

California Red-Legged Frog (*Rana aurora draytonii*)  
Habitat Assessment  
For  
**Letts Lake (aka Upper Letts Lake)**  
Colusa County, California

May 22, 2009

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# California Red-Legged Frog (*Rana aurora draytonii*) Habitat Assessment for Letts Lake

## CONTENTS

INTRODUCTION.....	1
Proposed Project Description.....	1
Project Setting.....	1
CRF Life History .....	1
Occurrence Information.....	2
METHODS.....	2
RESULTS.....	4
CONCLUSIONS.....	4
REFERENCES.....	5

## LIST OF FIGURES

Figure 1: CRF Habitat Assessment Map, Letts Lake, Colusa County, CA CNDDDB  
Occurrences

## LIST OF APPENDICIES

Appendix A: Qualifications of Surveyors  
Appendix B: Copy of Field Data Sheets  
Appendix C: Site Photos

## **Introduction**

In response to concerns regarding the California Department of Fish and Game (CDFG) fish stocking program, CDFG conducted a habitat assessment for the federally listed (threatened) California red-legged frog (*Rana aurora draytonii*) (CRF) within aquatic and upland habitat associated with Letts Lake, Colusa County.

## **Proposed Project Description**

The CDFG proposes to continue historic fish stocking practices at Letts Lake. Rainbow trout (*Oncorhynchus mykiss*) will be stocked in Letts Lake to provide an increase in recreational opportunities.

## **Project Setting**

Letts Lake is a mesotrophic lake located within the Stony Creek watershed in Mendocino National Forest. The principal outflow of Letts Lake is the south fork of Stony Creek. Letts Lake is situated at an elevation of 4,499 feet above mean sea level, and is approximately 19 miles west of the community of Stonyford in Colusa County. The UTM coordinates for this lake are: Northing: 4350325.0 Easting: 525639.44 Zone: 10S.

## **CRF Life History**

Historically, CRF ranged throughout Pacific slope drainages from Shasta County, California to Baja, Mexico including the Coast range and the west slope of the Sierra Nevada range at elevations below 5000 feet. The current range of CRF has been reduced to areas along the coast range from Marin County to Ventura County with isolated populations persisting at a few locations along the west slope of the Sierra Nevada range. The CRF has experienced a reduction in range and distribution due to habitat fragmentation and loss, harvesting, and introduction of non-native predators including bullfrogs and warm water fishes. Recent studies suggest that the CRF has been extirpated from most of its Sierra Nevada range (Jennings 1996).

CRF breeding habitat is known to include coastal lagoons, marshes, springs, permanent and semi-permanent ponds, ponded portions of streams, and artificial impoundments such as stock ponds and irrigation ponds. Vegetation associated with CRF includes *Typha*, *Scirpus*, willow, and other riparian vegetation.

However, a lack of vegetation does not preclude presence. CRF breed from November through April and complete metamorphosis by the end of summer (Jennings and Hayes 1994, USFWS 2005).

Dispersal from breeding grounds occurs during the summer and proceeds through the fall. Individuals may seek shelter in emergent vegetation, undercut banks, root balls, or small mammal burrows in and adjacent to aquatic habitats. Excursions through upland habitat for dispersal, foraging, and protection begin with the first fall rains. Movements of CRF have been documented covering distances up to 2 miles without regard to topography, vegetation type, or riparian corridors (USFWS 2005).

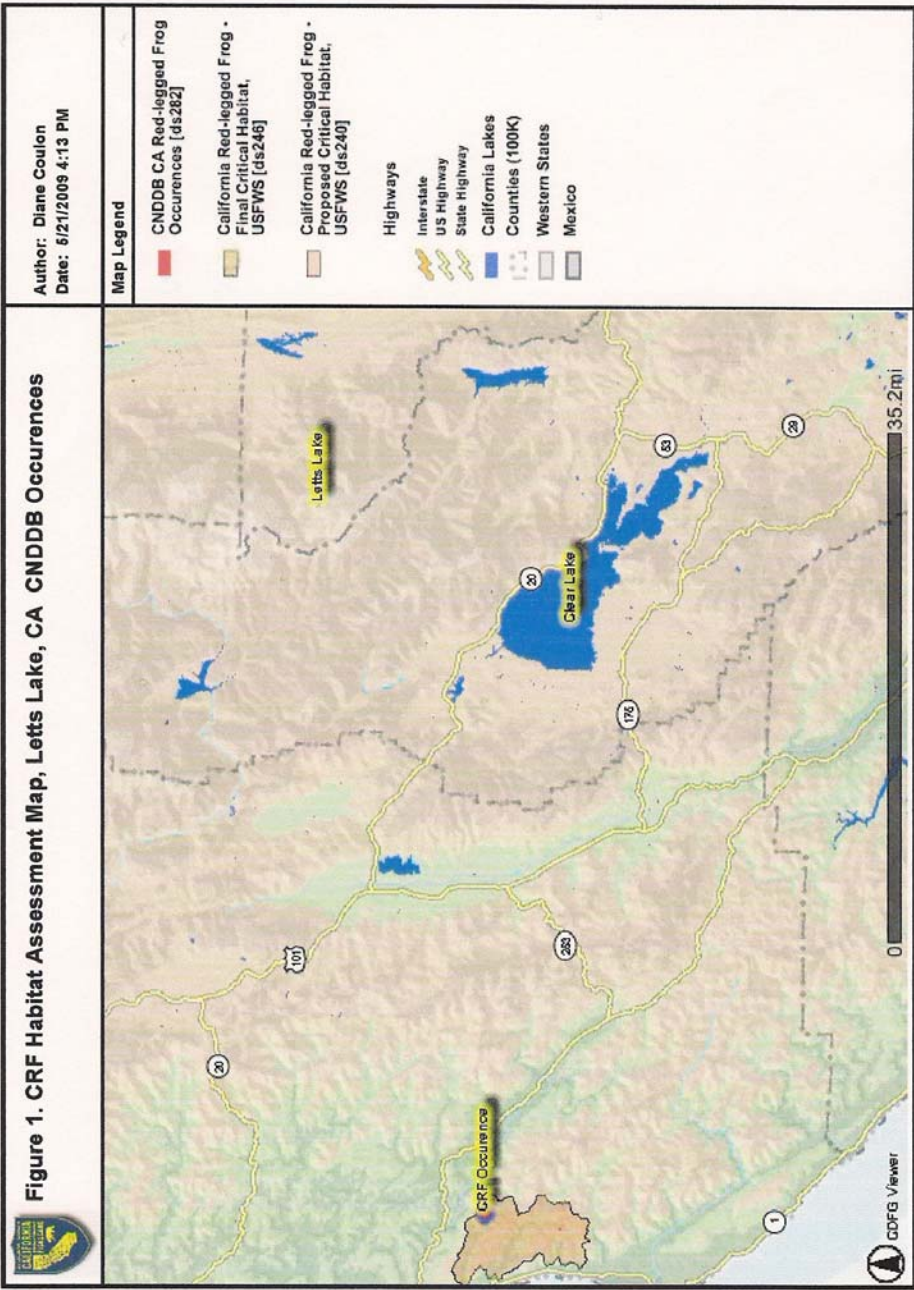
On May 23, 1996 the United States Fish and Wildlife Service (USFWS) classified CRF as a threatened species. USFWS created a final recovery plan on September 12, 2002. Part of the recovery plan required designation of critical habitat for the CRF. A final area of critical habitat was designated on April 13, 2006. Designated critical habitat for CRF is located in Alameda, Butte, Contra Costa, El Dorado, Kern, Los Angeles, Marin, Merced, Monterey, Napa, Nevada, San Benito, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Solano, Ventura, and Yuba counties, California.

### **Occurrence Information**

Letts Lake is located within the historic range of CRF. No CRF critical habitat is in the vicinity of the lake. A CNDDDB review for occurrences of CRF near Letts Lake found that the nearest documented occurrence of CRF to Letts Lake is located approximately 50 miles southwest in Greenwood Creek in Point Arena, Mendocino County (Figure 1: CRF Habitat Assessment, Letts Lake, Colusa County CRF CNDDDB Occurrences).

### **Methods**

On May 15, 2009, CDFG biologists Diane Coulon, Kevin Thomas and Clint Garman conducted a habitat assessment for CRF within aquatic and upland areas associated with Letts Lake. Surveyor qualifications for conducting habitat assessments for CRF are provided in Appendix A. The Letts Lake area was evaluated for the presence of suitable breeding and dispersal habitat for CRF. Habitat suitability was determined in accordance with the 2005 USFWS *Revised Guidance on Site Assessments and Field Surveys for the California Red-Legged Frog* (USFWS 2005). Information collected during the habitat assessment include data on the following characteristics: aquatic habitat type, aquatic features such as size and depth of pond, aquatic and riparian vegetation communities, shoreline features, presence of predator species, surrounding land use, barriers to CRF movement, and presence of CRF required habitat for breeding and dispersal. Data sheets for the habitat assessment are provided in Appendix B.



## Results

Letts Lake is a 33 surface-acre impoundment created in the early 1950's. The lake has an average depth of six feet and a maximum depth of 18 feet.

The dominant upland vegetation communities within the project area consist of mixed conifer forest and coastal oak woodland with a woody/herbaceous understory. The conifer forest consists of ponderosa pine (*Pinus ponderosa*), sugar pine (*Pinus lambertiana*), and white fir (*Abies concolor*), the coastal oak woodland consists of California black oak (*Quercus kelloggii*), and small numbers of scattered willows (*Salix sp.*) near the banks. The woody understory includes manzanita (*Arctostaphylos manzanita*), and California bay laurel (*Umbellularia californica*). The herbaceous understory includes but is not limited to sedge (*Carex sp.*) and blackberry (*Rosaceae sp.*). Emergent vegetation consists of cattails (*Typha latifolia*), and horsetail (*Equisetum hyemale*).

Largemouth bass (*Micropterus salmoides*), and bluegill (*Lepomis macrochirus*) were visually observed from the shore, as was a muskrat (*Ondatra zibethicus*).

Land use around Letts Lake consists of approximately 40 tent /RV camping sites and a small dirt boat launch on the south side of the lake. There is a 1.4 mile hiking trail around the lake and numerous picnic areas with picnic tables along the trail.

Representative site photos are provided in Appendix C.

## Conclusions

Letts Lake provides fishing, recreation and non-motorized boating opportunities for campers and day-use visitors. Habitat characteristics associated with aquatic and upland areas of Letts Lake include coarse sandy banks and a hiking trail surrounding the pond. Leaf-litter and woody debris are present in some areas and could be used for cover. Emergent vegetation (cattails and horsetail) is present in approximately 20% of shoreline. Minimal amounts of shaded areas on the lake are provided by overhanging vegetation.

In an effort to control a thriving golden shiner (*Notemigonus chrysoleucas*) population, the Department of Fish and Game chemically treated Letts Lake with rotenone in 1965, 1976, and again in 1978 unsuccessfully, before trying biological control, namely bass, catfish and bluegill. The warmwater fish preyed upon most of the shiners and that species is no longer present in large numbers. It is likely that predatory fish play a significant role in the decline of native ranid frogs (Hayes and Jennings 1986). Based on the habitat requirements for presence, breeding, and dispersal of CRF the CDFG does not consider Letts Lake to be a suitable habitat for this species.

## References

Hayes, M. P. and M. R. Jennings. 1986. Decline of ranid frog species in western North America: are bullfrogs (*Rana catesbeiana*) responsible? *Journal of Herpetology* 20 (4): 490-509.

Hayes, M. P. and M. R. Jennings. 1988. Habitat correlates of distribution of the California redlegged frog (*Rana aurora draytonii*) and the foothill yellowlegged frog (*Rana boylei*): implications for management. In Management of amphibians, reptiles, and small mammals in North America. eds R. C. Szaro, K. E. Severson and D. R. Patton. Gen. Tech. Rep. RM166. USDA Forest Service, Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO. pp. 144-158.

Jennings, M.R. 1996. Status of Amphibians. Sierra Nevada Ecosystem Project: Final report to Congress, vol. II, Assessments and scientific basis for management options, chapter 31, pages 921-944.

Jennings, M.R. and M.P.Hayes. 1994. Amphibian and reptile species of special concern in California. Final report to the California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, California. 225 pp.

U.S. Fish & Wildlife Service. 2005. Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog. Appendix A: California red-legged frog ecology and distribution.

## **Appendix A: Qualifications of Surveyors**



## Kevin Thomas

### Environmental Scientist, California Department of Fish and Game

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Mr. Thomas has over five years of experience in the field of wildlife and aquatic ecology. His expertise is in mammal and avian biology and field ecology, special-status species ecology, and wetland ecology. He has conducted numerous biological resource assessments that have included wetland monitoring, bird censuses, special-status species surveys, general biotic inventories, and mammal population dynamics.

#### Education

**B.S., Biological Sciences, California State University, Sacramento, 2006**

#### Registrations, Certifications, and Affiliations

License/Certification	State	Date	
		Granted	Expires
U.S. Fish and Wildlife Service, Identification/Collection of California Anostraca (#TE-012973-3)	California	10/2007	
CDFG Attachment for bat research (#801149-04)	California	5/2007	5/18/2009
CDFG Scientific Collecting Permit (#801149-04)	California	5/2005	5/18/2009
U.S. Fish and Wildlife Service, Avian Recovery/Salvage Permit (#MB164053-0)	California	9/2007	3/31/2010

- Career Certificate, Field Ecology, Sacramento City College, Sacramento, 2004
- Western Bat Working Group
- The Wildlife Society
- American Fisheries Society

#### Professional Experience

##### Special Status Species Assessments

Mr. Thomas conducts field surveys and prepares documents of findings for special-status animals that include vernal pool fairy shrimp, vernal pool tadpole shrimp, giant garter snake, western pond turtle, western spadefoot toad, California red-legged frog, California tiger salamander, and riparian brush rabbit. He uses California Department of Fish and Game and U.S. Fish and Wildlife Service approved survey protocols to conduct the habitat assessments, field surveys, and reporting. Example projects include:

- California red-legged frog habitat assessment: Rocklin 60, Placer County, California
- California red-legged frog habitat assessment: Indian Springs, Placer County, California
- California red-legged frog, western spadefoot toad and California tiger salamander habitat assessment and surveys: KRC, Calaveras County, California
- California tiger salamander habitat assessments and surveys: Private Land, Napa County, California
- Vernal pool fairy shrimp, and western spadefoot toad surveys: Placer Ranch, Placer County, California
- Vernal pool fairy shrimp, and western spadefoot toad surveys: Sierra Vista, Placer County, California
- Giant garter snake and riparian brush rabbit surveys: Central Lathrop Robinson Properties, San Joaquin County, California
- Vernal pool fairy shrimp and western spadefoot toad: Placer Vineyards, Placer County, California
- California tiger salamander, vernal pool fairy shrimp, vernal pool tadpole shrimp, and western pond turtle surveys: Clay Station, Sacramento County, California
- Special status species surveys for EIS: Napa State Hospital, Napa County, California

### **Aquatics Surveys**

Mr. Thomas conducts fish surveys using electro-fishing equipment (with backpack, boat, and barge shockers), various nets and electronic transmitters and receivers. He provides support for data collection, analysis and document preparation. Mr. Thomas is also involved in aquatic ecology projects involving benthic macro invertebrates and habitat evaluations. He has been involved in surveys and documents following the CSBP, SWAMP and protocols for sampling vernal pool Anostracan species. Example projects include:

- Summit Creek fish population survey: Served as assistant to lead fisheries biologist and performed electro-fishing, identification, and data collection.
- E" Street Sewer project fish rescue: Assisted lead fisheries biologist in fish rescue, identification, and data collection.
- Weber Creek sediment spill/cleanup monitoring: Primary sample sorter for final two years of monitoring effort.
- Butte Creek sediment spill/ monitoring: Primary sorter for second year of monitoring.
- Mayacama Golf Club monitoring: Primary sorter for final year of monitoring.
- Mallard Reservoir monitoring: Primary sorter for strata sampling effort in reservoir, and assisted in some identification.
- Suisun Marsh pipeline break: Primary sorter for all samples collected, and assisted in some identification.
- Arroyo Burro Estuary: Primary sorter for all estuary samples, assisted in identification of benthic macro invertebrates.
- Sierra Vista site-specific plan: Served as lead wetland (vernal pool, seasonal wetland) sampler including habitat analysis and species identification.
- Placer Vineyards site-specific plan: Served as assistant to lead wetlands ecologist in sampling and species identification for wetland features.

- Santa Barbara Airport tidal marsh restoration: Primary sorter for all benthic samples collected, assisted in identification of specimens
- Santa Barbara Airport Tidewater Goby rescue: Captured and identified fish for relocation within watershed per USFWS guidelines.
- Southern California Edison FERC relicensing: Fish population survey and habitat evaluations along the North Fork Kern River.
- Bay Planning Coalition, ACOE, NMFS, and UC Davis San Francisco Bay salmon and steelhead acoustic tracking: Cooperative effort to tag salmon and steelhead for tracking movements through San Francisco Bay with strategically placed receivers.
- Fiddyment 44: Assistant for fish relocation: served in capturing, identification, and data collection to lead biologist.
- PG&E Mokelumne River FERC monitoring: electro-fishing and snorkel surveys for fish population structures, BMI sampling using SWAMP procedures.

### **Mammals Surveys**

Mr. Thomas conducts field surveys, analyzes data, and prepares documents for mammal species throughout California. His primary studies include the ecology and conservation of California bats. He has been involved with numerous studies throughout California, Arizona, and Belize identifying species ecological characteristics. He uses California Department of Fish and Game and U.S. Fish and Wildlife Service approved survey protocols to conduct the field surveys and reporting. He is also a crew leader for an ongoing study of the population dynamics of the ringtail (*Bassariscus astutus*) in the Sutter Buttes mountain range, California. Mr. Thomas has also assisted on numerous small mammal trapping efforts within the Mojave and Sonoran Deserts and other locations in California and Arizona. Various rodents captured have included squirrels (*Citellus sp.*), deer mice (*Peromyscus maniculatus*), voles (*Microtus sp.*), woodrats (*Neotoma sp.*), and various heteromyids {e.g. pocket mice (*Perognathus*). Example projects include:

- Population Dynamics of the Ringtail (*Bassariscus astutus*) In the Sutter Buttes, California
- Ecology of Belizean bats, Belize (Captured and identified *Eumops hansae* the first record for Belize extending its known range over 200 miles)
- Bickford Ranch, Placer County, California, Five year acoustic monitoring survey following bat population changes during construction of a residential neighborhood
- Bat surveys:
  - Olema Creek, Marin County, California
  - Sutter Buttes, Sutter County, California
  - Desert Studies Center, Mojave Desert, California
  - Sierra Nevada Mountains, Sierra County, California
  - Madera Canyon, Afton Canyon, Cochise Stronghold, Arizona
  - Greenhorn Villages Golf Course, Angels Camp, California

### **Avian Surveys**

Mr. Thomas conducts field surveys and prepares documents of findings for nesting raptors that include Cooper's hawk, Swainson's hawk, red-tailed hawk, red-shouldered hawk, American kestrel, burrowing owl, and great horned owl. In addition Mr. Thomas

has used exclusion techniques for the relocation of Burrowing Owls including burrow inspections using a peeper camera. He uses California Department of Fish and Game and U.S. Fish and Wildlife Service approved survey protocols to conduct the field surveys and reporting. Example projects include:

- Bickford Ranch, Placer County, California: Team leader for raptor nest surveys.
- Clay Station, Sacramento County, California: Team leader for bird nest survey.
- Central Lathrop Robinson Properties, San Joaquin County, California: Team leader for burrowing owl inspection and passive relocation.
- Moore Road Widening, Placer County, California: Bird nest survey.
- Fiddymont 44, Placer County, California: Raptor nest survey.
- Sea Breeze II, San Joaquin County, California: Team leader for burrowing owl passive relocation.
- Travis Air Force Base, Solano County, California: Bird nest survey, including passive relocation of burrowing owls.
- Granite Construction Company, Sacramento County, California: Bird nest survey.
- County Road 95 at Willow Slough, Solano County, California: Raptor nest survey.
- Purple martin nest monitoring, Sacramento County, California: Monitored reproductive success of purple martins in the central valley using cameras with digital recording devices.
- White Mallard Duck Club, Colusa County, California: Conducted raptor nest survey.

### **Professional Development Courses**

- California Red-legged Frog Training, Point Reyes National Seashore, Marin, California 2009
- Adult CPR/First Aid, California Department of Fish and Game, Sacramento, California 2009
- Boating Safety, California Department of Boating and Waterways, Sacramento, California 2008
- Bat Conservation International Acoustic Monitoring workshop, Mammoth Cave Kentucky 2007
- U.S. Fish and Wildlife Southwestern Willow Flycatcher workshop, Kern County California 2007
- ATV Safety Training, 2006
- Ecology of California Bats, San Francisco State Sierra Nevada Field Research Station, California 2006
- Wildlife Society Bat Management Symposium, California 2005
- California Anostraca and Notostraca Identification Class, Mary Schug Belk, 2005

**Coulon, Diane**  
Environmental Scientist

**Training and Development Courses**

California Red-legged Frog Training, Dr. Gary Fellers and Patrick Kleeman, Instructors, Point Reyes National Seashore, Marin, California. February 2009.

Identification of Freshwater Fish, Davis, CA. April 2002.

Technical Report Writing, Sacramento, California. June 2000.

**Work Experience**

**3/2001 to Present** – Environmental Scientist, Department of Fish and Game  
Glenn-Colusa Irrigation District, Orland, CA

Collection of life history data on emigrating juvenile salmonids, including listed species using a rotary screw trap. Coordinate operation of equipment and fish collections with the Glenn-Colusa Irrigation District and Coleman National Fish Hatchery (CNFH) releases. Provide daily capture information to other agencies, GCID and CNFH for water and hatchery management purposes. Obtain proper permits from NMFS to conduct monitoring of listed species and provide required reports of monitoring activities. Collect and record hydrological data. Incorporate data set into real-time monitoring information. Collect life history data on other species of resident and non-resident fish species. Perform data analyses on data collected. Develop and edit data bases. Create and distribute annual and monthly reports from data collected.

**4/1998 to 2/2001** – Fish and Wildlife Assistant, Department of Fish and Game  
Glenn-Colusa Irrigation District, Orland, CA

Assisted in the operation, repair and maintenance of rotary screw traps, boats, motors, and equipment used in monitoring activities. Collected data, i.e. identify, measure, obtain weight subsample of fish; supplied daily data as to water flows, weather, turbidity of water, etc. Conducted seine surveys of several sites proximal to the GCID fish screen and gradient facility. Provided information to the general public, assisted in maintaining and developing displays on fish screen and fish and wildlife issues. Participated in carcass surveys on the Feather River.

**7/1995 – 3/1998** – Scientific Aide, Department of Fish and Game  
Gray Lodge Wildlife Area, Upper Butte Basin Wildlife Area, and  
Glenn-Colusa Irrigation District

**3/1986 to 11/1992** - Lead Clerical, Department of Fish and Game,  
Inland Fisheries Division, Sacramento, CA

**Clint Garman**  
6115 Someway  
Magalia, Ca. 95954  
(530) 873-3336

**Education:** Humboldt State University; B.S. Wildlife Management  
Chico State University; Range Management classes  
Butte Community College; general education courses

**Experience:** June 2002 – present (**Fishery Biologist**, California Department of Fish and Game)

- Act as a lead and participate in field activities with scientific aids
- Conduct adult spring-run salmon escapement surveys (carcass, snorkel surveys)
- Coded-wire tag juvenile wild spring-run Chinook salmon
- Operate and maintain fish sampling equipment (rotary screw traps and coded-wire tagging equipment)
- Recover coded-wire tags, decode, and analyze
- Sample and archive tissue for DNA analysis
- Assist with data management, data entry and database maintenance
- Assist with the preparation of written reports and oral presentations to various constituent groups
- Experience using ArcGis 8.3 software to prepare maps for reports and presentations
- California Red-legged Frog Training, Point Reyes National Seashore, Marin, California 2009

June 1993 – May 2002 (**Fish and Wildlife Asst I/Technician**, California Department of Fish & Game)

- Electroshocked Lake Davis tributaries post rotenone treatment
- Performed light duty welding projects to repair or fix rotary screw traps.
- Conducted fish culture duties at a production/broodstock trout hatchery and at a Chinook salmon/Steelhead hatchery.
- Possessed a class “A” drivers license and responsible for transporting fish to designated lakes and streams throughout the state.
- Collected, identified and enumerated up to 61 species of fish entrained at the John E. Skinner Fish Facility.
- Responsible for compiling data onto datasheets, editing the data, and keypunching the data into a database.
- Operated various power tools and performed maintenance duties such as plumbing, carpentry, landscaping and painting on state owned property.
- Directed and assigned work duties to seasonal employees.

April 1986 – January 1989 (**Scientific Aid**, California Department of Fish & Game)

- Responsible for creel censuses on 8 Plumas County, California lakes

- Actively participated with in-stream habitat restoration projects
- Constructed and monitored 120 fyke wire traps for a Brown Bullhead eradication project
- Conducted zooplankton tows and analyzed stomach contents of trout to determine forage base for fish on Lake Almanor

## **Appendix B: Copies of Field Data Sheets**



**Appendix D.  
California Red-legged Frog Habitat Site Assessment Data Sheet**

Site Assessment reviewed by \_\_\_\_\_  
(FWS Field Office) (date) (biologist)

Date of Site Assessment: 05/15/2009  
(mm/dd/yyyy)

Site Assessment Biologists: Coulson Diane Garman Clint  
(Last name) (first name) (Last name) (first name)

Thomas Kevin \_\_\_\_\_  
(Last name) (first name) (Last name) (first name)

Site Location: Letts Lake Colusa County  
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

**\*\*ATTACH A MAP** (include habitat types, important features, and species locations)\*\*

Proposed project name: Letts Lake  
Brief description of proposed action:  
CDFG proposes to continue fish stocking at Letts Lake. Rainbow trout stocked annually

- 1) Is this site within the current or historic range of the CRF (circle one)? YES NO  
2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO  
If yes, attach a list of all known CRF records with a map showing all locations.

**GENERAL AQUATIC HABITAT CHARACTERIZATION**  
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:  
Size: \_\_\_\_\_ Maximum depth: \_\_\_\_\_  
Vegetation: emergent, overhanging, dominant species: \_\_\_\_\_  
\_\_\_\_\_  
Substrate: \_\_\_\_\_  
\_\_\_\_\_

Perennial or Ephemeral (circle one). If ephemeral, date it goes dry: \_\_\_\_\_

**California Red-Legged Frog Habitat Assessment Form**

**General Information**

Observers: Coulon, Gorman, Thomas Site #: \_\_\_\_\_ Location: LeHS Lake  
 Date: 5-15-09 Time: 1030 Elevation: 4499 feet  
 Additional: \_\_\_\_\_

**Aquatic Habitat**

Pond ( <u>Lake</u> )	Temporary	<u>Permanent</u>	Size: <u>33 max surface (acres)</u>
Stream	Temporary	Permanent	<u>345 max acre-feet (volume)</u>
	Pools No Pools	Size:	Depth: <u>18 ft. max</u>
	% Riffles:	Stream Gradient	
Pools (along stream)	Temporary	Permanent	Size/Depth:

Comments: lake number: 52226003  
 principal inflow T. Stony creek  
mesotrophic lake

cold water fishery RT

**Aquatic Features**

Size (meters)	Width: _____	Length: _____	
Depth (meters)	Maximum: <u>15 ft</u>	Minimum: _____	Average: <u>6 ft</u>
Est. Flow (CuFt/sec):		Turbidity: <u>Low (clear)</u>	Moderate High
Shade on water (mid-day)	<u>15 %</u>	<u>Canopy</u>	Floating
Emergent Vegetation	% Cover: <u>20%</u>	Type: _____	
Submerged Vegetation	% Cover: <u>&lt; 5%</u>	Type: _____	
Basking Sites	Absent <u>Present</u>	Type: <u>fallen logs</u>	Abundance: H M <u>L</u>
Substrate (%)	Silt/Mud <u>60</u> Sand <u>20</u>	Gravel <u>20</u> Cobble	Boulder Bedrock

Comments: \_\_\_\_\_

**Shoreline Features**

Overhanging Vegetation	% Cover: <u>15</u>	Type: <u>willow</u>
Undercut Banks	<u>Absent</u> Present	Abundance: H M L
Mud/Sand Banks	Absent <u>Present</u>	Abundance: H <u>M</u> L
Rootballs	Absent Present	Abundance: H M <u>L</u>
Bank Gradient	Range (degrees): _____	<u>Low</u> Medium High

Comments: \_\_\_\_\_

**Terrestrial Habitat and Features**

Cover (within 50 ft)	% Cover: <u>50%</u>	Type: _____
Burrows/Cover Objects	Absent <u>Present</u>	Type: <u>leaf litter, fallen logs</u> Abundance: H <u>M</u> L
Logged:	Yes <u>No</u>	Amount: H M L Impacts: _____
Grazed:	Yes <u>No</u>	Amount: H M L Impacts: _____

Comments: \_\_\_\_\_

**Wildlife Observed**

Amphibians: \_\_\_\_\_ Fish: LM 10, B4

Other: muskrat

Comments: mallard ducks, osprey

## **Appendix C: Representative Site Photos**



Letts Lake West Shore



Letts Lake East Shore



Letts Lake South Shore