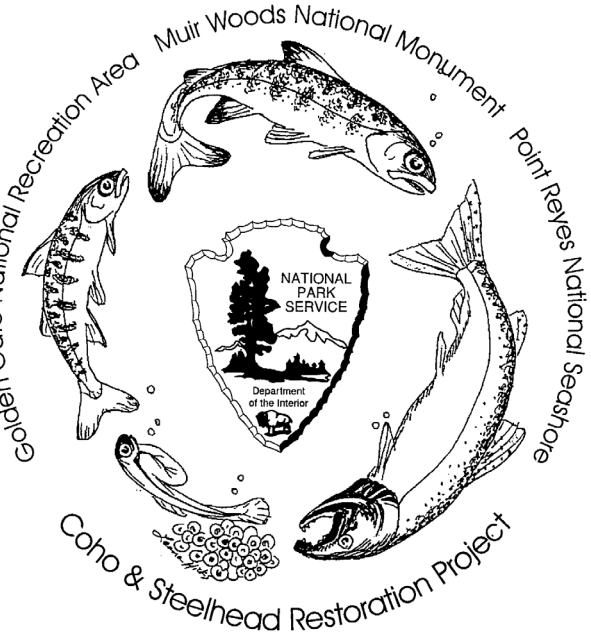
Coho and Steelhead Restoration Project

Annual Section 10 Permit Report
July 1, 2000 - June 30, 2001



NATIONAL PARK SERVICE
Point Reyes National Seashore
Golden Gate National Recreation Area
Muir Woods National Monument

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2000-2001 COHO SALMON SECTION 10 PERMIT REPORT
PERMIT #1046

GOAL / PURPOSE OF SAMPLING

The National Park Service (NPS) implemented a long term watershed restoration project in response to the Federal Endangered Species Act listing of coho salmon (*Oncorhynchus kisutch*) and steelhead trout *(O. mykiss*) along the central California coast. The Coho and Steelhead Restoration Project (CSRP) is a five year cooperative effort between Golden Gate National Recreation Area, Muir Woods National Monument, and Point Reyes National Seashore in western Marin County. The objectives of the CSRP are:

- Collect baseline data on the abundance and distribution of threatened juvenile, outmigrant, and adult salmonids;
- collect baseline watershed and habitat data;
- identify and implement habitat restoration projects; and
- develop and implement long term habitat and fish abundance monitoring programs.

The CSRP began monitoring trends in fish abundance and distribution to prioritize habitat restoration efforts in the Olema, Lagunitas, Pine Gulch, and Redwood Creek watersheds in 1997 (Figure 1). Field sampling continued during the 2000-2001 period and covered select areas in each watershed (Table 1). To date our efforts have focused on filling gaps in current knowledge and extending existing data sets. Adult spawner surveys are conducted during the fall and winter, juvenile abundance is estimated during summer, and fish distribution is assessed year round in large portions of each watershed. Smolt emigration is monitored in the spring on selected streams. Physical habitat measurements, including water quality and hydrologic characteristics, are collected in conjunction with each survey. In addition, interviews with long time residents and searches in archives have been conducted in an attempt to establish historical trends. Intensive fish sampling will continue for the next year and a long-term monitoring plan will be developed based on the results.

This report presents data from sampling pursuant to permit #1046 for threatened coho salmon. The CSRP has applied to the National Marine Fisheries Service (NMFS) for a section 10 permit to take threatened steelhead trout and this report includes data for both species. The format of the report follows a NMFS document attached to permit #1046 dated August 1, 1997.

SAMPLING ACTIVITIES

Spawner and Carcass Surveys

Coho salmon spawner surveys were conducted December 2000 through March 2000 in the Lagunitas, Olema, Pine Gulch and Redwood Creek watersheds. Occasional steelhead adults were observed and counted incidental to coho observations. Surveys on Redwood Creek occurred approximately every 2 weeks during favorable weather and stream flow

conditions, with less frequent surveys on other creeks and during less favorable conditions. Surveys were conducted by trained volunteers and CSRP staff. Survey protocol involved walking upstream along creek margins and banks where possible and looking for carcasses or live fish. Typically, teams of 2 people surveyed reaches of 2-4 km in length. Live fish were identified to species and assigned to approximate size classes. Salmonid carcasses were handled to collect length, weight, and sex. When possible, scales and tissues from the operculum were collected for future genetic work. Take during spawner surveys consisted of occasional disturbance of adult fish. Particular care was taken not to disturb redds or actively spawning adults.

Smolt Trapping

Smolts and other juvenile salmonids were sampled from March-June 2001 on the John West fork (formerly called Blueline Creek) of Olema Creek using a downstream migrant pipe trap. The pipe traps used by the CSRP are designed to minimize impingement under high flows and in-trap predation of fry by larger juvenile salmonids and other fish. The traps operate by impounding water behind a weir constructed of 13 mm square-mesh metal screen, fence posts, rocks, and sand bags that span the entire width of the stream. Flow is directed into a series of 6.2 m long, 20 cm diameter PVC pipes. To decrease water velocity, the pipe empties onto a slanted, perforated metal ramp. The ramp is connected to a 125 x 74 x 50 cm live box constructed of plywood and 3 mm metal mesh screen. The live box is situated in a shaded pool, and contains rocks, vegetation, and a 13 mm mesh divider screen to provide cover and refugia for fry. In addition, the weir contains a notch that allows any late spawning adult steelhead to migrate upstream unimpeded.

The trap was operated 24 hours per day, flow permitting, and checked once daily. We were primarily interested in salmonid smolts, parr, and fry but the numbers and lengths of all captured fish were recorded. Stream temperature and water level were recorded when the trap was checked. All 1+ salmonids were anesthetized with carbon dioxide, fork length measured to the nearest mm, and weighed to the nearest 0.1 g. Anesthetized fish were allowed to recover fully in an aerated “recovery bucket” before release. Fry were identified to species, counted, and a subsample measured.

Sources of mortality included fish becoming stranded on the ramps, predation of fry by larger fish, and general stress and trauma to fry during trapping and handling. The first source was minimized by carefully checking the traps daily and making adjustments as needed to ensure adequate flows across the ramp to prevent stranding. Fry mortality was minimized by providing adequate refugia in the trap box, and by netting, handling, counting, and releasing them as expeditiously as possible. Fry were also kept in separate aerated holding buckets before and after handling to avoid predation by larger fish Despite the divider screens in each live box, many of the fry remained in the unscreened areas and were subject to predation. Some of the 1+ steelhead captured had distended bellies or regurgitated fry during handling. Since it was not possible to quantify fry mortality due to predation, it is not included in the take figures. Protocols called for suspending trap operations if either smolt or fry mortality exceeded five percent during a one week period. Overall juvenile mortality levels were 0.9% for steelhead and 0.3% for coho. All mortalities were fry except two steelhead parr.

Large numbers of coho fry were captured during spring 2001 pipe trapping activities, accounting for over 92% of the total fish trapped. When it became apparent that the allowable take for juvenile coho might be exceeded, the CSRP contacted NMFS to inform them of the situation. Several options were discussed, including modifying the trap to allow fry to pass through uncaptured, or ceasing trapping activities altogether. It was decided that the value of the information collected (an accurate census of the relative productivity of the creek) merited continued trapping. Altogether 6500 coho fry were trapped on the John West fork, compared to 14 in 2000, none in 1999, and 654 in 1998. This represents a tenfold increase in productivity from the previous run of this year class in 1998, probably due in large part to culvert modifications in 1999 which facilited access to over one kilometer of upstream spawning habitat.

Index Site Electrofishing

During the summer and fall of 2000, the CSRP conducted electrofishing surveys of eight index sites on the Olema Creek mainstem, 3 sites each on the John West Fork and Quarry Gulch (Olema tributaries), and eight sites on the Pine Gulch mainstem. The index sites were established in 1999 (Olema mainstem) and 2000 (all others) for long-term annual monitoring of juvenile salmonids. Each site consists of a 30-100 meter reach, containing from three to 10 contiguous habitat units. After 2000 it was decided to sample the John West Fork and Quarry Gulch sites earlier in the summer, since they are subject to intermittent flows, so in 2001 they were surveyed in June. Two index sites were also established on Redwood Creek in October 2000 and sampled using a combination of snorkeling and electrofishing. The Redwood Creek sites are intended to complement long-term juvenile salmonid monitoring sites established and surveyed by Dr. Jerry Smith of San Jose State University. Index sites were established in the Easkoot Creek watershed (Bolinas Lagoon tributary) to assess effects of instream restoration activities and water appropriation by the local water district on fishery resources.

All electrofishing activities utilized standard multiple pass depletion techniques. Seine nets were used to isolate each habitat unit being sampled. Attempts were made to minimize injuries during electrofishing activities by using new generation electrofishing equipment, accepted sampling and fish handling protocols, and providing adequate training to personnel. CSRP biologists used a state of the art programmable waveform backpack electrofisher (Smith-Root Model 12 B-POW) with an 11-inch ring anode. Fish were captured using either pulsed or straight direct current with the minimum voltage, pulse width, and frequency necessary for immobilization. Under most conditions, a setting of P16 (unpulsed DC) at 200 volts was found to be the most effective while preventing injury to the fish. A log was kept of all settings, pertinent environmental conditions, and fish response (appendix A).

Captured fish were sedated using carbon dioxide, identified to species and age class, measured, and weighed. Some individuals were handled to collect fin clips or scale samples for age and/or genetic analysis. Fish were kept in aerated holding buckets before and after handling, and allowed to recover fully before being released.

Potential sources of mortality or injury included general stress during capture and handling, respiratory failure, and hemorrhaging or spinal injuries associated with shocking. If a pattern of mortality or injury was recognized, techniques were altered to reduce impacts. As during smolt trapping activities, the smaller salmonids were kept in separate buckets from sculpin and other fish to prevent predation. Total mortality rates associated with electrofishing surveys for the reporting period were 0.3% for coho and 0.6% for steelhead.

Intermittent Pool Electrofishing

In addition to the index sites, several of the intermittent tributaries of Olema Creek were electrofished during spring 2001 as they were drying up to determine numbers of potentially stranded fish. Intermittent, isolated pools on the John West Fork yielded nearly 2000 additional coho fry (in addition to those captured in the pipe trap). As of October 2001 NMFS has modified the CSRP's permit to allow for moving stranded salmonid juveniles to stream reaches not subject to dessication.

Snorkel Surveys

The two index sites established by the CSRP on Redwood Creek in October 2000 were sampled with a combination of snorkeling and electrofishing . For the snorkel surveys, a single diver typically made one or more snorkel passes in each selected habitat unit to count the different salmonid species and size or age classes. Standard dive lights were used to search undercut banks and woody debris for fish. Occasional second passes were made in large or complex pools. The potential for injury or mortality from snorkel observations is minimal. No handling of fish occurs from snorkel observations, and only minimal disturbance/ harassment occurs. A single event snorkel survey was conducted in June 2001 on Laurel Creek, a tributary to Easkoot Creek, which drains to Bolinas Lagoon. The snorkel survey identified dead juvenile steelhead that occurred as a result of creek water appropriation activities.

Other Sampling Activities

In June 2001, biologists from NMFS electrofished parts of Olema Creek and the John West Fork to collect steelhead tissue as part of a genetic study of steelhead from three California ESU's. Juvenile steelhead were captured, sampled, and released. Juvenile coho were also captured but were released without further processing. Since these sampling activities were conducted under a separate permit, take numbers are not included in this report.

DATA AND SAMPLE PROCESSING

All field data is entered into a Microsoft Access database, and double checked for accuracy and quality control before and after data entry. Take estimates are derived by querying the database for different species, age, and take categories. The estimates are therefore highly accurate, and in most cases represent exact counts of the actual numbers of fish taken in each category. All tissue and scale samples are air dried, catalogued, and stored in a dessicator. Tissue samples are sent to Dr. Carlos Garza at the NMFS Santa Cruz lab for genetic analysis. Scales will be mounted and read in-house for age analysis.

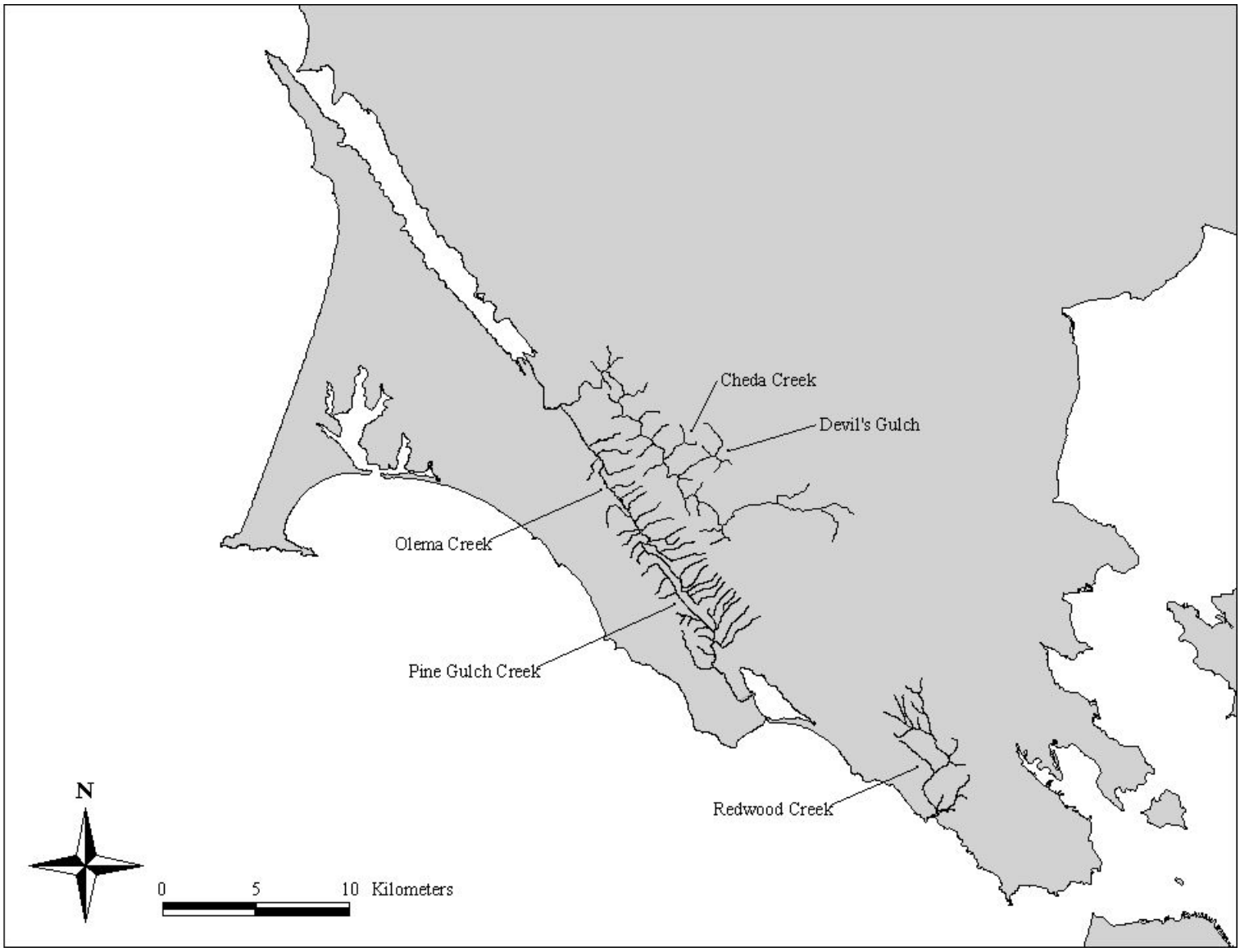

Figure1. Coho and Steelhead Restoration Project watersheds. Marin County, CA.

Table 1. Streams and sampling activities conducted by the National Park Service CSRP during July 2000-June 2001.

Watershed	County	Stream	Activities
Lagunitas	Marin	Cheda Creek	Spawner Survey, Index Site Electrofishing Survey
Lagunitas - Olema	Marin	Olema Creek (mainstem)	Spawner Surveys, Index Site Electrofishing Survey
		John West Fork (aka Blueline Creek)	Spawner Surveys, Smolt Trapping, Index Site Electrofishing Surveys, Intermittent Pool Electrofishing Surveys
		Quarry Gulch	Spawner Survey, Index Site Electrofishing Surveys, Intermittent Pool Electrofishing Survey
		Misc. Intermittent Tribs	Spawner Survey, Intermittent Pool Electrofishing Survey
Redwood	Marin	Redwood Creek (mainstem)	Spawner Surveys, Index Site Snorkel/Electrofishing Survey
		Fern Creek	Spawner Surveys
Pine Gulch	Marin	Pine Gulch (mainstem)	Spawner Surveys, Index Site Electrofishing Survey
Bolinas Lagoon	Marin	Easkoot Creek	Index Site Snorkel/Electrofishing Survey

Table 2. Annual allowable versus actual take of ESA listed central California coast ESU coho salmon by age class 7/00-6/01. Permit #1046

Type of Take	Age Class					
	Juvenile		Adult		Carcass	
	Allowable	Actual	Allowable	Actual	Allowable	Actual
Observe/Harass	44,400	47	1,800	273		
Capture/Handle	5,250	9,657*			200	114
Capture/Handle/Mark	2,625	3				
Indirect Mortality	236	25				

*see discussion p. 3

Table 3. National Park Service CSRP annual take of coho salmon and steelhead trout by stream, sampling activity, and age class on the Lagunitas / Olema Creek Watershed; 7/00-6/01.

			Observe/harass				Capture/handle				Capture/handle/mark		Indirect mortality			
			Coho		Steelhead		Coho		Steelhead		Coho	Steelhead	Coho		Steelhead	
Date	Activity	Location	adult	juve	adult	juve	adult	juve	adult	juve	juve	juve	adult	juve	adult	juve
7/20/00-8/16/00	Index Site Electrofishing	Olema mainstem						359		2009				1		18
8/16/00-8/23/00	Index Site Electrofishing	John West Fork (Olema) (aka Blueline Creek)						25		340				0		0
8/23/00-8/24/00	Index Site Electrofishing	Quarry Gulch (Olema)						5		36				0		0
9/12/00-9/19/00	Index Site Electrofishing	Cheda Creek (Lagunitas)						4		362				0		0
12/21/00-2/8/01	Spawner Surveys (4)	Olema mainstem	127		15		67									
1/15/01-2/26/01	Spawner Surveys (4)	John West Fork (Olema) (aka Blueline Creek)	68		3		32									
1/17/01	Spawner Survey	Misc. Olema Tribs	0		0		0									
1/30/01	Spawner Survey	Cheda Creek (Lagunitas)	0		0		0									
3/14/01-6/6/01	Smolt Trapping	John West Fork (Olema) (aka Blueline Creek)						6503		531	3	23		17		5
4/3/01-5/5/01	Intermittent Pool Electrofishing	Olema Creek intermittent tributaries						1		168				0		0
4/17/01-5/21/01	Intermittent Pool Electrofishing	John West Fork (Olema) (aka Blueline Creek)						1968		199				3		3
5/29/01-6/7/01	Index Site Electrofishing	John West Fork (Olema) (aka Blueline Creek)						763		292				4		3
6/20/01	Index Site Electrofishing	Quarry Gulch (Olema)						2		12				0		1
		Totals	195	0	18	0	*99	9630	0	3949	3	23	0	25	0	40

*carcasses

Table 4. National Park Service CSRP annual take of coho salmon and steelhead trout by strream, sampling activity, and age class on the Pine Gulch Watershed; 7/00-6/01.

			Observe/harass				Capture/handle				Capture/handle/mark		Indirect mortality			
			Coho		Steelhead		Coho		Steelhead		Coho	Steelhead	Coho		Steelhead	
Date	Activity	Location	adult	juve	adult	juve	adult	juve	adult	juve	juve	juve	adult	juve	adult	juve
9/6/00-10/12/00	Index Site Electrofishing	Pine Gulch mainstem						0		605				0		1
1/18/01-2/16/01	Spawner Surveys (3)	Pine Gulch mainstem	0		1		*1		0							
		Totals	0	0	1	0	*1	0	0	605	0	0	0	0	0	1

*carcass

Table 5. National Park Service CSRP annual take of steelhead trout by stream, sampling activity, and age class within Bolinas Lagoon Watershed; 7/00-6/01.

			Observe/harass				Capture/handle				Capture/handle/mark		Indirect mortality			
			Coho		Steelhead		Coho		Steelhead		Coho	Steelhead	Coho		Steelhead	
Date	Activity	Location	adult	juve	adult	juve	adult	juve	adult	juve	juve	juve	adult	juve	adult	juve
8/3-4/00	Index Site Electrofishing	Easkoot/Laurel Creeks								292						0
6/1/01	Index Site Snorkel	Laurel Creek				34										0
		Totals	0	0	0	34	0	0	0	292	0	0	0	0	0	0

Table 6. National Park Service CSRP annual take of coho salmon and steelhead trout by strream, sampling activity, and age class on the Redwood Creek Watershed; 7/00-6/01.

			Observe/harass				Capture/handle				Capture/handle/mark		Indirect mortality			
			Coho		Steelhead		Coho		Steelhead		Coho	Steelhead	Coho		Steelhead	
Date	Activity	Location	adult	juve	adult	juve	adult	juve	adult	juve	juve	juve	adult	juve	adult	juve
10/18/00-10/19/00	Index SiteSnorkel/ Electrofishing	Redwood mainstem		47		265		27		272				0		3
12/21/00-3/8/01	Spawner Surveys (5)	Redwood mainstem	78		18		14		1							
1/13/01	Spawner Survey	Fern Creek	0		0		0									
		Totals	78	47	18	265	*14	27	*1	272	0	0	0	0	0	3

*carcasses

Appendix A

Coho and Steelhead Restoration Project
Annual Section 10 Permit Report

July 1, 2000– June 30, 2001

Electrofishing Log

Stream Blueline Creek **Site** culvert **Index Site #** 2 **Date** 08/16/00

Description Stream km 0.2, pools below Hwy 1 culvert

Unit # 1 **Unit Type** LSBo **Temp °C** **Conductivity (µS/cm)**

Comments Boulders are part of streambank restoration project (artificial)

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	273	P16	200	8	10	2
Pass 2	334	P16	200	1	1	1
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** culvert **Index Site #** 2 **Date** 08/16/00

Description Stream km 0.2, pools below Hwy 1 culvert

Unit # 2 **Unit Type** PLP **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	72	P16	200	0	5	1
Pass 2	72	P16	200	0	2	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** culvert **Index Site #** 2 **Date** 08/16/00

Description Stream km 0.2, pools below Hwy 1 culvert

Unit # 3 **Unit Type** PLP **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	140	P16	200	4	55	0
Pass 2	140	P16	200	0	9	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** culvert **Index Site #** 2 **Date** 08/16/00

Description Stream km 0.2, pools below Hwy 1 culvert

Unit # 4 **Unit Type** PLP **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	155	P16	200	3	37	3
Pass 2	130	P16	200	0	6	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** lower **Index Site #** 1 **Date** 08/23/00

Description immediately above mouth

Unit # 1 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	457	P16	200	3	6	3
Pass 2	393	P16	200	0	0	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** lower **Index Site #** 1 **Date** 08/23/00

Description immediately above mouth

Unit # 3 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	116	P16	200	0	6	0
Pass 2	116	P16	200	0	1	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** lower **Index Site #** 1 **Date** 08/23/00

Description immediately above mouth

Unit # 5 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	559	P16	200	6	8	1
Pass 2	475	P16	200	0	3	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** upper **Index Site #** 3 **Date** 08/23/00

Description Stream km 0.3, above culvert

Unit # 1 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	595	P16	200	0	66	6
Pass 2	545	P16	200	0	17	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** upper **Index Site #** 3 **Date** 08/23/00

Description Stream km 0.3, above culvert

Unit # 3 **Unit Type** MCP **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	10	P16	200	0	2	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** upper **Index Site #** 3 **Date** 08/23/00

Description Stream km 0.3, above culvert

Unit # 5 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	20	P16	200	0	1	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** upper **Index Site #** 3 **Date** 08/23/00

Description Stream km 0.3, above culvert

Unit # 6 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	326	P16	200	0	72	0
Pass 2	317	P16	200	0	12	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** upper **Index Site #** 3 **Date** 08/23/00

Description Stream km 0.3, above culvert

Unit # 6.5 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	34	P16	200	0	4	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** intermittent section **Index Site #** **Date** 04/17/01

Description 3 isolated pools above cattle xing

Unit # **Unit Type** pool **Temp °C** **Conductivity (µS/cm)**

Comments sampled intermittent part of creek to determine numbers of potentially stranded fish; 2nd pool above xing-lots of co & sh fry; 3d pool above xing-no fry; 2d pool below big fallen bay-lots of fry

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	708	p16	100/200	177	12	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	1
SH 1+	0

Stream Blueline Creek **Site** intermittent section **Index Site #** **Date** 04/25/01

Description 2d pool above cattle xing

Unit # **Unit Type** pool **Temp °C** **Conductivity (µS/cm)**

Comments sampled intermittent part of creek to determine numbers of potentially stranded fish

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	272	p16	200	2	16	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** intermittent section **Index Site #** **Date** 04/25/01

Description poison oak pool

Unit # **Unit Type** pool **Temp °C** **Conductivity (µS/cm)**

Comments sampled intermittent part of creek to determine numbers of potentially stranded fish

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	1107	p16	200	587	6	8
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** intermittent section **Index Site #** **Date** 05/02/01

Description poison oak pool and upper algae pool

Unit # **Unit Type** pool **Temp °C** 12.6 **Conductivity (µS/cm)** 118.4/157.0

Comments lower algae pool dry already; only shocked upper algae pool--poison oak pool just scooped fish out

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	522	p16	100	465	26	0
Pass 2	609	p16	200	238	18	0
Pass 3						
Pass 4						

Total Mortality

CO	2
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** intermittent section **Index Site #** **Date** 05/02/01

Description isolated pool @ 1st meander above cattle xing

Unit # **Unit Type** pool **Temp °C** 13.2 **Conductivity (µS/cm)** 118.5/153.5

Comments sampled intermittent part of creek to determine numbers of potentially stranded fish

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	405	p16	200	72	56	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	1
SH 1+	0

Stream Blueline Creek **Site** intermittent section **Index Site #** **Date** 05/04/01

Description 1st pool below cattle xing

Unit # **Unit Type** pool **Temp °C** 14.7 **Conductivity (µS/cm)** 124.9/156.2

Comments sampled intermittent part of creek to determine numbers of potentially stranded fish

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	332	p16	200	28	10	4
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** intermittent section **Index Site #** **Date** 05/05/01

Description isolated pool above cattle xing (poison oak pool)

Unit # **Unit Type** pool **Temp °C** 11.9 **Conductivity (µS/cm)** 143/196

Comments sampled intermittent part of creek to determine numbers of potentially stranded fish; pool almost gone, prob dry up this weekend

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	608	p16	200	139	3	1
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** intermittent section **Index Site #** **Date** 05/05/01

Description 1st pool above cattle xing

Unit # **Unit Type** pool **Temp °C** 13.1 **Conductivity (µS/cm)** 126.4/163.8

Comments sampled intermittent part of creek to determine numbers of potentially stranded fish; still a few fish left in this isolated pool after 5/3 survey

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	267	p16	200	10	10	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	1
SH 1+	0

Stream Blueline Creek **Site** intermittent section **Index Site #** **Date** 05/21/01

Description 1st pool above current dry section

Unit # **Unit Type** pool **Temp °C** 15 **Conductivity (µS/cm)**

Comments co total incl. 2 smolts trapped in pool at top of dry section--pool later went dry

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	373	p16	200	250	13	16
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	1
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** culvert **Index Site #** 2 **Date** 05/29/01

Description Stream km 0.2, pools below Hwy 1 culvert

Unit # 1 **Unit Type** LSBo **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	511	P16	200	48	2	1
Pass 2	389	P16	200	6	0	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** culvert **Index Site #** 2 **Date** 05/29/01

Description Stream km 0.2, pools below Hwy 1 culvert

Unit # 2 **Unit Type** LGR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	130	P16	200	1	4	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** culvert **Index Site #** 2 **Date** 05/29/01

Description Stream km 0.2, pools below Hwy 1 culvert

Unit # 3 **Unit Type** PLP **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	359	P16	200	17	5	2
Pass 2	255	P16	200	2	0	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** culvert **Index Site #** 2 **Date** 05/29/01

Description Stream km 0.2, pools below Hwy 1 culvert

Unit # 5 **Unit Type** DPL **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	464	P16	200	35	9	12
Pass 2	359	P16	200	6	3	1
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** culvert **Index Site #** 2 **Date** 05/29/01

Description Stream km 0.2, pools below Hwy 1 culvert

Unit # 6 **Unit Type** DPL **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	330	P16	200	39	13	8
Pass 2	471	P16	200	16	15	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** upper **Index Site #** 3 **Date** 06/05/01

Description Stream km 0.3, above culvert

Unit # 1 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	1001	P16	200	118	34	28
Pass 2	1036	P16	200	20	11	3
Pass 3						
Pass 4						

Total Mortality

CO	1
SH YOY	0
SH 1+	2

Stream Blueline Creek **Site** upper **Index Site #** 3 **Date** 06/05/01

Description Stream km 0.3, above culvert

Unit # 2 **Unit Type** LGR **Temp °C** **Conductivity (µS/cm)**

Comments This unit was DRY

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	0	P16	200	0	0	0
Pass 2	0	P16	200			
Pass 3	0					
Pass 4	0					

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** upper **Index Site #** 3 **Date** 06/05/01

Description Stream km 0.3, above culvert

Unit # 3 **Unit Type** MCP **Temp °C** 13.1 **Conductivity (µS/cm)** 133

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	333	P16	200	48	27	0
Pass 2	263	P16	200	3	4	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** upper **Index Site #** 3 **Date** 06/05/01

Description Stream km 0.3, above culvert

Unit # 5 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	80	P16	200	0	0	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** upper **Index Site #** 3 **Date** 06/05/01

Description Stream km 0.3, above culvert

Unit # 6 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	797	P16	200	177	52	5
Pass 2	1001	P16	200	58	21	0
Pass 3						
Pass 4						

Total Mortality

CO	2
SH YOY	1
SH 1+	0

Stream Blueline Creek **Site** upper **Index Site #** 3 **Date** 06/05/01

Description Stream km 0.3, above culvert

Unit # 7 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	342	P16	200	67	23	0
Pass 2	265	P16	200	2	1	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** lower **Index Site #** 1 **Date** 06/07/01

Description immediately above mouth

Unit # 1 **Unit Type** LSR **Temp °C** 13.9 **Conductivity (µS/cm)** 157

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	560	P16	200	29	1	2
Pass 2	551	P16	200	4	1	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** lower **Index Site #** 1 **Date** 06/07/01

Description immediately above mouth

Unit # 3 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	340	P16	200	13	1	0
Pass 2	343	P16	200	9	0	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Blueline Creek **Site** lower **Index Site #** 1 **Date** 06/07/01

Description immediately above mouth

Unit # 5 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	691	P16	200	38	2	0
Pass 2	758	P16	200	7	1	0
Pass 3						
Pass 4						

Total Mortality

CO	1
SH YOY	0
SH 1+	0

Stream Boundary Gulch **Site** lower isolated pools **Index Site #** **Date** 04/04/01

Description Hwy 1 culvert pool downstream to mainstem

Unit # **Unit Type** pool **Temp °C** 10.9 **Conductivity (µS/cm)** 108.9/148.8

Comments Olema Creek tributary-sampled intermittent part of creek to determine numbers of potentially stranded fish

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	1021	p16	200	0	1	21
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Cheda Creek **Site** lower **Index Site #** 1 **Date** 09/12/00

Description Stream km 0.5, near stop sign

Unit # 1 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	395	P16	200	2	40	3
Pass 2	488	P16	200	1	22	2
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Cheda Creek **Site** lower **Index Site #** 1 **Date** 09/12/00

Description Stream km 0.5, near stop sign

Unit # 2 **Unit Type** GLD **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	452	P16	200	0	50	0
Pass 2	418	P16	200	0	17	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Cheda Creek **Site** lower **Index Site #** 1 **Date** 09/12/00

Description Stream km 0.5, near stop sign

Unit # 3 **Unit Type** LGR **Temp °C** **Conductivity (µS/cm)**

Comments No Microfish numbers available

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	341	P16	200	0	6	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Cheda Creek **Site** lower **Index Site #** 1 **Date** 09/12/00

Description Stream km 0.5, near stop sign

Unit # 4 **Unit Type** MCP **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	319	P16	200	0	35	1
Pass 2	266	P16	200	0	1	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Cheda Creek **Site** middle **Index Site #** 2 **Date** 09/13/00

Description Stream km 0.9, at fish passage project site

Unit # 1 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments units 1-5 are below former headcut

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	319	P16	200	0	39	1
Pass 2				0	3	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Cheda Creek **Site** middle **Index Site #** 2 **Date** 09/13/00

Description Stream km 0.9, at fish passage project site

Unit # 2 **Unit Type** LGR **Temp °C** **Conductivity (µS/cm)**

Comments units 1-5 are below former headcut

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	301	P16	200	0	2	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Cheda Creek **Site** middle **Index Site #** 2 **Date** 09/13/00

Description Stream km 0.9, at fish passage project site

Unit # 3 **Unit Type** **Temp °C** **Conductivity (µS/cm)**

Comments units 1-5 are below former headcyt

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	641	P16	200	1	26	8
Pass 2	449	P16	200	0	3	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Cheda Creek **Site** middle **Index Site #** 2 **Date** 09/13/00

Description Stream km 0.9, at fish passage project site

Unit # 4 **Unit Type** LGR **Temp °C** **Conductivity (µS/cm)**

Comments units 1-5 are below former headcut

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	300	P16	200	0	0	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Cheda Creek **Site** middle **Index Site #** 2 **Date** 09/13/00

Description Stream km 0.9, at fish passage project site

Unit # 5 **Unit Type** PLP **Temp °C** **Conductivity (µS/cm)**

Comments PLUNGE POOL DIRECTLY BELOW FORMER HEADCUT, units 1-5 are below former headcut

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	401	P16	200	0	21	4
Pass 2	418	P16	200	0	2	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Cheda Creek **Site** middle **Index Site #** 2 **Date** 09/13/00

Description Stream km 0.9, at fish passage project site

Unit # 6 **Unit Type** GLD **Temp °C** **Conductivity (µS/cm)**

Comments at road xing just above fish passage

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	325	P16	200	0	0	1
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Cheda Creek **Site** middle **Index Site #** 2 **Date** 09/13/00

Description Stream km 0.9, at fish passage project site

Unit # 7 **Unit Type** FW **Temp °C** **Conductivity (µS/cm)**

Comments flat water above new road crossing to upper benchmark pool

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	211	P16	200	0	0	1
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Cheda Creek **Site** middle **Index Site #** 2 **Date** 09/13/00

Description Stream km 0.9, at fish passage project site

Unit # 8 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	147	P16	200	0	1	5
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Cheda Creek **Site** upper **Index Site #** 3 **Date** 09/19/00

Description Stream km 1.2, above passage project site

Unit # 1 **Unit Type** LSBo **Temp °C** **Conductivity (µS/cm)**

Comments EQUIPMENT FAILURE WITH EFISHING UNIT

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	250	P16	200	0	4	0
Pass 2	367	P16	200	0	23	0
Pass 3	252	P16	200	0	9	0
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Cheda Creek **Site** upper **Index Site #** 3 **Date** 09/19/00

Description Stream km 1.2, above passage project site

Unit # 2 **Unit Type** LGR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	391	P16	200	0	9	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Cheda Creek **Site** upper **Index Site #** 3 **Date** 09/19/00

Description Stream km 1.2, above passage project site

Unit # 3 **Unit Type** LSBo **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	96	P16	200	0	5	0
Pass 2	90	P16	200	0	1	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Cheda Creek **Site** upper **Index Site #** 3 **Date** 09/19/00

Description Stream km 1.2, above passage project site

Unit # 4 **Unit Type** LGR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	50	P16	100	0	0	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Cheda Creek **Site** upper **Index Site #** 3 **Date** 09/19/00

Description Stream km 1.2, above passage project site

Unit # 5 **Unit Type** PLP **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	160	P16	200	0	14	1
Pass 2	255	P16	200	0	2	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Easkoot Creek **Site** N.lot **Index Site #** **Date** 08/03/00

Description

Unit # 1 **Unit Type** MC **Temp °C** 15.1 **Conductivity (µS/cm)** 340 sp cond

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	249	P16	200	0	7	0
Pass 2	166	P16	200	0	6	0
Pass 3	136	P16	200	0	0	0
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Easkoot Creek **Site** N.Lot **Index Site #** **Date** 08/03/00

Description

Unit # 2 **Unit Type** SC **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	107	P16	200	0	2	0
Pass 2	93	P16	200	0	0	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Easkoot Creek **Site** N.Lot **Index Site #** **Date** 08/03/00

Description

Unit # 3 **Unit Type** MC **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	264	P16	200	0	24	1
Pass 2		P16	200	0	4	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Easkoot Creek **Site** N.Lot **Index Site #** **Date** 08/03/00

Description

Unit # 4 **Unit Type** MC **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	216	P16	200	0	13	0
Pass 2	153	P16	200	0	1	3
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Easkoot Creek **Site** N.Lot **Index Site #** **Date** 08/03/00

Description

Unit # 5 **Unit Type** FW **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	320	P16	200	0	17	0
Pass 2	176	P16	200	0	1	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Easkoot Creek **Site** Above H1 **Index Site #** **Date** 08/04/00

Description

Unit # 1 **Unit Type** FW **Temp °C** 14.3 **Conductivity (µS/cm)** 320 sp cond

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	381	P16	200	0	26	0
Pass 2	110	P16	200	0	4	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Easkoot Creek **Site** Above H1 **Index Site #** **Date** 08/04/00

Description

Unit # 2 **Unit Type** FW **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	56	P16	200	0	8	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Easkoot Creek **Site** Above H1 **Index Site #** **Date** 08/04/00

Description

Unit # 3 **Unit Type** STP **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	60	P16	200	0	43	4
Pass 2	73	P16	200	0	7	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Easkoot Creek **Site** Above H1 **Index Site #** **Date** 08/04/00

Description

Unit # 4 **Unit Type** STP **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	49	P16	200	0	19	0
Pass 2	41	P16	200	0	1	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Easkoot Creek **Site** Above H1 **Index Site #** **Date** 08/04/00

Description

Unit # 5 **Unit Type** STP **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	121	P16	200	0	29	18
Pass 2	91	P16	200	0	7	2
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Easkoot Creek **Site** Above H1 **Index Site #** **Date** 08/04/00

Description

Unit # 6 **Unit Type** STP **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	222	P16	200	0	22	14
Pass 2	128	P16	200	0	10	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Giacomini Creek **Site** culvert pool **Index Site #** **Date** 05/04/01

Description isolated pool at Hwy 1 culvert outflow

Unit # **Unit Type** PLP **Temp °C** 13.1 **Conductivity (µS/cm)** 178.6/228.5

Comments Olema Creek tributary-sampled intermittent part of creek to determine numbers of potentially stranded fish

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1		p16	200	0	20	11
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Horse Camp Cree **Site** culvert pool **Index Site #** **Date** 04/03/01

Description isolated pool at Hwy 1 culvert outflow

Unit # **Unit Type** PLP **Temp °C** 11.5 **Conductivity (µS/cm)**

Comments Olema Creek tributary-sampled intermittent part of creek to determine numbers of potentially stranded fish; rest of lower creek mostly dry, 1 co smolt

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	295	p16	200	1	0	59
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Horse Camp Cree **Site** lower isolated pools **Index Site #** **Date** 04/04/01

Description lower 100 meters, isolated from mainstem

Unit # **Unit Type** pool **Temp °C** **Conductivity (µS/cm)**

Comments Olema Creek tributary-sampled intermittent part of creek to determine numbers of potentially stranded fish

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	372	p16	200/100	0	0	9
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Olema Creek **Site** Lower Stewart's Pasture **Index Site #** 1 **Date** 07/18/00

Description Stream km 1.2

Unit # 1 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	518	P16	200	0	23	2
Pass 2	435	P16	200	0	7	0
Pass 3	521	P16	200	0	3	0
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Olema Creek **Site** Lower Stewart's Pasture **Index Site #** 1 **Date** 07/18/00

Description Stream km 1.2

Unit # 2 **Unit Type** CRP **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	521	P16	200	0	10	4
Pass 2	381	P16	200	0	3	3
Pass 3	214	P16	200	0	6	0
Pass 4						

Total Mortality

CO	
SH YOY	0
SH 1+	0

Stream Olema Creek **Site** Lower Stewart's Pasture **Index Site #** 1 **Date** 07/18/00

Description Stream km 1.2

Unit # 3 **Unit Type** LGR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	157	P16	200	0	4	0
Pass 2	93	P16	200	0	0	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Olema Creek **Site** Lower Stewart's Pasture **Index Site #** 1 **Date** 07/18/00

Description Stream km 1.2

Unit # 4 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	624	P16	200	0	19	0
Pass 2	646	P16	200	0	5	1
Pass 3	496	P16	200	0	4	0
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Olema Creek **Site** Lower Stewart's Pasture **Index Site #** 1 **Date** 07/18/00

Description Stream km 1.2

Unit # 5 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	962	P16	200	1	13	4
Pass 2	981	P16	200	0	11	1
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Olema Creek **Site** Vedanta **Index Site #** 2 **Date** 07/20/00

Description Stream km 3.7

Unit # 1 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	685	P16	200	3	50	7
Pass 2	680	P16	200	4	22	1
Pass 3	481	P16	200	2	15	0
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Olema Creek **Site** Vedanta **Index Site #** 2 **Date** 07/20/00

Description Stream km 3.7

Unit # 2 **Unit Type** LGR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	312	P16	200	0	13	1
Pass 2	388	P16	200	0	4	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	
SH 1+	0

Stream Olema Creek **Site** Vedanta **Index Site #** 2 **Date** 07/20/00

Description Stream km 3.7

Unit # 3 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	874	P16	200	10	86	0
Pass 2	817	P16	200	3	23	0
Pass 3	949	P16	200	3	12	0
Pass 4						

Total Mortality

CO	0
SH YOY	1
SH 1+	0

Stream Olema Creek **Site** Vedanta **Index Site #** 2 **Date** 07/20/00

Description Stream km 3.7

Unit # 4 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	1101	P16	200	26	56	6
Pass 2	1100	P16	200	9	42	2
Pass 3	1053	P16	200	4	19	1
Pass 4						

Total Mortality

CO	0
SH YOY	1
SH 1+	0

Stream Olema Creek **Site** Vedanta **Index Site #** 2 **Date** 07/20/00

Description Stream km 3.7

Unit # 5 **Unit Type** LGR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	191	P16	200	0	1	0
Pass 2	222	P16	200	0	0	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Olema Creek **Site** Cemetary Pond/Upper Stewart's Pasture **Index Site #** 3 **Date** 07/26/00

Description Stream km 4.9

Unit # 1 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	1284	P16	200	9	124	5
Pass 2	1171	P16	200	1	18	0
Pass 3	568	P16	200	0	5	0
Pass 4						

Total Mortality

CO	1
SH YOY	1
SH 1+	0

Stream Olema Creek **Site** Cemetary Pond/Upper Stewart's Pasture **Index Site #** 3 **Date** 07/26/00

Description Stream km 4.9

Unit # 2 **Unit Type** GLD **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	820	P16	200	1	110	1
Pass 2	1208	P16	200	0	20	2
Pass 3	784	P16	200	0	4	0
Pass 4						

Total Mortality

CO	0
SH YOY	3
SH 1+	0

Stream Olema Creek **Site** Cemetary Pond/Upper Stewart's Pasture **Index Site #** 3 **Date** 07/26/00

Description Stream km 4.9

Unit # 4 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	786	P16	200	8	74	3
Pass 2	816	P16	200	1	13	1
Pass 3	737	P16	200	1	7	0
Pass 4						

Total Mortality

CO	0
SH YOY	3
SH 1+	0

Stream Olema Creek **Site** Five Brooks **Index Site #** 7 **Date** 07/31/00

Description Stream km 10.8

Unit # 1 **Unit Type** PLP **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	793	P16	200	2	19	8
Pass 2	584	P16	200	2	10	0
Pass 3	464	P16	200	0	2	0
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Olema Creek **Site** Five Brooks **Index Site #** 7 **Date** 07/31/00

Description Stream km 10.8

Unit # 2 **Unit Type** LGR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	708	P16	200	0	36	1
Pass 2	791	P16	200	0	11	0
Pass 3	719	P16	200	0	4	0
Pass 4						

Total Mortality

CO	0
SH YOY	1
SH 1+	0

Stream Olema Creek **Site** Five Brooks **Index Site #** 7 **Date** 07/31/00

Description Stream km 10.8

Unit # 3 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	611	P16	200	0	25	1
Pass 2	555	P16	200	1	2	0
Pass 3	433	P16	200	0	1	0
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Olema Creek **Site** Five Brooks **Index Site #** 7 **Date** 07/31/00

Description Stream km 10.8

Unit # 4 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	215	P16	200	0	12	0
Pass 2	298	P16	200	0	4	0
Pass 3	240	P16	200	0	1	1
Pass 4						

Total Mortality

CO	0
SH YOY	1
SH 1+	0

Stream Olema Creek **Site** Five Brooks **Index Site #** 7 **Date** 07/31/00

Description Stream km 10.8

Unit # 5 **Unit Type** LGR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	120	P16	200	0	2	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Olema Creek **Site** Five Brooks **Index Site #** 7 **Date** 07/31/00

Description Stream km 10.8

Unit # 6 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	937	P16	200	6	19	5
Pass 2	1403	P16	200	7	11	3
Pass 3	729	P16	200	5	9	0
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Olema Creek **Site** Horse Camp **Index Site #** 6 **Date** 08/02/00

Description Stream km 9.4

Unit # 1 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	1149	P16	200	12	42	4
Pass 2	973	P16	200	3	14	0
Pass 3	1172	P16	200	6	6	0
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Olema Creek **Site** Horse Camp **Index Site #** 6 **Date** 08/02/00

Description Stream km 9.4

Unit # 2 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	1921	P16	200	29	53	1
Pass 2	1483	P16	200	8	18	7
Pass 3	1460	P16	200	5	10	1
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Olema Creek **Site** Horse Camp **Index Site #** 6 **Date** 08/02/00

Description Stream km 9.4

Unit # 3 **Unit Type** LGR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	408	P16	200	0	17	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Olema Creek **Site** Horse Camp **Index Site #** 6 **Date** 08/02/00

Description Stream km 9.4

Unit # 4 **Unit Type** **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	235	P16	200	2	8	0
Pass 2	115	P16	200	1	5	0
Pass 3	79	P16	200	0	1	0
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Olema Creek **Site** Horse Camp **Index Site #** 6 **Date** 08/02/00

Description Stream km 9.4

Unit # 5 **Unit Type** SCP **Temp °C** **Conductivity (µS/cm)**

Comments This was an isolated pool, was part of Unit 4 in 1999

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	362	P16	200	2	0	0
Pass 2	234	P16	200	0	1	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Olema Creek **Site** Horse Camp **Index Site #** 6 **Date** 08/02/00

Description Stream km 9.4

Unit # 6 **Unit Type** **Temp °C** **Conductivity (µS/cm)**

Comments This was an isolated pool just outside of the Index Section

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	301	P16	200	8	14	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Olema Creek **Site** Truttman **Index Site #** 4 **Date** 08/09/00

Description Stream km 6.2

Unit # 1 **Unit Type** LSBk **Temp °C** **Conductivity (µS/cm)**

Comments All Index Section 4 units were surveyed with 2 electrofishing teams in the water (NPS and SCWDA)

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	2304	P16	200	52	96	9
Pass 2	2158	P16	200	13	21	2
Pass 3	1917	P16	200	6	11	0
Pass 4						

Total Mortality

CO	0
SH YOY	1
SH 1+	0

Stream Olema Creek **Site** Truttman **Index Site #** 4 **Date** 08/09/00

Description Stream km 6.2

Unit # 2 **Unit Type** LGR **Temp °C** **Conductivity (µS/cm)**

Comments All Index Section 4 units were surveyed with 2 electrofishing teams in the water (NPS and SCWDA)

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	560	P16	200	0	29	1
Pass 2	460	P16	200	0	8	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	1
SH 1+	0

Stream Olema Creek **Site** Truttman **Index Site #** 4 **Date** 08/09/00

Description Stream km 6.2

Unit # 3 **Unit Type** LSBk **Temp °C** **Conductivity (µS/cm)**

Comments All Index Section 4 units were surveyed with 2 electrofishing teams in the water (NPS and SCWDA)

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	3183	P16	200	55	51	11
Pass 2	2390	P16	200	13	13	1
Pass 3	1926	P16	200	1	3	0
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Olema Creek **Site** Shook's House **Index Site #** 5 **Date** 08/14/00

Description Stream km 7.6

Unit # 1 **Unit Type** LSBk **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	1185	P16	200	24	73	18
Pass 2	1215	P16	200	5	35	4
Pass 3	909	P16	200	5	11	0
Pass 4						

Total Mortality

CO	0
SH YOY	1
SH 1+	0

Stream Olema Creek **Site** Shook's House **Index Site #** 5 **Date** 08/14/00

Description Stream km 7.6

Unit # 2 **Unit Type** GLD **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	377	P16	200	0	24	0
Pass 2	284	P16	200	0	3	0
Pass 3	288	P16	200	0	2	0
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Olema Creek **Site** Shook's House **Index Site #** 5 **Date** 08/14/00

Description Stream km 7.6

Unit # 3 **Unit Type** LGR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	431	P16	200	0	39	0
Pass 2	392	P16	200	0	9	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	2
SH 1+	0

Stream Olema Creek **Site** Shook's House **Index Site #** 5 **Date** 08/14/00

Description Stream km 7.6

Unit # 4 **Unit Type** GLD **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	769	P16	200	0	28	0
Pass 2	577	P16	200	0	6	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Olema Creek **Site** Shook's House **Index Site #** 5 **Date** 08/14/00

Description Stream km 7.6

Unit # 5 **Unit Type** LGR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	470	P16	200	0	23	0
Pass 2	345	P16	200	0	3	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Olema Creek **Site** Lime Kilns **Index Site #** 8 **Date** 08/16/00

Description Stream km 13.0

Unit # 1 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	163	P16	200	0	37	0
Pass 2	174	P16	200	0	6	0
Pass 3	150	P16	200	0	3	0
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Olema Creek **Site** Lime Kilns **Index Site #** 8 **Date** 08/16/00

Description Stream km 13.0

Unit # 2 **Unit Type** MCP **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	116	P16	100	0	4	0
Pass 2	97	P16	100	0	2	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Olema Creek **Site** Lime Kilns **Index Site #** 8 **Date** 08/16/00

Description Stream km 13.0

Unit # 3 **Unit Type** **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	416	P16	200	0	36	1
Pass 2	424	P16	200	0	8	1
Pass 3	358	P16	200	0	3	0
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Olema Creek **Site** Lime Kilns **Index Site #** 8 **Date** 08/16/00

Description Stream km 13.0

Unit # 4 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	1044	P16	200	0	68	5
Pass 2	1030	P16	200	0	5	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	2
SH 1+	0

Stream Olema Creek **Site** Lime Kilns **Index Site #** 8 **Date** 08/16/00

Description Stream km 13.0

Unit # 5 **Unit Type** **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	411	P16	200	0	35	0
Pass 2	330	P16	200	0	1	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Gorge **Index Site #** 3 **Date** 09/06/00

Description Stream km 3.9

Unit # 1 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	565	P16	200	0	20	5
Pass 2	540	P16	200	0	4	1
Pass 3	398	P16	200	0	0	0
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Gorge **Index Site #** 3 **Date** 09/06/00

Description Stream km 3.9

Unit # 2 **Unit Type** LSL **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	710	P16	200	0	24	1
Pass 2	736	P16	200	0	4	0
Pass 3	541	P16	200	0	0	0
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Gorge **Index Site #** 3 **Date** 09/06/00

Description Stream km 3.9

Unit # 3 **Unit Type** LGR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	359	P16	200	0	2	0
Pass 2	348	P16	200	0	1	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Gorge **Index Site #** 3 **Date** 09/06/00

Description Stream km 3.9

Unit # 4 **Unit Type** LSBk **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	895	P16	200	0	6	4
Pass 2	932	P16	200	0	9	3
Pass 3	777	P16	200	0	6	0
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Paradise Valley **Index Site #** 2 **Date** 09/07/00

Description Stream km 2.8

Unit # 1 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	927	P16	200	0	21	6
Pass 2	778	P16	200	0	4	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Paradise Valley **Index Site #** 2 **Date** 09/07/00

Description Stream km 2.8

Unit # 2 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	1036	P16	200	0	16	3
Pass 2	632	P16	200	0	2	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Paradise Valley **Index Site #** 2 **Date** 09/07/00

Description Stream km 2.8

Unit # 2.5 **Unit Type** LGR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	269	P16	100	0	4	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Paradise Valley **Index Site #** 2 **Date** 09/07/00

Description Stream km 2.8

Unit # 3 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	1228	P16	200	0	22	8
Pass 2	1212	P16	200	0	5	3
Pass 3	869	P16	200	0	1	1
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Murch **Index Site #** 1B **Date** 09/26/00

Description Stream km 0.4, at Murch's foot bridge

Unit # 1 **Unit Type** GLD **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	897	P16	200	0	9	1
Pass 2	599	P16	200	0	1	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Murch **Index Site #** 1B **Date** 09/26/00

Description Stream km 0.4, at Murch's foot bridge

Unit # 2 **Unit Type** LGR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	319	P16	200	0	1	1
Pass 2	319	P16	200	0	0	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Murch **Index Site #** 1B **Date** 09/26/00

Description Stream km 0.4, at Murch's foot bridge

Unit # 3 **Unit Type** GLD **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	436	P16	200	0	18	3
Pass 2	358	P16	200	0	0	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Murch **Index Site #** 1B **Date** 09/26/00

Description Stream km 0.4, at Murch's foot bridge

Unit # 4 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	944	P16	200	0	40	11
Pass 2	765	P16	200	0	2	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Open Space **Index Site #** 1A **Date** 10/04/00

Description Stream km 0.3, below dredge pool on MCOSD land

Unit # 1 **Unit Type** LGR **Temp °C** **Conductivity (µS/cm)**

Comments THIS IS INDEX SECTION 1A

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	201	P16	200	0	1	0
Pass 2	210	P16	200	0	0	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Open Space **Index Site #** 1A **Date** 10/04/00

Description Stream km 0.3, below dredge pool on MCOSD land

Unit # 2 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	391	P16	200	0	4	1
Pass 2	339	P16	200	0	0	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Open Space **Index Site #** 1A **Date** 10/04/00

Description Stream km 0.3, below dredge pool on MCOSD land

Unit # 3 **Unit Type** GLD **Temp °C** **Conductivity (µS/cm)**

Comments No Microfish Data Available

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	284	P16	200	0	1	0
Pass 2	318	P16	200	0	0	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Open Space **Index Site #** 1A **Date** 10/04/00

Description Stream km 0.3, below dredge pool on MCOSD land

Unit # 4 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments no microfish data available

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	494	P16	200	0	10	2
Pass 2	439	P16	200	0	0	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Upper Teixeira **Index Site #** 6 **Date** 10/10/00

Description Stream km 7.8

Unit # 1 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	540	P16	200	0	14	2
Pass 2	459	P16	200	0	3	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Upper Teixeira **Index Site #** 6 **Date** 10/10/00

Description Stream km 7.8

Unit # 2 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	554	P16	200	0	6	1
Pass 2	478	P16	200	0	0	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Upper Teixeira **Index Site #** 6 **Date** 10/10/00

Description Stream km 7.8

Unit # 3 **Unit Type** LGR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	171	P16	100	0	0	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Upper Teixeira **Index Site #** 6 **Date** 10/10/00

Description Stream km 7.8

Unit # 4 **Unit Type** LGR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	563	P16	200	0	6	3
Pass 2	444	P16	200	0	1	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Lower Teixeira **Index Site #** 5 **Date** 10/11/00

Description Stream km 6.8

Unit # 1 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	619	P16	200	0	12	3
Pass 2	536	P16	200	0	0	1
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Lower Teixeira **Index Site #** 5 **Date** 10/11/00

Description Stream km 6.8

Unit # 2 **Unit Type** LGR **Temp °C** **Conductivity (µS/cm)**

Comments Unit 2B (Right Bank Channel): Length=4.7, Avg Width=1.7, Avg. Depth=0.069, % cobb=57, % LG + SA + Fi = 14.29

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	443	P16	200	0	1	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Lower Teixeira **Index Site #** 5 **Date** 10/11/00

Description Stream km 6.8

Unit # 3 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	1130	P16	200	0	17	7
Pass 2	906	P16	200	0	1	1
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Lower Teixeira **Index Site #** 5 **Date** 10/11/00

Description Stream km 6.8

Unit # 4 **Unit Type** LGR **Temp °C** **Conductivity (µS/cm)**

Comments riffle - no fish caught

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	117	P16	200	0	0	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Lower Teixeira **Index Site #** 5 **Date** 10/11/00

Description Stream km 6.8

Unit # 5 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	649	P16	200	0	20	7
Pass 2	520	P16	200	0	0	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** BPUD **Index Site #** 4 **Date** 10/12/00

Description Stream km 5.1, at downstream end of BPUD pasture

Unit # 1 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	913	P16	200	0	24	13
Pass 2	792	P16	200	0	6	1
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** BPUD **Index Site #** 4 **Date** 10/12/00

Description Stream km 5.1, at downstream end of BPUD pasture

Unit # 2 **Unit Type** LGR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	771	P16	200	0	5	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** BPUD **Index Site #** 4 **Date** 10/12/00

Description Stream km 5.1, at downstream end of BPUD pasture

Unit # 3 **Unit Type** GLD **Temp °C** **Conductivity (µS/cm)**

Comments NO LENGTH MEASUREMENT TAKEN IN FIELD

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	1108	P16	200	0	33	7
Pass 2	956	P16	200	0	15	0
Pass 3	730	P16	200	0	1	0
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Weber **Index Site #** 1C **Date** 10/15/00

Description Stream km 0.7

Unit # 1 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	618	P16	200	0	17	9
Pass 2	580	P16	200	0	1	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Weber **Index Site #** 1C **Date** 10/15/00

Description Stream km 0.7

Unit # 2 **Unit Type** LGR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	215	P16	200	0	0	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Weber **Index Site #** 1C **Date** 10/15/00

Description Stream km 0.7

Unit # 3 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	882	P16	200	0	26	7
Pass 2	660	P16	200	0	7	2
Pass 3	671	P16	200	0	0	0
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Weber **Index Site #** 1C **Date** 10/15/00

Description Stream km 0.7

Unit # 4 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	235	P16	200	0	2	2
Pass 2	239	P16	200	0	0	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Weber **Index Site #** 1C **Date** 10/15/00

Description Stream km 0.7

Unit # 5 **Unit Type** LGR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	150	P16	200	0	0	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Pine Gulch **Site** Weber **Index Site #** 1C **Date** 10/15/00

Description Stream km 0.7

Unit # 6 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	702	P16	200	0	19	8
Pass 2	713	P16	200	0	2	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	1
SH 1+	0

Stream Quarry Gulch **Site** middle riparian **Index Site #** 3 **Date** 08/23/00

Description riparian area just downstream of Hwy 1

Unit # 1 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	211	P16	200	4	5	3
Pass 2	112	P16	200	0	0	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Quarry Gulch **Site** middle riparian **Index Site #** 3 **Date** 08/23/00
Description riparian area just downstream of Hwy 1
Unit # 2 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**
Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	110	P16	200	0	8	0
Pass 2	107	P16	200	0	1	0
Pass 3						
Pass 4						

Total Mortality
CO 0
SH YOY 0
SH 1+ 0

Stream Quarry Gulch **Site** middle riparian **Index Site #** 3 **Date** 08/23/00
Description riparian area just downstream of Hwy 1
Unit # 3 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**
Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	123	P16	200	0	9	0
Pass 2	108	P16	200	1	3	0
Pass 3						
Pass 4						

Total Mortality
CO 0
SH YOY 0
SH 1+ 0

Stream Quarry Gulch **Site** lower riparian **Index Site #** 1 **Date** 08/24/00
Description near mouth
Unit # 11 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**
Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	267	P16	200	0	2	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality
CO 0
SH YOY 0
SH 1+ 0

Stream Quarry Gulch **Site** lower riparian **Index Site #** 1 **Date** 08/24/00
Description near mouth
Unit # 3 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**
Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	69	P16	100	0	3	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality
CO 0
SH YOY 0
SH 1+ 0

Stream Quarry Gulch **Site** lower riparian **Index Site #** 1 **Date** 08/24/00

Description near mouth

Unit # 5 **Unit Type** LSL **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	53	P16	100	0	0	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Quarry Gulch **Site** lower riparian **Index Site #** 1 **Date** 08/24/00

Description near mouth

Unit # 7 **Unit Type** LSL **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	14	P16	100	0	0	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Quarry Gulch **Site** lower riparian **Index Site #** 1 **Date** 08/24/00

Description near mouth

Unit # 9 **Unit Type** MCP **Temp °C** **Conductivity (µS/cm)**

Comments numerous stickleback

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	32	P16	100	0	0	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Quarry Gulch **Site** open pasture **Index Site #** 2 **Date** 08/24/00

Description denuded pasture area west of Hwy 1

Unit # 1 **Unit Type** MCP **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	181	P16	200	0	2	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Quarry Gulch **Site** open pasture **Index Site #** 2 **Date** 08/24/00

Description denuded pasture area west of Hwy 1

Unit # 2 **Unit Type** MCP **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	176	P16	200	0	0	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Quarry Gulch **Site** open pasture **Index Site #** 2 **Date** 08/24/00

Description denuded pasture area west of Hwy 1

Unit # 4 **Unit Type** MCP **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	109	P16	200	0	0	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Quarry Gulch **Site** culvert pool **Index Site #** **Date** 04/11/01

Description isolated pool at Hwy 1 culvert inflow

Unit # **Unit Type** pool **Temp °C** **Conductivity (µS/cm)**

Comments Olema Creek tributary-sampled intermittent part of creek to determine numbers of potentially stranded fish; drying up-lots of algae, stinky water

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	677	p16	200	0	0	34
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Quarry Gulch **Site** lower riparian **Index Site #** 1 **Date** 06/20/01

Description near mouth

Unit # 1 **Unit Type** MCP **Temp °C** **Conductivity (µS/cm)**

Comments Isolated pool with rusted refrigerator enhanced scour.

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	151	P16	200	0	4	0
Pass 2	142	P16	200	0	0	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	1
SH 1+	0

Stream Quarry Gulch **Site** lower riparian **Index Site #** 1 **Date** 06/20/01

Description near mouth

Unit # 2 **Unit Type** MCP **Temp °C** **Conductivity (µS/cm)**

Comments Isolated pool.

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	30	P16	200	0	0	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Quarry Gulch **Site** lower riparian **Index Site #** 1 **Date** 06/20/01

Description near mouth

Unit # 4 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments Staff guage pool. Reading: 8.51cm. Isolated pool.

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	179	P16	200	0	4	0
Pass 2	157	P16	200	0	0	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Quarry Gulch **Site** lower riparian **Index Site #** 1 **Date** 06/20/01

Description near mouth

Unit # 6 **Unit Type** **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	163	P16	200	0	1	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Quarry Gulch **Site** lower riparian **Index Site #** 1 **Date** 06/20/01

Description near mouth

Unit # 7 **Unit Type** **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	171	P16	200	0	0	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Quarry Gulch **Site** lower riparian **Index Site #** 1 **Date** 06/20/01

Description near mouth

Unit # 9 **Unit Type** **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	441	P16	200	0	0	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Quarry Gulch **Site** middle riparian **Index Site #** 3 **Date** 06/20/01

Description riparian area just downstream of Hwy 1

Unit # 1 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	439	P16	200	1	0	1
Pass 2	391	P16	200	0	0	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Quarry Gulch **Site** middle riparian **Index Site #** 3 **Date** 06/20/01

Description riparian area just downstream of Hwy 1

Unit # 2 **Unit Type** MCP **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	390	P16	200	0	0	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Quarry Gulch **Site** middle riparian **Index Site #** 3 **Date** 06/20/01

Description riparian area just downstream of Hwy 1

Unit # 3 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments Did not shock. Red legged frog in pool.

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1						
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Quarry Gulch **Site** open pasture **Index Site #** 2 **Date** 06/20/01

Description denuded pasture area west of Hwy 1

Unit # 1 **Unit Type** CRP **Temp °C** **Conductivity (µS/cm)**

Comments Fish not measured: all roach <50mm; most STK larval; most tadpoles bullfrog(RLF?), though possibly few treefrog. --Signs of recent cow activity in creek.--

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	500	P16	200	0	0	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Quarry Gulch **Site** open pasture **Index Site #** 2 **Date** 06/20/01

Description denuded pasture area west of Hwy 1

Unit # 2 **Unit Type** CRP **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	448	P16	200	0	0	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Quarry Gulch **Site** open pasture **Index Site #** 2 **Date** 06/20/01

Description denuded pasture area west of Hwy 1

Unit # 4 **Unit Type** MCP **Temp °C** **Conductivity (µS/cm)**

Comments Pass 2 stopped due to Red Legged Frog sighting. Pass 1 included unmeasured: 111 RO/63 STK, in addition to measures above. (12 RO/12 STK).

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	490	P16	200	1	0	2
Pass 2	228	P16	200	0	0	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Redwood Creek **Site** MUWO parking lot **Index Site #** 2a **Date** 10/18/00

Description Stream km 5.2, Muir Woods main parking lot

Unit # 42 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	1154	P16	200	7	23	6
Pass 2	922	P16	200	1	6	1
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Redwood Creek **Site** MUWO parking lot **Index Site #** 2a **Date** 10/18/00

Description Stream km 5.2, Muir Woods main parking lot

Unit # 44 **Unit Type** MCP **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	676	P16	200	2	22	3
Pass 2	572	P16	200	1	5	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Redwood Creek **Site** MUWO parking lot **Index Site #** 2a **Date** 10/18/00

Description Stream km 5.2, Muir Woods main parking lot

Unit # 45 **Unit Type** STP **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	826	P16	200	0	19	2
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Redwood Creek **Site** MUWO parking lot **Index Site #** 2a **Date** 10/18/00

Description Stream km 5.2, Muir Woods main parking lot

Unit # 46 **Unit Type** **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	518	P16	200	0	3	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Redwood Creek **Site** MUWO parking lot **Index Site #** 2a **Date** 10/18/00

Description Stream km 5.2, Muir Woods main parking lot

Unit # 47 **Unit Type** MCP **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	762	P16	200	3	25	9
Pass 2	744	P16	200	0	2	1
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Redwood Creek **Site** MUWO parking lot **Index Site #** 2a **Date** 10/18/00

Description Stream km 5.2, Muir Woods main parking lot

Unit # 48 **Unit Type** LGR **Temp °C** **Conductivity (µS/cm)**

Comments ~30% capture rate, tough to net fish among cobbly bottom

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	752	P16	100	0	15	0
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	1
SH 1+	0

Stream Redwood Creek **Site** MUWO parking lot **Index Site #** 2a **Date** 10/18/00

Description Stream km 5.2, Muir Woods main parking lot

Unit # 49 **Unit Type** **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	1556	P16	200	2	39	3
Pass 2	1689	P16	200	1	13	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Redwood Creek **Site** Muir Woods **Index Site #** 1a **Date** 10/19/00

Description Stream km 6.2

Unit # 105 **Unit Type** MCP **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	500	P16	200	3	8	1
Pass 2	419	P16	200	0	1	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Redwood Creek **Site** Muir Woods **Index Site #** 1c **Date** 10/19/00

Description Stream km

Unit # 62 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments difficult to electrofish due to root structures and interruptions by public

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	663	P16	200	3	14	4
Pass 2	606	P16	200	0	0	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	1

Stream Redwood Creek **Site** Muir Woods **Index Site #** 1b **Date** 10/19/00

Description Stream km 6.1, just upstream of bridge 3

Unit # 96 **Unit Type** LSR **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	693	P16	200	4	18	1
Pass 2	454	P16	200	0	4	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	1
SH 1+	0

Stream Redwood Creek **Site** MUWO parking lot **Index Site #** 2a **Date** 10/19/00

Description Stream km 5.2, Muir Woods main parking lot

Unit # 43 **Unit Type** GLD **Temp °C** **Conductivity (µS/cm)**

Comments

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1	557	P16	200	0	22	0
Pass 2	464	P16	200	0	2	0
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0

Stream Water Tank Gulc **Site** lower intermittent section **Index Site #** **Date** 05/04/01

Description from Hwy 1 culvert down to overgrown dry section before mainstem

Unit # **Unit Type** pool **Temp °C** **Conductivity (µS/cm)**

Comments Olema Creek tributary-sampled intermittent part of creek to determine numbers of potentially stranded fish

	Time	Setting	Volts	CO	SH YOY	SH 1+
Pass 1		p16	200	0	0	13
Pass 2						
Pass 3						
Pass 4						

Total Mortality

CO	0
SH YOY	0
SH 1+	0
