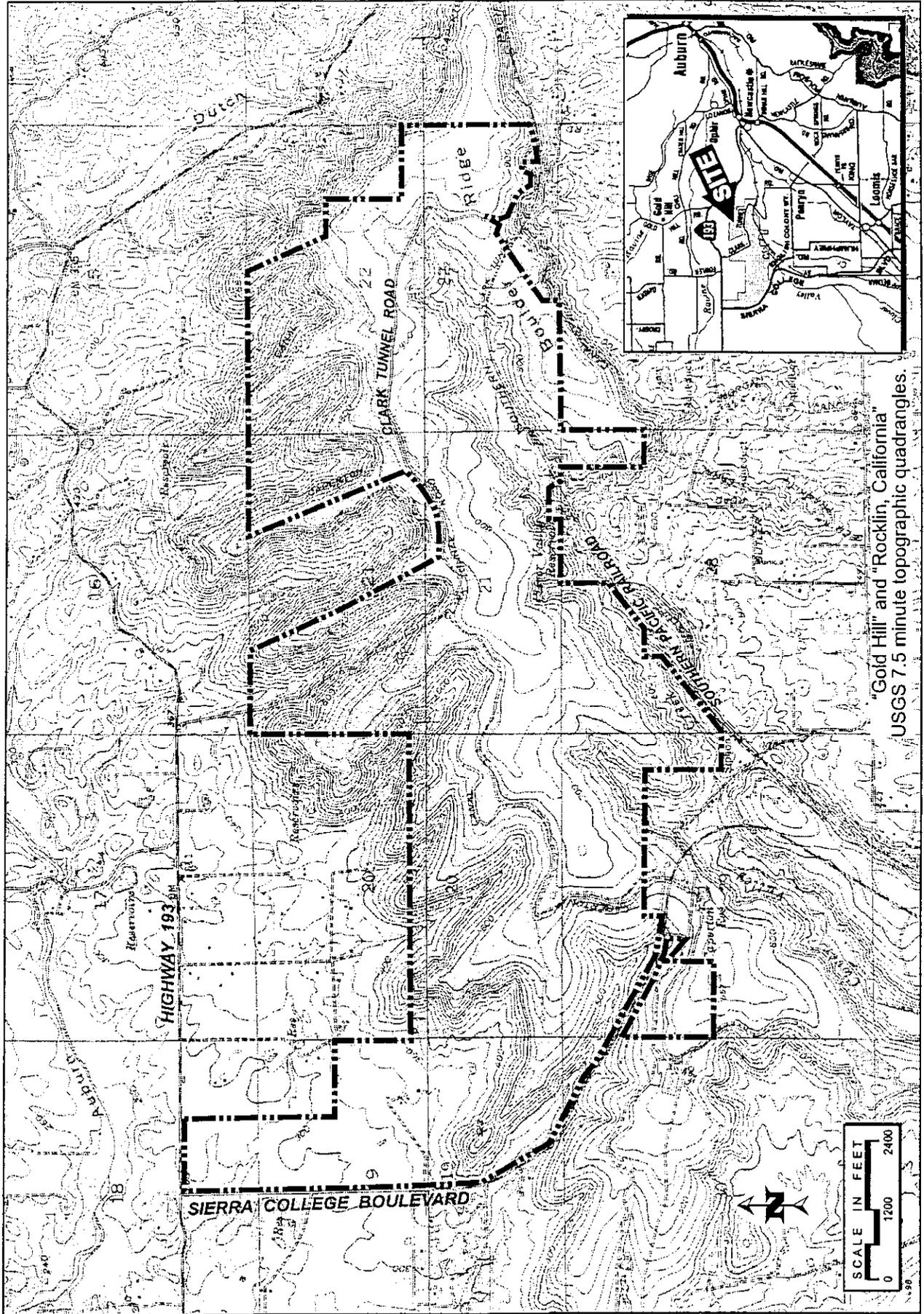
***BICKFORD RANCH PROPERTY,
PLACER COUNTY, CALIFORNIA***

INTRODUCTION

On behalf of S.W.D. Holdings, Inc., ECORP Consulting, Inc. has completed a survey for the California red-legged frog (*Rana aurora draytonii*) (a federal-listed threatened species) at the proposed Bickford Ranch project site. The survey investigation was conducted between July 19, 1999 and July 28, 1999 at the request of the U. S. Fish and Wildlife Service (Mr. Jason Davis) to support Section 7 (Interagency) Consultation with the U.S. Army Corps of Engineers. The Service determined that surveys were warranted based upon the results of a June 22, 1999 California red-legged frog site assessment report which characterized all potentially suitable habitats on the property (ECORP Consulting 1999).

The 1,950-acre Bickford Ranch property is located in Placer County north of the City of Rocklin, and northwest of Penryn, California. The property is located south of Highway 193, and most of the property lies east of Sierra College Boulevard, and north of the Southern Pacific Railroad (Figure 1 – Site and Vicinity). The project area corresponds to portions of Sections 19, 20, 21, 22, 28, 29, and 30 within Township 12 North, Range 7 East of the “Rocklin, CA” and “Gold Hill, CA” 7.5 minute topographic quadrangles. Elevations within the project site range between approximately 280 feet and 900 feet above mean sea level.

The Bickford Ranch property is located within the historic range of the California red-legged frog. However, the nearest documented extant population of California red-legged frogs is located approximately 30 miles away, in the vicinity of Placerville, California. Results of the site assessment investigation indicated that the presence of the species within the Bickford Ranch property was unlikely, given the lack of recently documented sightings in the region, the historic manipulation and origin of many aquatic habitats in the area, and the presence of



"Gold Hill" and "Rocklin, California"
USGS 7.5 minute topographic quadrangles.

990052 Bickford Ranch

FIGURE 1. Project Site and Vicinity

non-native predators (i.e., bullfrogs and introduced fishes) both on-site and in the surrounding vicinity (ECORP Consulting 1999). However, given the property's location and the fact that potentially suitable habitat was identified on site during initial assessments, a determinate-level survey program was initiated during July of 1999.

SURVEY METHODS

The survey investigation involved further characterizations of potential habitats identified, and included focused surveys to determine the presence of the California red-legged frog. General survey methods followed those described in the U. S. Fish and Wildlife Service's *Guidance on Site Assessment and Field Surveys for California Red-legged Frogs* (dated February 18, 1997)(USFWS 1997). Surveys evaluated all aquatic habitats on the property. In accordance with USFWS guidelines, two diurnal surveys and two nocturnal surveys were conducted at each potential habitat area. The survey program was initiated on July 19 and continued through July 28, 1999. Biologists that participated in the survey included Peter Balfour, Michael Bias and Sandra Woehl of ECORP Consulting, Inc. and Mark Wuestehube of Glazner Environmental Consulting (GEC).

Surveyed areas included: (1) Clover Valley Creek, both above and below Clover Valley Reservoir (2) a small drainage located in the southwestern portion of the property, (3) a large, saturated to partially-inundated freshwater marsh area roughly comprised of three drainage swales, and (4) two small stock ponds (a northern and southern pond) located in the western project site. (Figure 2). All aquatic habitats, including drainages designated for avoidance, were surveyed for the presence of California red-legged frogs. Diurnal and nocturnal survey methodologies are described below.

Diurnal Survey

Diurnal surveys were conducted on July 20, 21, 23, and 26, 1999 (see Results/Table 1 for specific times and locations). All surveys (including nocturnal surveys) were conducted on clear sunny days, and were appropriately scheduled to allow at least twenty-four hours between them.

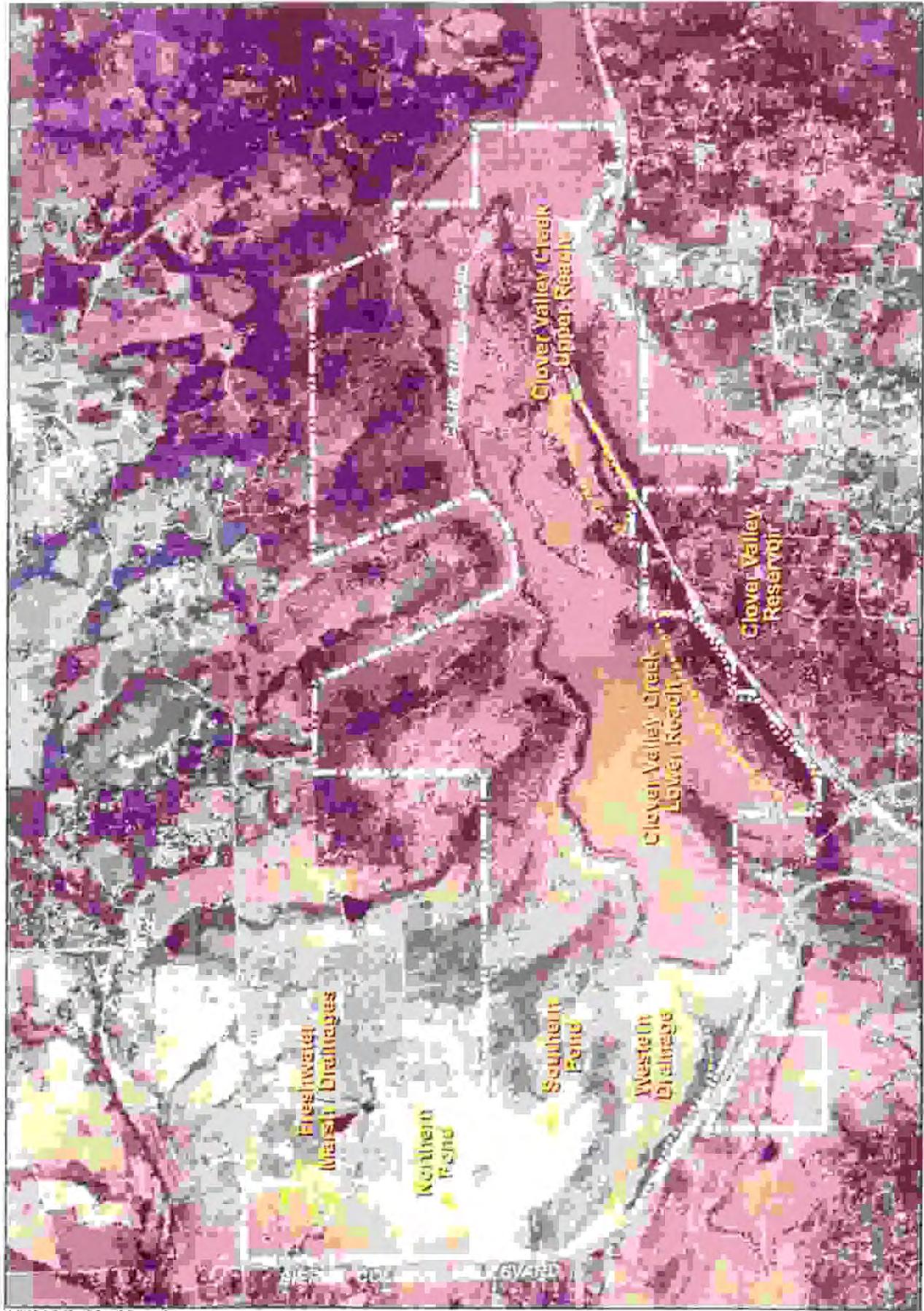


FIGURE 2. Survey Location Map

For example, the July 20 survey of the two ponds, freshwater marsh/drainage area, and southwestern drainage was not repeated until July 23, 1999. During diurnal surveys, notes were taken regarding general weather and habitat conditions, amphibian species and numbers observed, and other relevant observations. Commonly observed plant species were recorded to support characterizations of on-site habitats. Photographs of representative portions of all surveyed habitats were taken as well.

During each survey investigation, central and peripheral wetland areas were visually inspected for the presence of potentially-occurring California red-legged frogs. Binoculars were used to avoid alarming potentially occurring amphibians prior to approaching wetlands. The outer perimeters of all aquatic/wetland habitats were then walked slowly and carefully, and all amphibians observed were counted and their sizes/age classes estimated. Central portions of Clover Valley Creek that were accessible were walked and inspected for potentially-occurring adult frogs (or larvae). Hip-waders and/or rubber boots were worn during these inspections, allowing access to more remote areas of the creek that were largely obscured from view. Many areas of Clover Valley Creek (particularly the reach below the reservoir) and much of the southwestern drainage were inaccessible due to the presence of extremely dense and expansive vegetation. In these areas, as recommended by USFWS, representative pools and slow run areas were identified, marked in the field, and all were visited on each survey occasion.

Nocturnal Survey

Nocturnal surveys were conducted approximately one hour following sunset on July 19, 22, 26, and 28, 1999 (see Results/Table 1 for specific times by location). While survey methods were similar to those employed during diurnal investigations, visual inspections of aquatic habitats were facilitated through the use of a hand-held flashlight (e.g. Maglite®), and a headlamp (powered by four "D-Cell" batteries). Lighting sources were used to detect the eye-shines of resident amphibians along wetland margins, stream banks, and on floating vegetation or debris. Amphibians encountered were approached slowly (while maintaining eye/light beam contact), and identified to species.

RESULTS

Overall weather conditions and temperatures during each survey were conducive to finding amphibians. Surveys were conducted on clear to partially cloudy days, with slight breezes and mild temperatures. Diurnal ambient temperatures during survey periods (while not recorded) were exceptionally mild in comparison to those typically experienced in the Sacramento region. Nocturnal investigations all took place on warm, calm evenings. Survey findings, by habitat area, survey period, and times, are described below and are summarized in Table 1.

Stockponds.

The two stockponds on site appear to be influenced by ground water and/or receive supplemental well water. These man-made ponds support various hydrophytic plants including joint grass (*Paspalum distichum*), smartweed (*Polygonum punctatum*), rice cutgrass (*Leersia oryzoides*), and water primrose (*Ludwigia peploides*). Portions are lined with willows (*Salix* sp.) and Himalaya blackberry (*Rubus discolor*). Representative site photographs accompany this report (Attached).

No California red-legged frogs were identified within any of the stockponds. The only amphibians encountered were bullfrogs. Numerous bullfrogs were documented at both ponds. While large adults were present at each pond, most frogs encountered were juveniles and sub-adults. At the southern pond, between 16 and 20 bullfrogs were identified during diurnal surveys and 22 to 25 were identified during nocturnal surveys. Large, well-developed bullfrog tadpoles were also observed in this pond, although they were often difficult to observe due to water clarity. Up to 16 frogs were documented at the northern pond during nocturnal surveys, and up to 30 frogs (again mostly juveniles) were encountered during diurnal surveys.

Freshwater Marsh/Drainages.

The three freshwater marsh/drainage swales located in the western portion of the property are fed by irrigation water from an adjacent property. The northern most marsh is characterized by

slowly moving water with depths from zero (0) to five (5) inches and widths ranging from 2 to 20 feet. It supports numerous wetland plants, including Baltic rush (*Juncus balticus*), smartweed (*Polygonum punctatum*), water primrose (*Ludwigia peploides*), arrowhead (*Sagittaria* sp.) rice cutgrass (*Leersia oryzoides*), pennyroyal (*Mentha pulegium*), and cattail (*Typha* sp.) The vegetation is often quite dense throughout this marsh swale, leaving little open water habitat. The southern and central marsh drainages connect near the western boundary. The central freshwater marsh becomes creek-like as it leaves property It supports dense riparian of blackberry, willow and oak, while the southern marsh is choked with cattail. Other plant species found in these freshwater marshes include cattail, rice cutgrass, blackberry, water primrose, smartweed, and pennyroyal. Representative site photographs accompany this report (Attached).

No California red-legged frogs were identified within any of the freshwater marsh/drainages. Bullfrogs and Pacific chorus Frogs, were the only species encountered. Of the three drainages, the middle and southern drainage were found to support the most bullfrogs (up to fifty at one time). Bullfrog tadpoles were also encountered. The northern drainage had bullfrogs in it on only one occasion. Bullfrogs in the area could be heard vocalizing during both day and night surveys.

Southwestern Drainage.

The drainage located in the southwestern portion of the site, receives supplemental flows (via a pipe) from Caperton Canal to the east. The drainage was, most likely, historically intermittent in nature. It supports dense thickets of Himalaya blackberry, as well as oaks and other species associated with portions of Clover Valley Creek. The drainage traverses the southwestern portion of the Bickford Ranch property, leaves the site and ultimately enters an off-site farm pond. Representative photographs of the drainage accompany this report (Attached).

No California red-legged frogs, or any other amphibians were identified in the drainage during any of the four survey investigations. Two juvenile bullfrogs were identified where the drainage passes underneath Sierra College Boulevard. These individuals were likely migrants from the downstream farm pond off-site.

Clover Valley Creek.

The upper reach of the creek above the reservoir is intermittent, conveying winter flows and seasonal groundwater discharges. Localized areas within the creek bed found to be inundated during site assessment investigations were found to be dry during the July 1999 surveys. Groundwater discharge points were found along the lower most portions of the upper reach. Small pooled areas were evident along an area where the creek channel is bypassed by an adjacent (oxbow) channel. Two small pooled areas were evident during the survey, but water levels within them receded over time. One is surrounded by blackberry growth, and supports a couple of willows, the other is situated in a more open area, a few hundred feet upstream. The drainage again becomes dry until it reaches the reservoir. A small pond, covered with waterfern (*Azolla filiculoides*) and surrounded by cattail (*Typha latifolia*), occurs at the northern most part of the reservoir (most of which is located off-site).

The lower reach of Clover Valley Creek supports a well developed riparian community dominated by various species primarily interior live oak (*Quercus wislizenii*) and blue oak (*Quercus douglasii*) with, valley oak (*Quercus lobata*), buckeye (*Aesculus californica*), poison oak (*Toxicodendron diversiloba*), and Oregon ash (*Fraxinus latifolia*). White alder (*Alnus rhombifolia*), arroyo willow (*Salix lasiolepis*), black willow (*Salix goodingii*), and a few cottonwoods (*Populus fremontii*) occur immediately along the drainage and wetter outlying areas. Much of the creek is lined with thick, expansive stands of Himalaya blackberry (*Rubus discolor*). The relatively dense riparian growth associated with the lower reach of the creek is a direct result of years of supplementary water diversions into the creek from Clover Valley Reservoir and contributing irrigation canals. The creek channel is narrow, and flows can be quite fast; few ponded areas occur on site as a result. Representative site photographs accompany this report (Attached).

No California red-legged frogs, or amphibians of any kind (including larvae) were identified within the lower reach of Clover Valley Creek during any of the four survey investigations. The only aquatic vertebrates observed were a few fish, including Sacramento sucker, mosquito fish, and some additional small fish that were not identified.

Bullfrogs were identified along portions of the upper reach of Clover Valley Creek, as well as within Clover Valley Reservoir itself. A few juveniles and sub-adults were encountered within two small pooled areas within the creek's oxbow diversion channel during both diurnal and nocturnal surveys. Pacific chorus frog tadpoles were also present in one of the pools. Numerous bullfrogs were associated with the nearby reservoir which supports adults and numerous juveniles, sub-adults, and tadpoles. Bullfrog vocalizations were heard frequently.

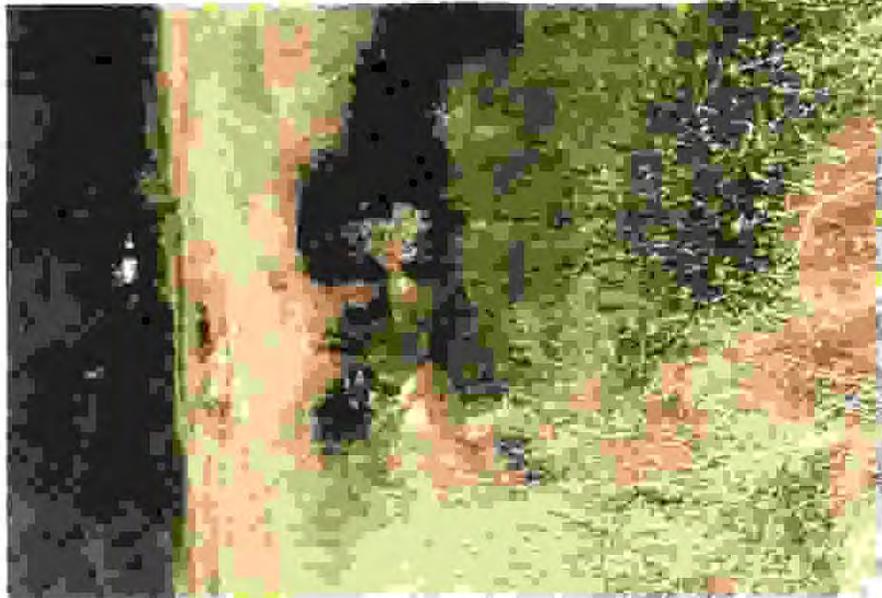
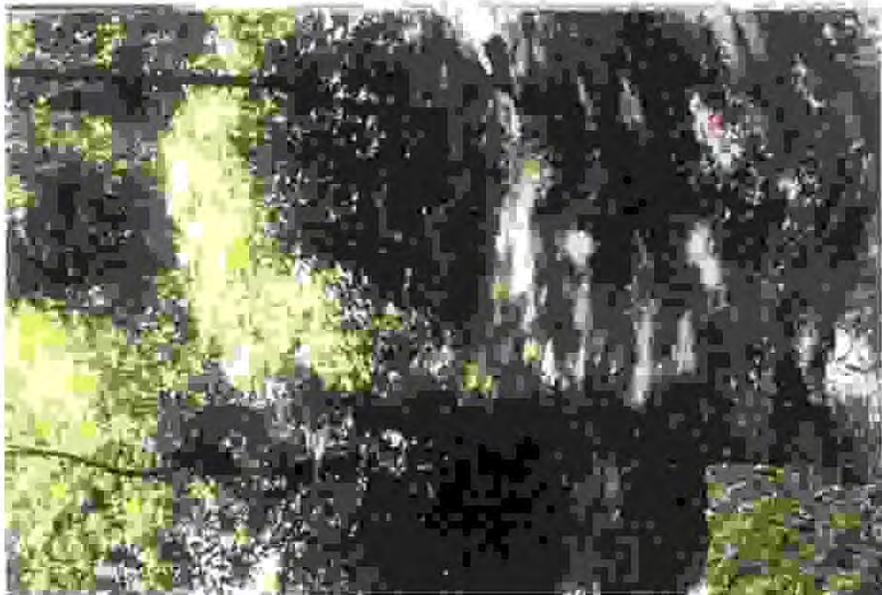
SUMMARY

A determinate-level California red-legged frog survey was conducted within the Bickford Ranch property between July 19 and July 28, 1999. All aquatic habitats on the property were surveyed four times (including two diurnal and two nocturnal surveys) in accordance with U. S. Fish and Wildlife *Guidance on Site Assessment and Field Surveys for California Red-legged Frogs* (dated February 18, 1997)(USFWS 1997).

No California red-legged frogs were encountered during the July 1999 survey program. The only amphibian species encountered on-site were bullfrog (*Rana catesbeiana*) and Pacific chorus frog (treefrog) (*Pseudacris regilla*). Pacific chorus frogs were found in the freshwater marsh/drainage swale area, as well as in a small pool along the upper reach of Clover Valley Creek. Bullfrogs were the most commonly encountered amphibian. Permanent and semi-permanent waterbodies on site, (including both stockponds, inundated portions of the freshwater marsh drainages, and Clover Valley Reservoir) are being used by bullfrogs as breeding areas, from which juvenile frogs disperse to surrounding habitats.

REFERENCES

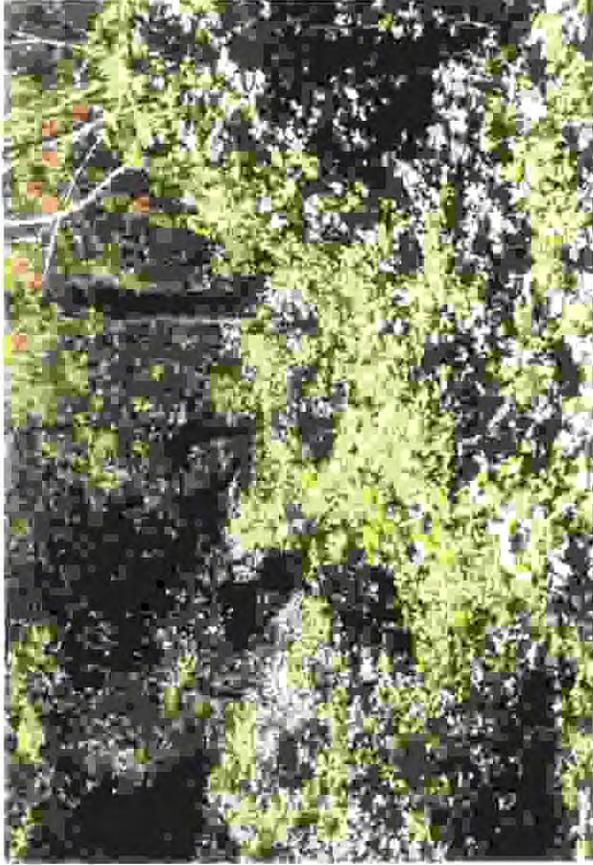
- California Department of Fish and Game. 1999. Natural Diversity Data Base, Computer data base report for "Rocklin, California" and "Gold Hill, California," U.S.G.S. 7.5 minute topographic quadrangles.
- Dains, Virginia I. and Robert F. Holland. 1993, Reconnaissance Plant and Wildlife Survey Report for the Heritage at Bickford Ranch, Placer County, California. Prepared for Rick Haukness, Wickland Properties. November 1, 1993.
- ECORP Consulting, Inc. 1999. California Red-legged Frog Site Assessment for the Bickford Ranch Property, prepared for S.W.D. Holdings, Inc., June 22, 1999.
- Jennings, Mark R. and M. P. Hayes. 1994. *Amphibian and Reptile Species of Special Concern in California*. California Department of Fish and Game. Rancho Cordova, California. 255 pp.
- U. S. Department of the Interior, Geological Survey. 1961. "Rocklin, California," Quadrangle . 7.5 Minute Series Topographic. U.S. Geological Survey, Denver, Colorado.
- U. S. Department of the Interior, Geological Survey. 1953. "Gold Hill, California," Quadrangle . 7.5 Minute Series Topographic. U.S. Geological Survey, Denver, Colorado.
- U. S. Department of the Interior, Fish and Wildlife Service. 1997. *Guidance on Site Assessment and Field Surveys for California Red-legged Frogs*, U.S. Fish and Wildlife Service, dated February 18, 1997.
- U. S. 1996. *Endangered and Threatened Wildlife and Plants;. Determination of Threatened Status for the California Red-Legged Frog* Federal Register 61 (101) :25813.



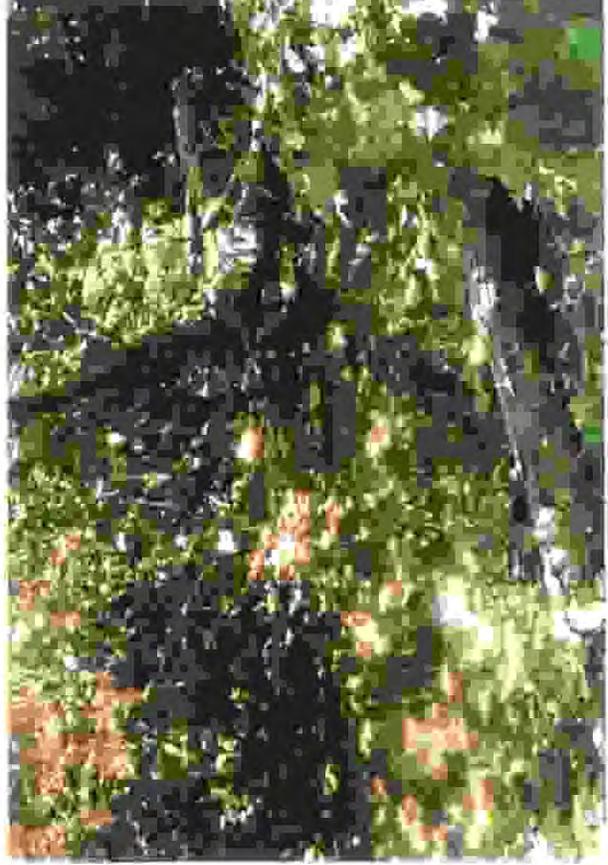
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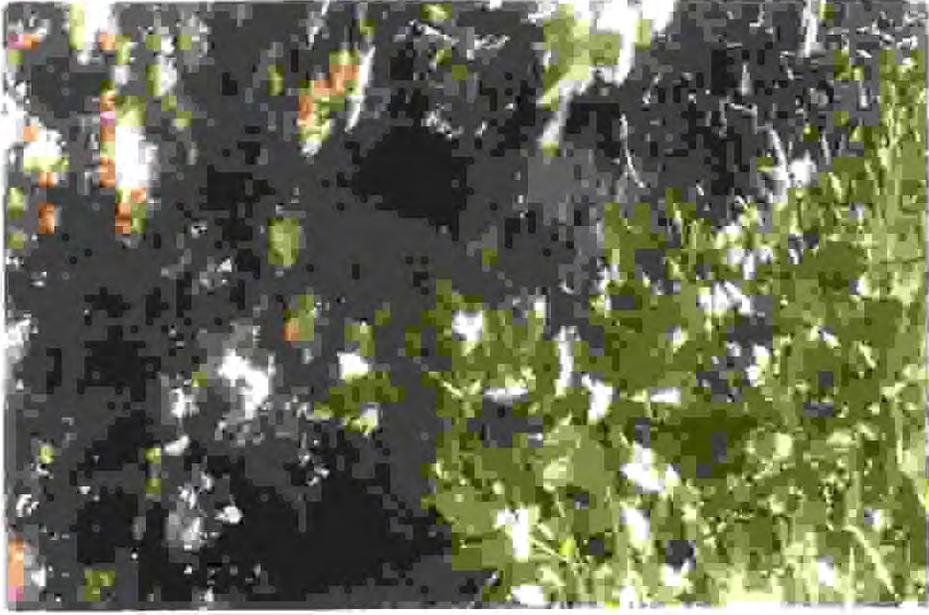
Clover Valley Creek Upper Reach - 7/21/99

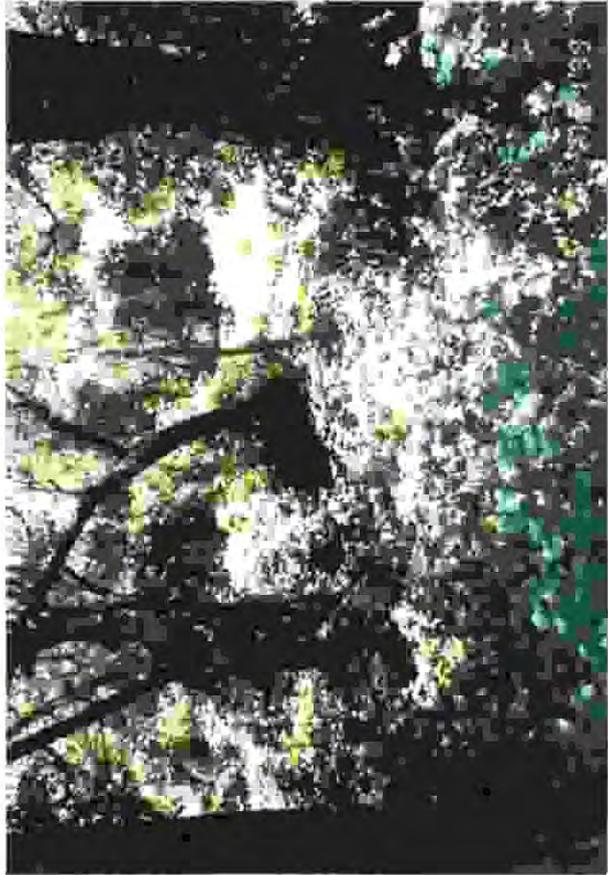
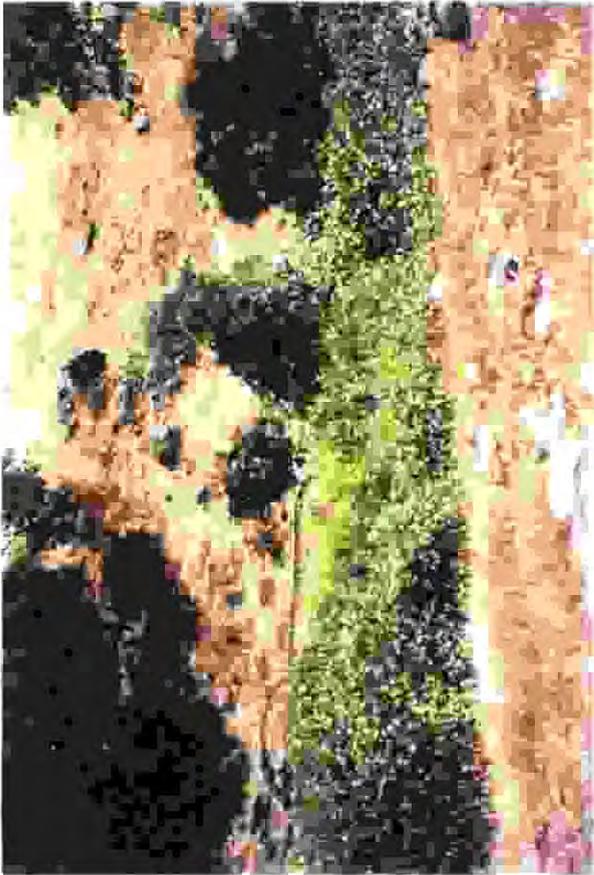


980052 Bickford Ranch



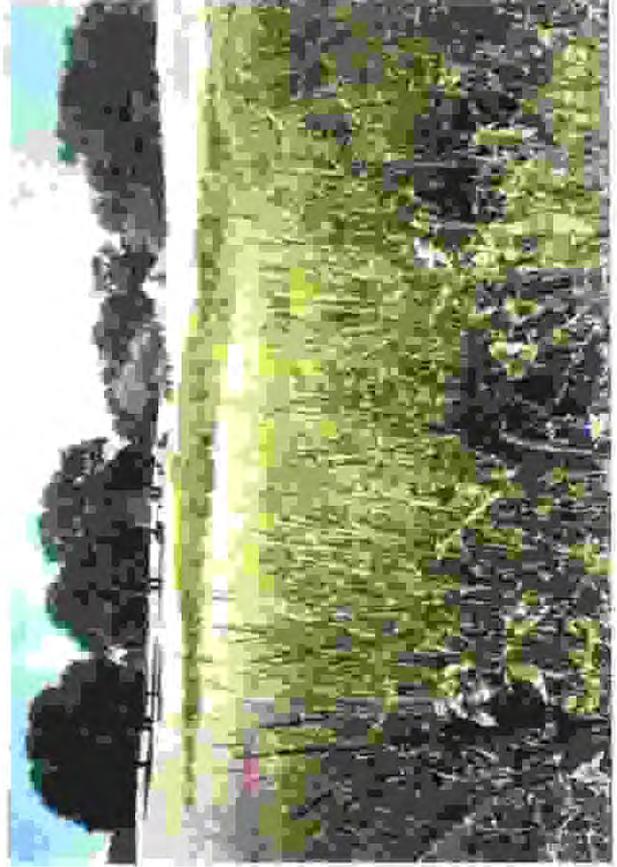
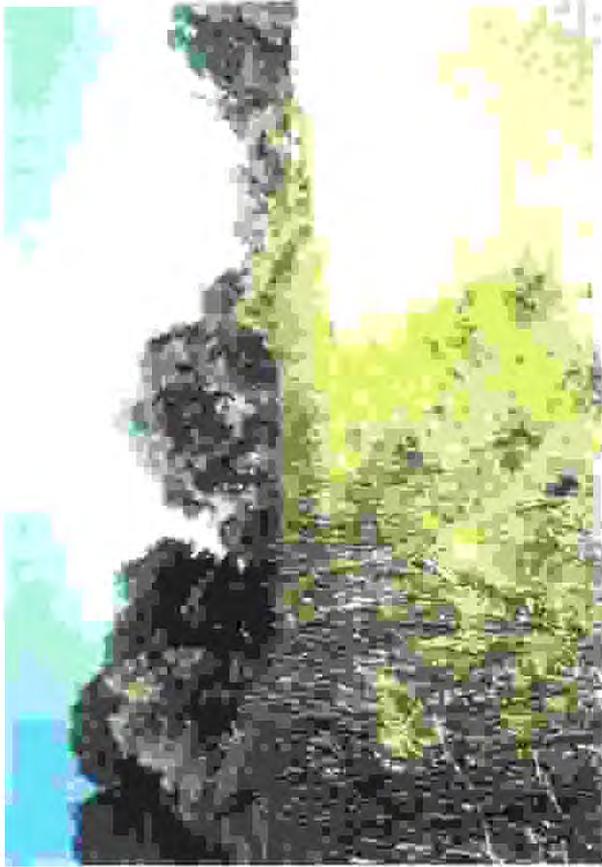
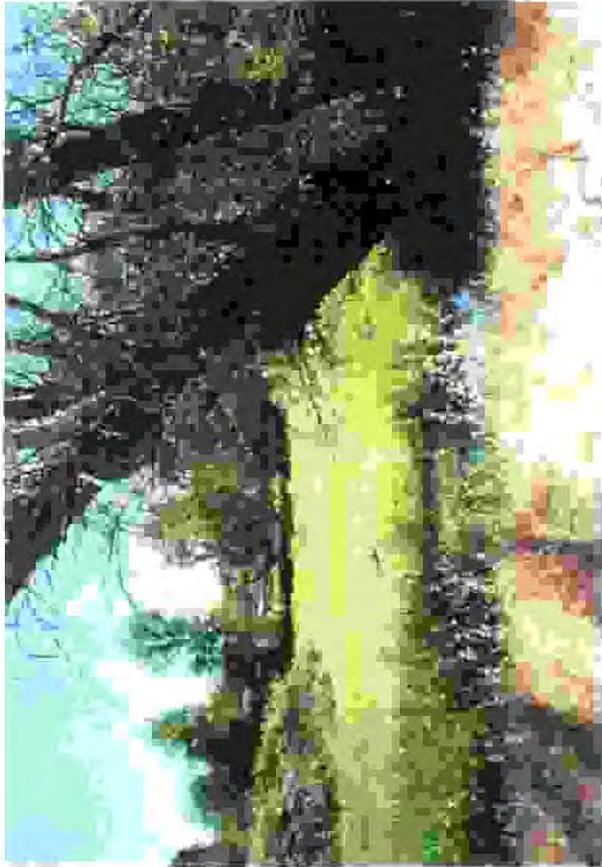
Clover Valley Creek Lower Reach - 7/21/99





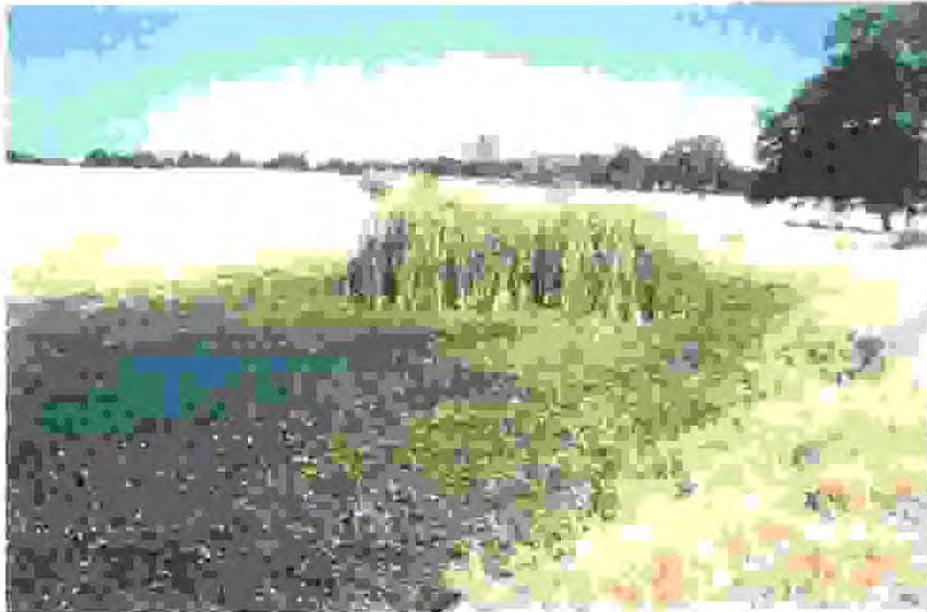
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Western Drainage Area - 7/21/99



980052 Bickford Ranch

Freshwater Marsh / Drainage Areas - 7/21/99



↑ Northern Pond

↓ Southern Pond



Northern and Southern Pond Areas - 7/21/99

Table 1: AMPHIBIANS OBSERVED AT BICKFORD RANCH (July 19-28, 1999)

<u>DATE</u>	<u>TIME</u>	<u>AMPHIBIANS OBSERVED/COMMENTS</u>
7/19/99	9:30-11:00 PM	<p>NORTHERN POND Several bullfrogs observed. (5 adults & 1 juvenile)</p> <p>SOUTHERN POND Numerous bullfrogs observed. (5 adults & 1 juvenile)</p> <p>FRESHWATER MARSH/DRAINAGES Northern Drainage: (no bullfrogs observed) Middle Drainage: (1 juvenile bullfrog and 1 vocalizing adult at the eastern end of the middle drainage). Southern Drainage: (8 juvenile to adult bullfrogs at eastern (headwater) end of the southern drainage).</p> <p>SOUTHWESTERN DRAINAGE No amphibians encountered</p>
7/20/99	9:00-4:30 PM	<p>CLOVER VALLEY CREEK (UPPER REACH) Most of the drainage is now dry. 2 juvenile bullfrogs observed in oxbow depression/pond. Several Pacific Chorus frog tadpoles. 4 juveniles observed in blackberry-lined pooled area. Numerous bullfrog adults, sub-adults, juveniles at reservoir. Approximately 5 bullfrogs in pond at head of reservoir. Numerous large bullfrog tadpoles.</p> <p>CLOVER VALLEY CREEK (LOWER REACH) Surveyed entire drainage and identified five prime survey locations. No frogs observed. Sacramento suckers and mosquito fish in largest ponded area.</p>
7/21/99	10:00-4:00 PM	<p>NORTHERN POND 30+ bullfrogs comprised mainly of juveniles.</p>

		<p>Mosquito fish present as well as four Western Pond Turtles.</p> <p>SOUTHERN POND</p> <p>Approximately 20+ bullfrogs - primarily juveniles with some large adults. Numerous mosquito fish. A few tadpoles observed.</p> <p>FRESHWATER MARSH/DRAINAGES</p> <p>Northern Drainage: Water flowing (0-5 inches deep, typically 1-3 inches). Mosquito fish present. No frogs observed; 1 juvenile chirp heard.</p> <p>Middle Drainage: 20+ bullfrogs (mostly juveniles) at the eastern end. Some bullfrogs vocalizing Mosquito fish present.</p> <p>Southern Drainage: Approximately 30 bullfrogs, mostly juveniles with some larger adults.</p> <p>Southwestern Drainage: No frogs encountered. Swift flows, heavy blackberry cover.</p>
7/22/99	9:10-11:15 PM	<p>CLOVER VALLEY CREEK (UPPER REACH)</p> <p>Oxbow/wet meadow depression with 4 sub-adult bullfrogs. Striped skunk observed near depression. Ponded area above reservoir with 7± juvenile and sub-adults. Several bullfrogs calling at Reservoir.</p> <p>CLOVER VALLEY CREEK (LOWER REACH)</p> <p>No frogs encountered at survey locations. No frogs heard calling. Suckers observed along with smaller unidentified fish.</p>
7/23/99	1:30-4:00 PM	<p>NORTHERN POND</p> <p>22 bullfrogs (primarily juveniles).</p> <p>SOUTHERN POND</p> <p>16 bullfrogs (primarily juveniles with some large adults).</p> <p>FRESHWATER MARSH/DRAINAGE</p> <p>Northern Drainage:</p>

7/26/99	1:30-4:00 PM	<p>3 juveniles Middle and Southern Drainage: 2 adults and 36 juveniles. SOUTHWESTERN DRAINAGE: No amphibians observed.</p> <p>CLOVER VALLEY CREEK (UPPER REACH) Pond/depression has receded to smaller area. Two juveniles encountered. A few Pacific Chorus frog tadpoles observed. 5 subadults in blackberry-lined depression at ponded area near reservoir. Numerous large tadpoles, subadults, juveniles, and adults at Reservoir.</p> <p>CLOVER VALLEY CREEK (LOWER REACH) No frogs observed.</p>
7/27/99	9:30-11:30	<p>NORTHERN POND 6 adult bullfrogs 10 juvenile bullfrogs Numerous mosquito fish.</p> <p>SOUTHERN POND 6 adult bullfrogs 19+ juveniles Water murkier - tadpoles not visible.</p> <p>FRESHWATER MARSH/DRAINAGE Northern Drainage: No frogs observed. Middle and Southern Drainage: 4 adult bullfrogs 2 juveniles 35+ tadpoles 1 Pacific Chorus frog (adult) 4 bullfrogs vocalizing Crayfish and mosquito fish observed.</p> <p>SOUTHWESTERN DRAINAGE No frogs observed on-site; 2 juvenile bullfrogs in drainage on off-site side of Sierra College Blvd.</p>

7/28/99

9:10-11:00 PM

CLOVER VALLEY CREEK (UPPER REACH)

- 2 juveniles in pond/depression.
- 3 juveniles in blackberry depression.
- Numerous 8+ juveniles/subadults at small reservoir pond.
- Several frogs vocalizing at reservoir.

CLOVER VALLEY CREEK (LOWER REACH)

No amphibians observed.