

**Cruise Report for the
Surface Waters Ambient Monitoring Program (SWAMP)
Bioaccumulation Screening Study
on Fish from
the Rivers and Streams of California (FY 10-11)**

Sampling Dates: April 2011- November 2011

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Updated: 01/20/2011**

1.0 Introduction

This report describes the sampling activities for a screening study of popular fish species caught in California's rivers and streams for bioaccumulation of contaminants in fish tissue. Fish were collected from popular fishing areas with guidance from SWAMP Bioaccumulation Oversight Group (BOG) and a scientific review board. The State Water Quality Control Board (SWQCB) work was authorized via FY 10-11 in support of Work Order 10SWBG01. The work for the FY 10-11 SWAMP BOG collection effort is a screening study that focuses on the fishing beneficial use of sport fish in the rivers and streams of California.

1.1 Cruise Report

1.1 Objectives

The objective was to collect fish tissue samples at popular fishing spots in California's rivers and streams focusing on the status of fishing beneficial use. Popular fishing spots were determined from the book "California Fishing" by Tom Stienstra (2004) and from discussions with stakeholders. At these locations commonly caught and consumed fish were targeted. Also targeted, were fish that are found throughout California's rivers and that are indicators of contaminants of concern. A list of these target species are in Table 3 of the BOG Rivers and Streams QAPP 2011, page 80. A minimum of one sample containing five fish of one species were collected at each location. If multiple primary species were found at one location, two species were collected, five individuals per species. Based on the species collected, samples were either composited or analyzed as individuals for methyl mercury and synthetic organics. Composited samples were created based on the 75% rule recommended by USEPA (2000). The fish tissue was analyzed as directed by BOG in Work Order No. 10SWBG01 (see Section 1.3 below). Sample sites were reached by boating or hiking to a "species-specific" habitat. Fish samples were collected with electrofishing boats, hook and line, gill nets, beach seine and backpack shocker.

1.2 Sampling personnel

Dylan Service	MPSL/CDFG	Crew Lead
Gary Ichikawa	MPSL/CDFG	Crew Lead
Billy Jakl	MPSL/CDFG	Research Tech
Dustin Service	MPSL/CDFG	Research Tech
John Negrey	MPSL/CDFG	Research Tech
Sean Mundell	MPSL/CDFG	Research Tech
Chandler Ichikawa	MPSL/CDFG	Research Tech

1.3 Authorization to collect samples

All sampling personnel are MPSL staff (through the California Department of Fish and Game or San Jose State University Foundation) contracted through State Water Resources Control Board (SWRCB) to conduct the sample collection activities listed herein. The funding and authorization to collect the samples described herein is contained in the State Water Resources Control Board (SWRCB) Work Order 10SWBG01, including the description of the number samples and species targeted to be collected at each site. 56 river and streams locations were authorized for sample collection.

1.4 Station reconnaissance and selection

CDFG /MPSL conducted the pre-sample collection reconnaissance activities by locating popular fishing areas. Popular fishing areas were determined from local knowledge and desktop reconnaissance and from the book "California Fishing" by Tom Stienstra (2004). Stienstra (2004) rated fishing spot on a scale of 1-10 using three elements: fish abundance, individual fish size and scenic beauty. With the budget available, the BOG picked all streams that rated a 6 or higher, a total of 56 sites. All sites were authorized by BOG, SWRCB and the scientific review panel for fish collection and for specific types of tissue analyses as set forth in the Work Order 10SWBG01.

1.5 Summary of types of samples authorized to be collected

After reconnaissance, a total of 56 locations were authorized for fish tissue collection effort. Three of the 56 locations were hatchery locations sampling anadromous species (salmon and steelhead). At each hatchery salmon and steelhead were collected, five individuals per specie. The remaining 53 locations were sampled in a 0.5 to 1 mile stream/river segment. One to two (if multiple target species present) target species of fish were collected for all locations. The target species were determined by: distribution in California, different pathways of exposure to contaminants (trophic level), commonly caught and consumed by anglers and that are good indicators of mercury, synthetic organics or selenium bioaccumulation. Two types of species were chosen based on their ability to best indicate the above parameters. Top predatory species (ex. largemouth bass or trout) were targeted because mercury tends to bioaccumulate in tissue. Bottom-feeders (ex. carp or catfish) were collected as a second species due to their high lipid content which tend to bioaccumulate synthetic organics. A list of primary and secondary target species was developed based on their ability to fulfill the above requirements (Table 3 of the BOG Rivers and Streams QAPP 2011 page 80). Each sample was made up of five individuals of one fish species that were all within 75% total length of the largest individual as per USEPA (2000) guidance. Sites where largemouth bass were sampled had five additional fish were collected. The largemouth bass samples were analyzed as individuals for methyl mercury and used in a length to mercury tissue concentration regression. For more detailed information reference the BOG Coastal QAPP 2011 pages 15-19.

Physical parameters were collected for each fish, which included: weight, total length, fork length, sex and presence of any abnormalities. The fish were tagged with a unique number, wrapped in aluminum foil, placed in a zipper-closure bag and stored on dry ice for the duration of the trip. Samples were stored at the MPSL/DFG lab freezer until they were processed for authorized analysis, per appropriate SOP's. Analysis authorization

dictates tissue compositing and analysis (QA/QC requirements-preservatives, aliquoting, etc.).

1.6 Discussion

The absence of fish and access to the rivers were the major problems encountered during sampling. A great deal of effort was given to collect complete composites of primary target species. Multiple efforts were made to locate target species by talking to local fisherman and researching habitat favored by target species.

1.7 Results

Fifty-six river and stream locations were sampled, which included three hatcheries. All samples were processed and handed off to the lab for analysis.

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References

Bonnema, A. 2011. Quality Assurance Project Plan: Screening Study of Bioaccumulation in California Rivers. Moss Landing Marine Labs. Prepared for SWAMP BOG, 51 pages plus appendices and attachments.

Steinstra, T. 2004. CALIFORNIA FISHING The Complete Guide to Fishing on Lakes, Streams, Rivers, and Coasts, 7th Edition. Emeryville (CA): Avalon Travel Publishing.697p.

U.S. EPA. 2000. Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories: Volume 1, Fish Sampling and Analysis, Third Edition. EPA 823-R-93-002B-00-007. U.S. Environmental Protection Agency, Office of Water, Washington, D.C.

Van Duzen River near Dinsmore (111VDC6485)



Latitude: 40.37064

Longitude: -123.49618

Collection Method: Hook and line

Date (s) of Collection: June 28 and August 2, 2011

Samplers: Dylan Service, Dustin Service, Billy Jakl, and Sean Mundell

Rainbow Trout										
TL (mm)	164	171	216	204	199	238	224			

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South Fork Smith River near Goose Creek (103FSRGC)



Latitude: 41.68393

Longitude: -123.91666

Collection Method: Hook and line

Date (s) of Collection: August 3, 2011

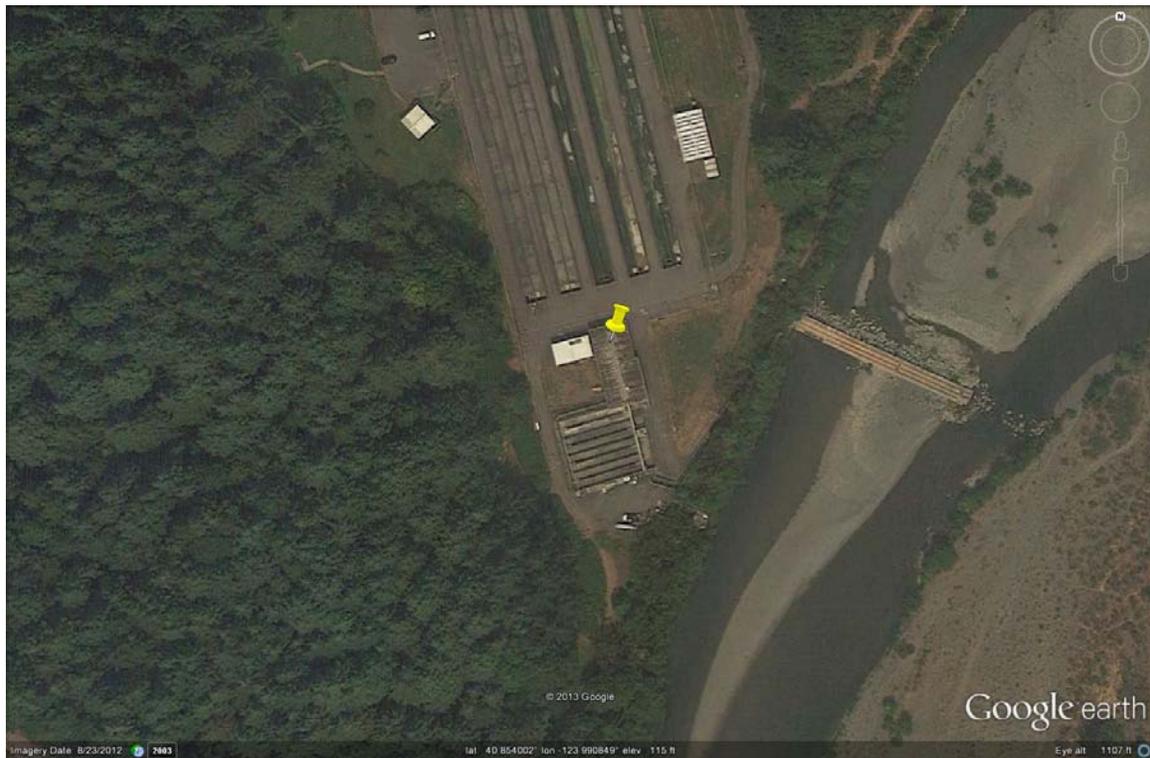
Samplers: Dylan Service, Dustin Service, and Billy Jakl

Rainbow Trout											
TL (mm)	124	124	137	132	134	140	150	153	162	169	
TL (mm)	169	163	178	185							

Comments: **The fish were native trout.**

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Mad River (Mad River Fish Hatchery) (109MADHAT)



Latitude: 40.85413

Longitude: -123.99074

Collection Method: Dip net

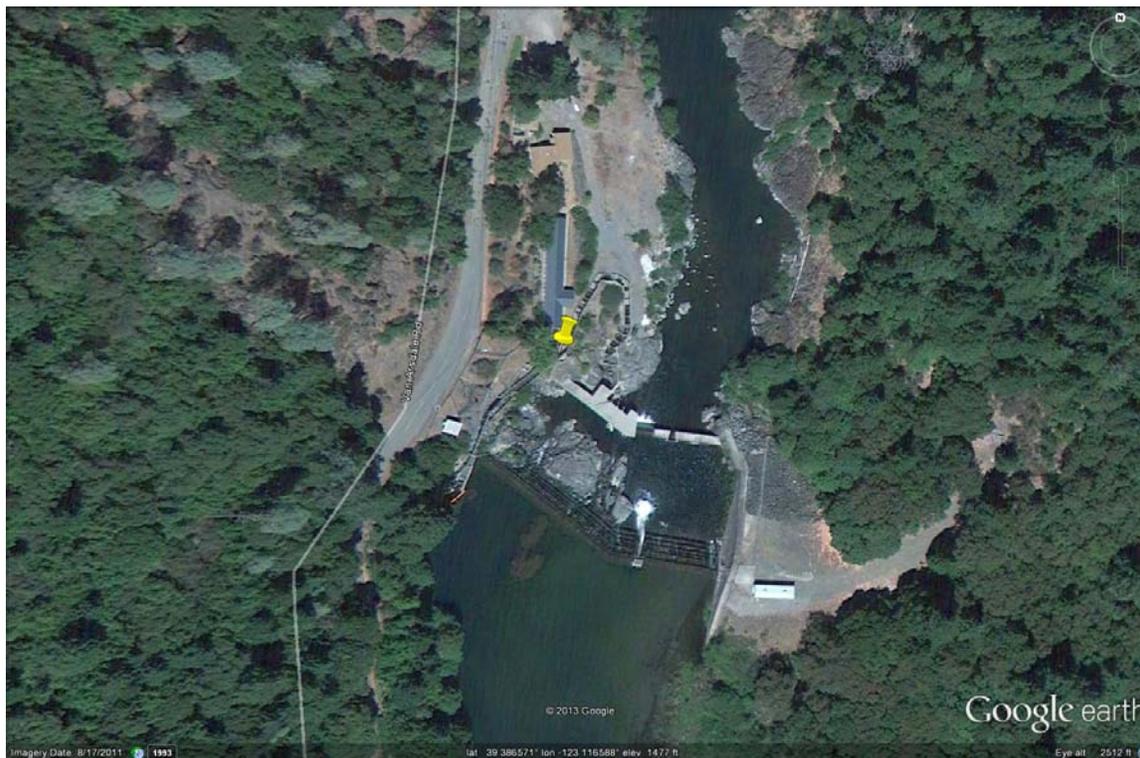
Date (s) of Collection: February 2, 2011

Samplers: Hatchery staff

Steelhead Trout										
TL (mm)	682	689	706	699	644					

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Eel River (Van Arsdale Fishing Counting Station) (111EELFCS)



Latitude: 39.38569

Longitude: -123.11677

Collection Method: Dip net

Date (s) of Collection: December 23, 2011

Samplers: Hatchery staff

Chinook Salmon										
TL (mm)	520	530	510	550	-88					

Comments: One fish was damaged, no TL measured

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Cold Creek at Potter Valley (114CCPOTV)



Latitude: 39.242091

Longitude: -123.117494

Collection Method: Backpack shocker and gill net

Date (s) of Collection: May 25, 2011

Samplers: Dylan Service and Dustin Service

Rainbow Trout										
TL (mm)	192	205	207	184	195	280	284			

Comments: All the trout were collected by backpack shocker

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Russian River (Coyote Valley Dam Egg Collection) (114RURHAT)



Latitude: 39.19679

Longitude: -123.18668

Collection Method: Dip net

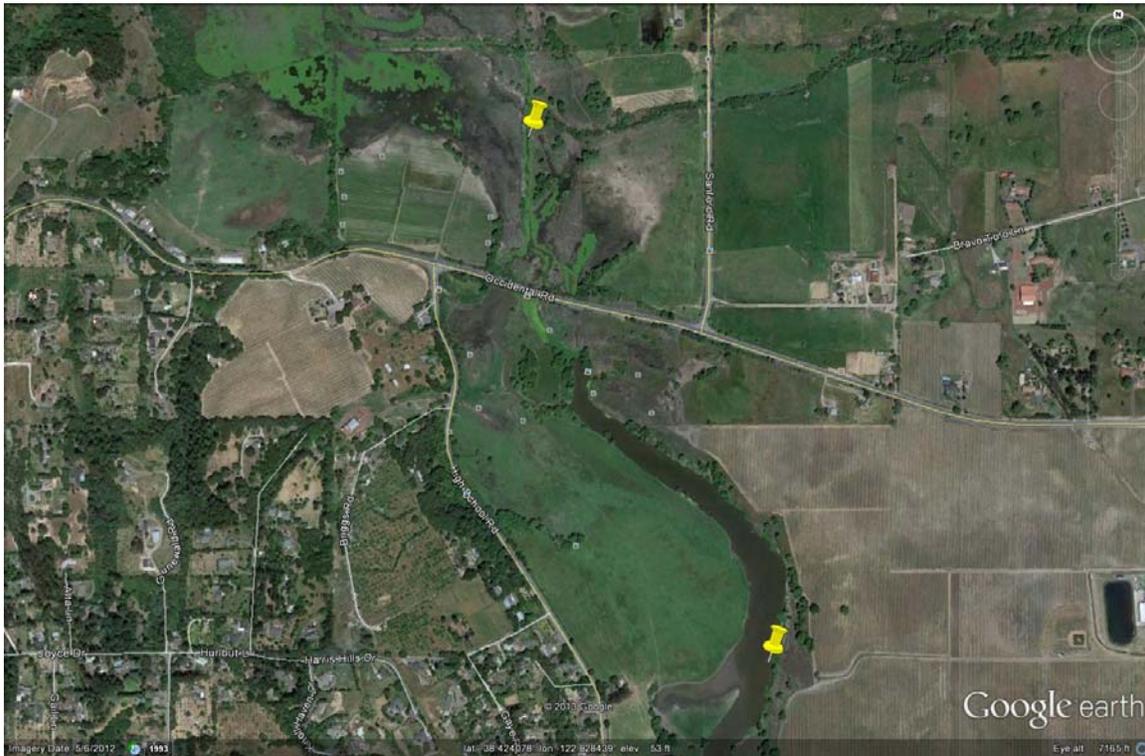
Date (s) of Collection: February 1, 2011

Samplers: Hatchery staff

Steelhead Trout										
TL (mm)	694	700	779	761	772					

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Laguna de Santa Rosa at Occidental Rd (114LDSROR)



Latitude: 38.428843

Longitude: -122.829693

Collection Method: Electro shocking boat

Date (s) of Collection: May 24, 2011

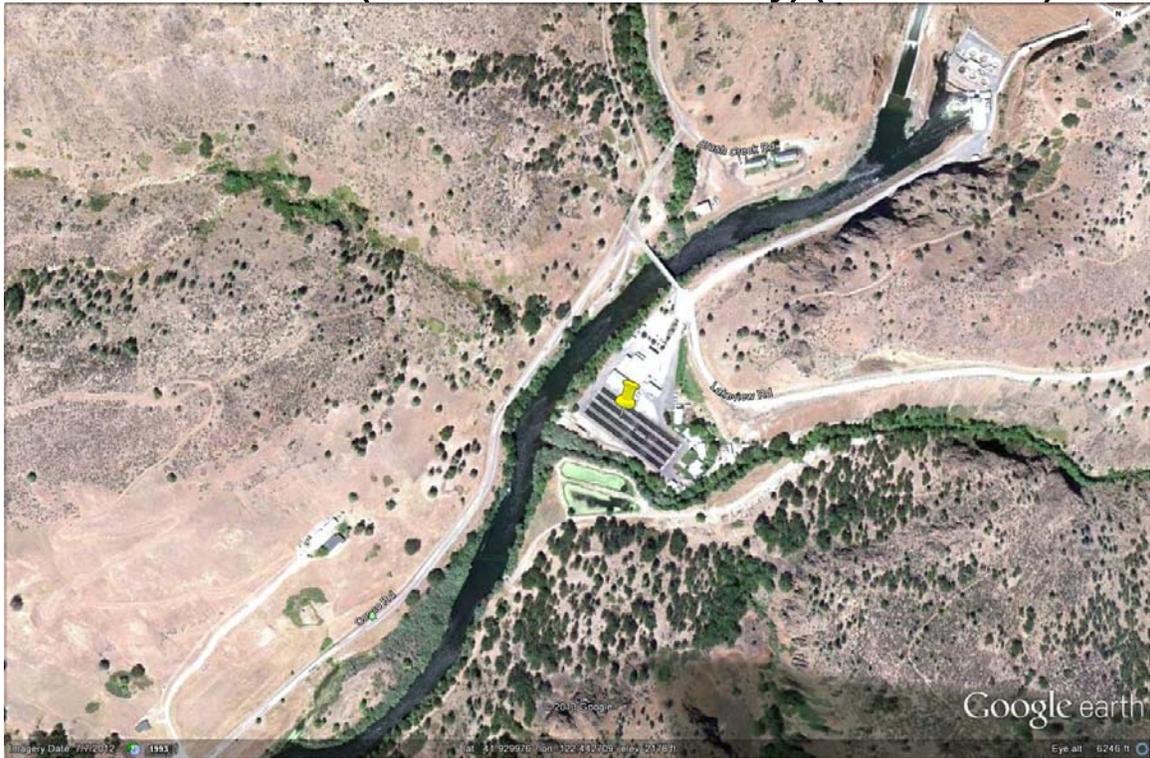
Samplers: Dylan Service and Dustin Service

Largemouth bass											
TL (mm)	210	245	283	262	309	325	316	308	308	409	410

Carp											
TL (mm)	495	455	444	525	515						

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Klamath River (Iron Gate Fish Hatchery) (105KLMHAT)



Latitude: 41.92956

Longitude: -122.44210

Collection Method: Dip net

Date (s) of Collection: October 19, 2011

Samplers: Keith Pomeroy

Chinook Salmon										
TL (mm)	672	606	711	632	626					

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Klamath River at Orlean (105KLAMOR)



Latitude: 41.28780

Longitude: -123.57038

Collection Method: Hook and line

Date (s) of Collection: August 1 & 3, 2011

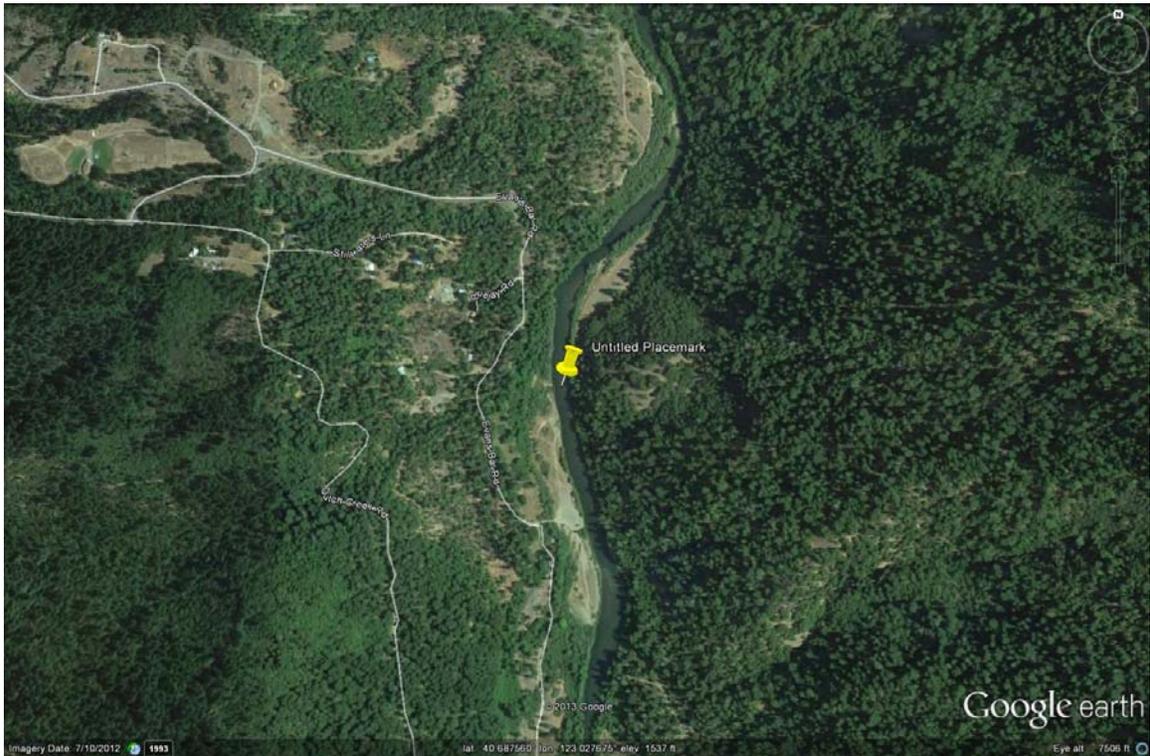
Samplers: Dylan Service, Dustin Service, Billy Jakl, and Sean Mundell

Rainbow Trout										
TL (mm)	155	175	182	170	191	196				

Comments: The fish were native trout. We moved the site due to no fish at original site.

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Trinity River at Willow Creek (106TRWILC)



Latitude: 40.68756

Longitude: -123.02768

Collection Method: Backpack electroshocker, Trap

Date (s) of Collection: June 27 & 29 and Various dates in August, 2011

Samplers: Dylan Service and Dustin Service (June) ,DFG Trinity River Project staff (August)

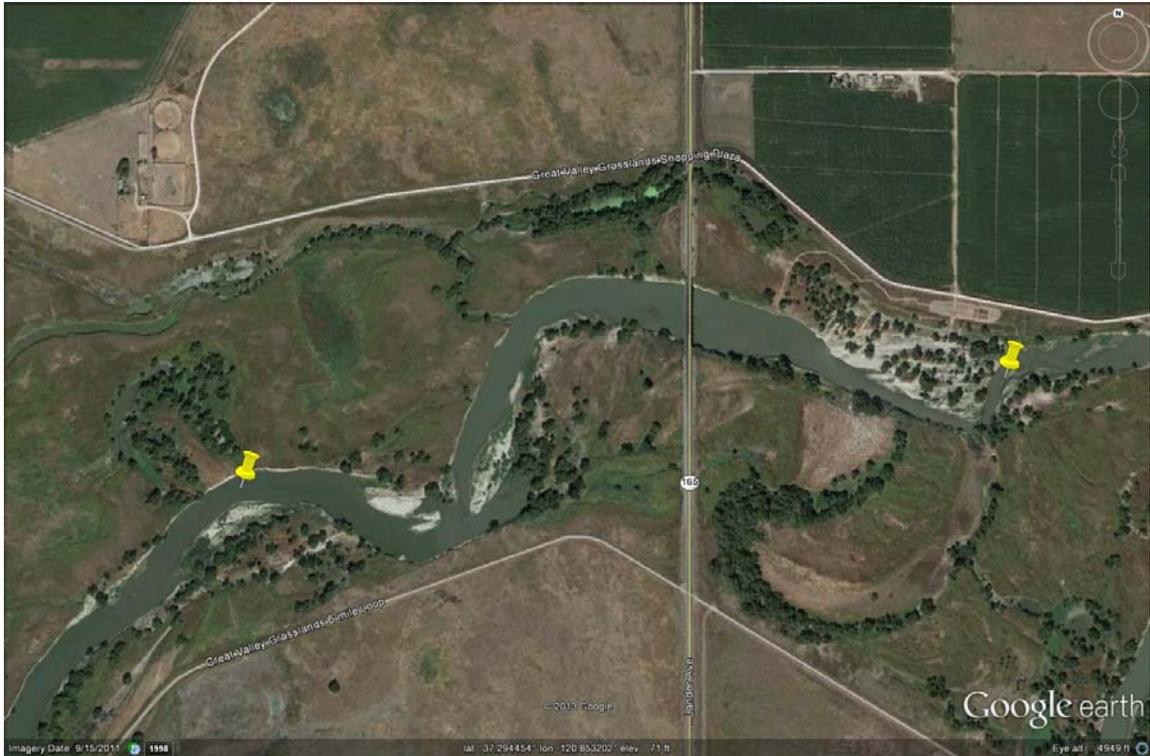
Brown Trout										
TL (mm)	350	400	390	400	390					

Rainbow Trout										
TL (mm)	175									

Comments: The brown trout were collected in August and the rainbow trout in June.

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San Joaquin River at Lander Avenue (541MER522)



Latitude: 37.29300

Longitude: -120.85891

Collection Method: Electroshocking boat

Date (s) of Collection: May 16 and July 20, 2011

Samplers: Gary Ichikawa and Billy Jakl

Largemouth bass											
TL (mm)	232	235	256	276	295	324	360	364	456	480	
TL (mm)	494	319	314	370							

Carp											
TL (mm)	431	445	432	492							

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Pit River at Big Bend (506SHA950)



Latitude: 41.02168

Longitude: -121.90407

Collection Method: Hook and line

Date (s) of Collection: August 22 & 23, 2011

Samplers: Dylan Service, Dustin Service and Billy Jakl

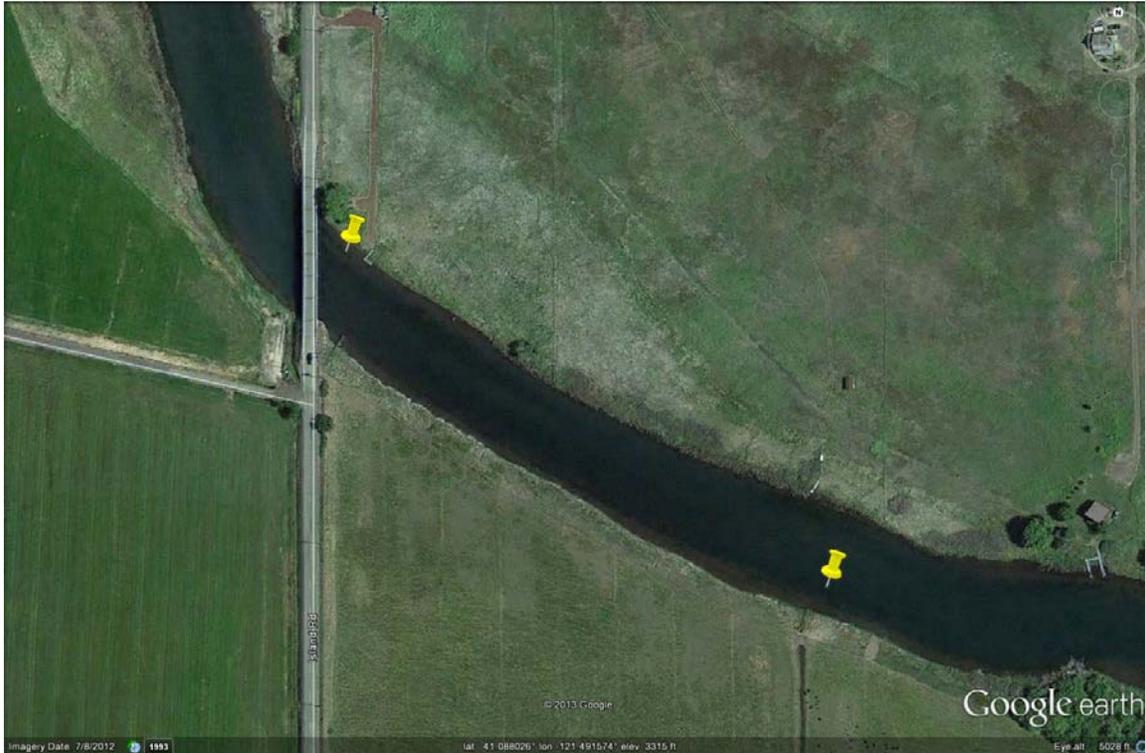
Rainbow trout										
TL (mm)	253	241	241	236	221					

Sacramento pike minnow										
TL (mm)	259	205	174	136	140	286	191			

Comments: Rainbow trout were native fish

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Fall River at Island Road near McArthur (526FRIRMA)



Latitude: 41.08862

Longitude: -121.49303

Collection Method: Electroshocking boat, hook and line

Date (s) of Collection: June 6 & July 11, 2011

Samplers: Dylan Service, Dustin Service, Darin Deel, Gary Ichikawa, and John Negrey

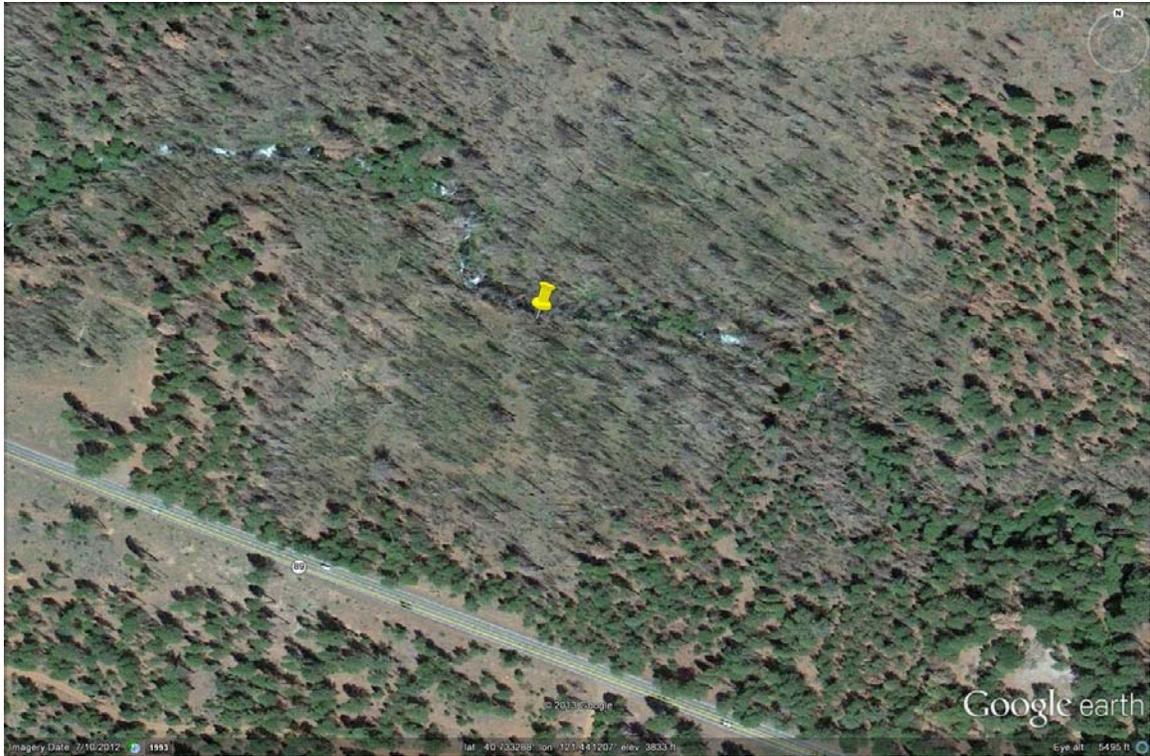
Rainbow trout										
TL (mm)	309	345	361	353	345	387	462			

Sacramento sucker										
TL (mm)	544	542	536	533	626					

Comments: All fish were collected with the electroshocking boat in July

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Hat Creek downstream Old Station (526HCRDOS)



Latitude: 40.73357

Longitude: -121.44147

Collection Method: Hook and line

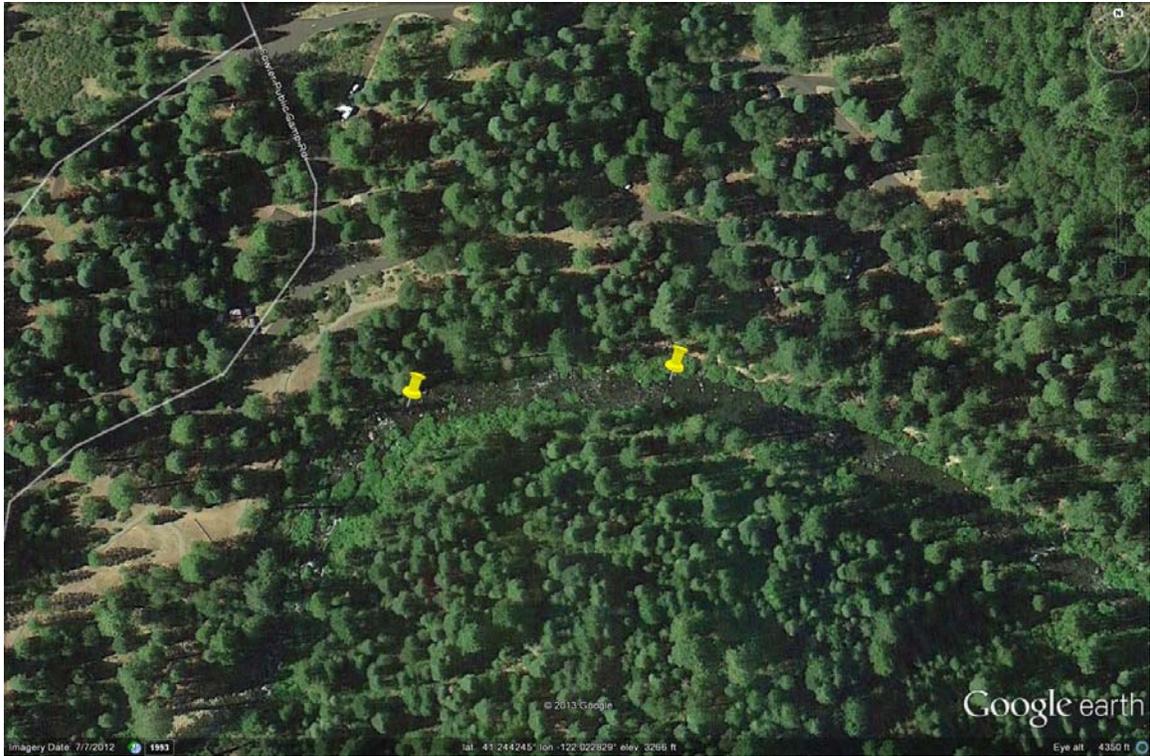
Date (s) of Collection: June 7, 2011

Samplers: Dylan Service and Dustin Service

Rainbow trout										
TL (mm)	301	257	272	249	256					

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McCloud River at Lower Falls below Fowlers Camp (505MRLFFC)



Latitude: 41.24427

Longitude: -122.02357

Collection Method: Hook and line

Date (s) of Collection: June 7 & July 12, 2011

Samplers: Dylan Service, Dustin Service, Gary Ichikawa, and John Negrey

Rainbow trout										
TL (mm)	255	319	282	305	311	176	232			

Brook trout										
TL (mm)	196	204								

Comments: The two brook trout and two small rainbow trout were collected at 41.24126,-122.02489.

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Sacramento River near Castle Crags State Park (525SRCCSP)



Latitude: 41.14997

Longitude: -122.30735

Collection Method: Hook and line

Date (s) of Collection: July 12, 2011

Samplers: Gary Ichikawa, and John Negrey

Rainbow trout										
TL (mm)	295	280	288	309	340					

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Sacramento River at Bend Bridge Near Red Bluff (508ADVSB)



Latitude: 40.26002

Longitude: -122.22565

Collection Method: Electroshocking boat

Date (s) of Collection: May 16, 2011

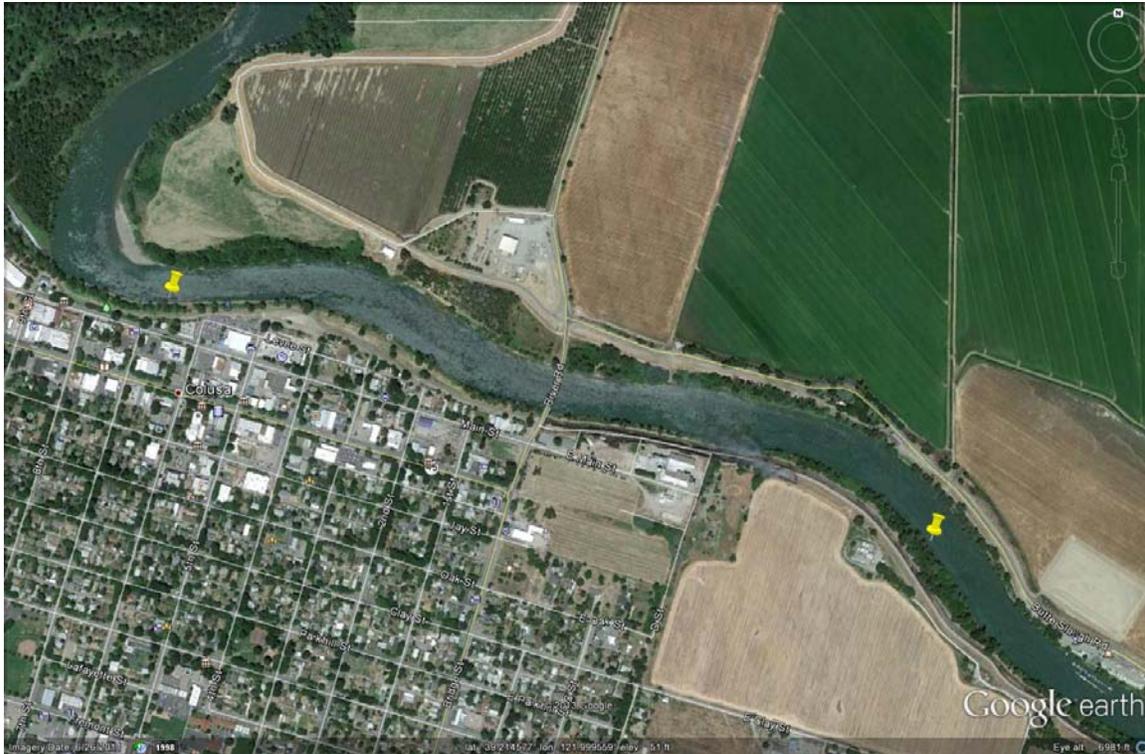
Samplers: Dylan Service and Dustin Service

Rainbow trout										
TL (mm)	335	333	341	309	347					

Sacramento sucker										
TL (mm)	445	479	495	465	421					

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Sacramento River at Colusa near Bridge Street (520SACLSA)



Latitude: 39.21612

Longitude: -121.00967

Collection Method: Electroshocking boat

Date (s) of Collection: May 31, 2011

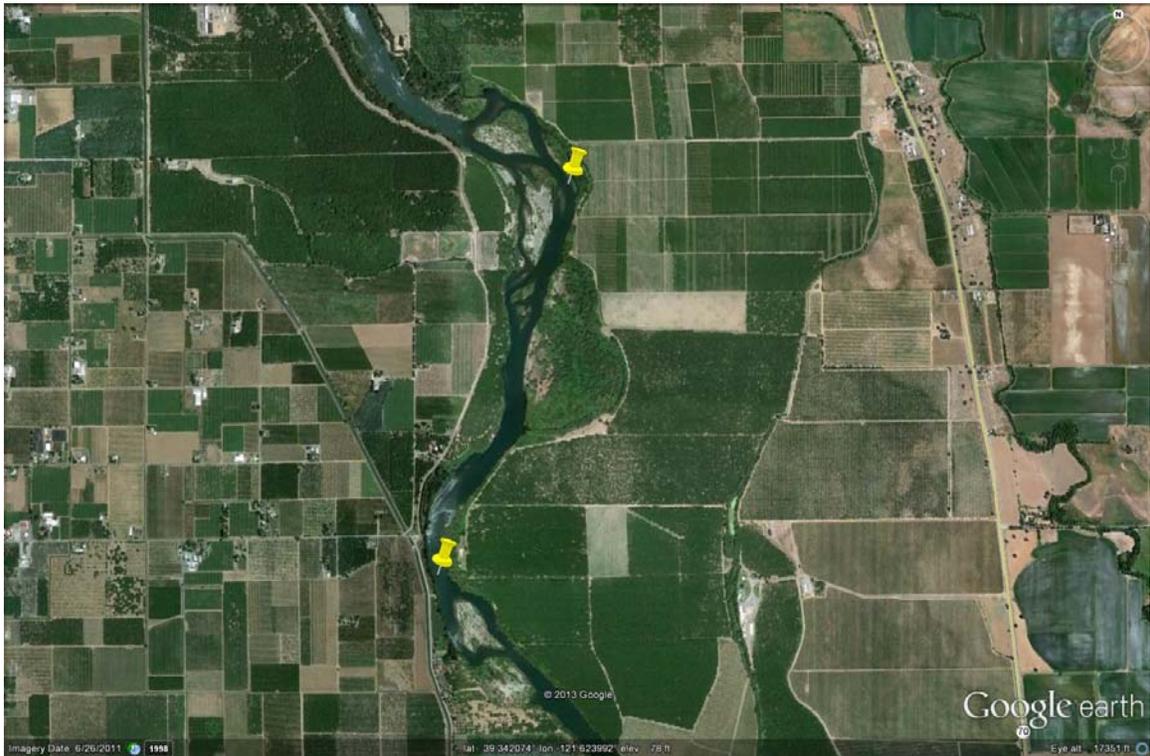
Samplers: Dylan Service and Dustin Service

Striped bass										
TL (mm)	244	248	351	366	571	516	529	554	560	573

Carp										
TL (mm)	389	376	384	411	402					

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Feather River upstream Yuba City (515FRUPYC)



Latitude: 39.33281

Longitude: -121.63268

Collection Method: Electroshocking boat

Date (s) of Collection: July 18, 2011

Samplers: Dylan Service and Dustin Service

Largemouth bass											
TL (mm)	462	447	355	346	352	340	340	290	266	227	215

Sacramento sucker											
TL (mm)	439	462	459	470	466						

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Sacramento River at RM44 (510INDM44)



Latitude: 38.43114

Longitude: -121.53341

Collection Method: Electroshocking boat

Date (s) of Collection: July 1, 2011

Samplers: Dylan Service and Dustin Service

Smallmouth bass											
TL (mm)	202	249	263	271	317	312	359	361	376	411	420

Sacramento sucker											
TL (mm)	441	453	499	477	448						

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San Joaquin River off Pt Antioch near fishing pier (510ST1492)



Latitude: 38.02830

Longitude: -121.77290

Collection Method: Electroshocking boat

Date (s) of Collection: April 18 & 21, 2011

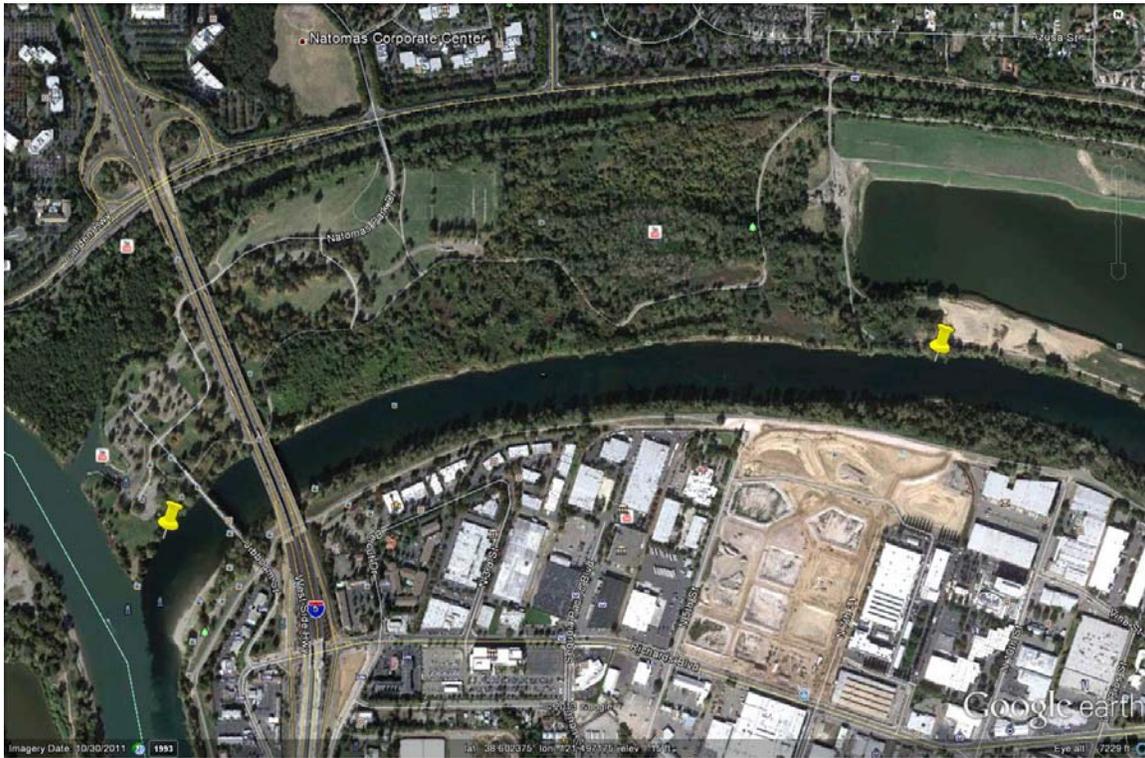
Samplers: Dylan Service and Dustin Service

Striped bass											
TL (mm)	541	527	496	441	407	237	238	850	956	1074	
TL (mm)	794	803									

Sacramento sucker											
TL (mm)	410	450	410	445	466						

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American River @ Discovery Park (519AMNDVY)



Latitude: 38.59926

Longitude: -121.50773

Collection Method: Electroshocking boat

Date (s) of Collection: April 25 & September 19, 2011

Samplers: Dylan Service, Dustin Service, and John Negrey

Largemouth bass											
TL (mm)	190	189	272	289	317	341	318	315	403	463	
TL (mm)	438										

Sacramento sucker											
TL (mm)	475	446	376	397	451						

Redear sunfish											
TL (mm)	214	190	186	168	171	166					

Comments: All the fish were collected in September.

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Spanish Creek at Oakland Camp Road crossing (518SPCOCR)



Latitude: 39.97456

Longitude: -120.90824

Collection Method: Hook and line

Date (s) of Collection: May 24 & July 27, 2011

Samplers: Gary Ichikawa, Billy Jakl, and Dustin Service

Rainbow trout										
TL (mm)	185	178	177	185	222	222	235			

Comments: Water levels were too high in May. All the fish were collected in July.

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Feather River Middle Fork @ Sloat (518PLU901)



Latitude: 39.86041

Longitude: -120.72463

Collection Method: Hook and line

Date (s) of Collection: July 26 & 27, 2011

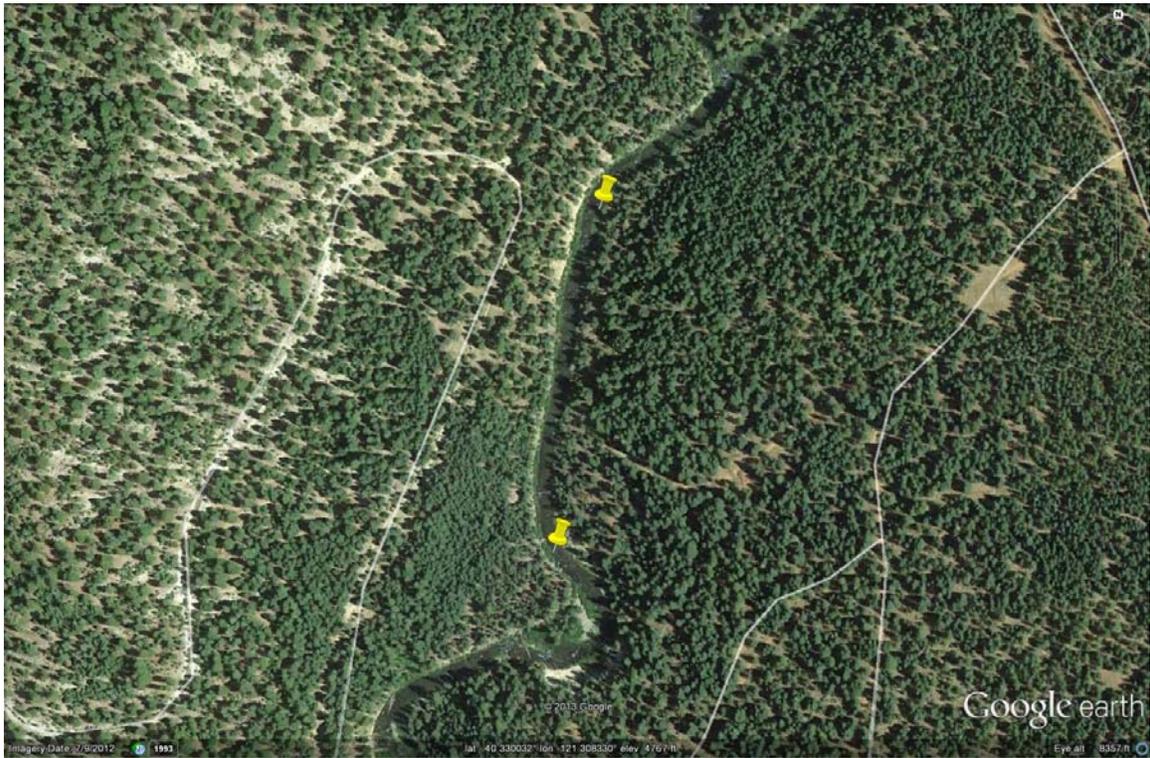
Samplers: Gary Ichikawa and Dustin Service

Rainbow trout										
TL (mm)	284	292	251	181	160	258	242	196		

Brown trout										
TL (mm)	259	264								

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Warner Creek 30 (518SED030)



Latitude: 40.36666

Longitude: -121.30716

Collection Method: Hook and line

Date (s) of Collection: July 26 & August 23 & 24, 2011

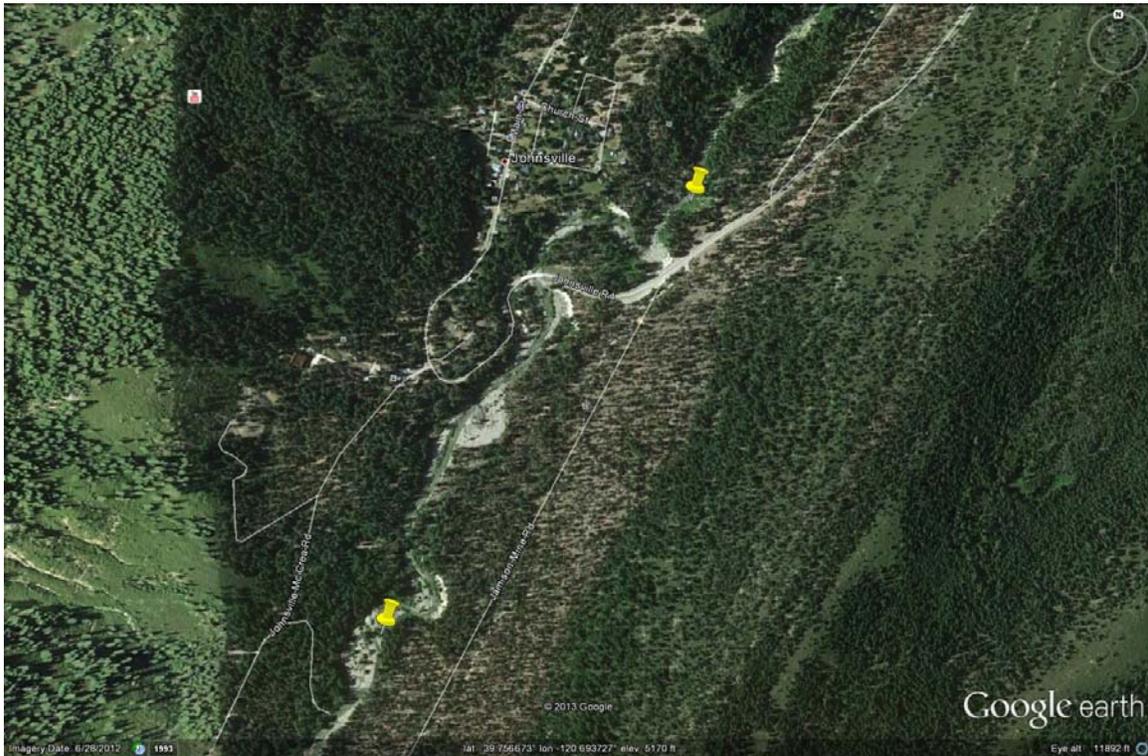
Samplers: Billy Jakl, Sean Mundell, Dylan Service and Dustin Service

Rainbow trout										
TL (mm)	350	229	207	198	210	183	144			

Brown trout										
TL (mm)	132	131	114							

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Jamison Creek 82 (518SED082)



Latitude: 40.36666

Longitude: -121.30716

Collection Method: Hook and line, backpack electroshocker

Date (s) of Collection: May 23 & July 26 & 27, 2011

Samplers: Gary Ichikawa, Billy Jakl, and Dustin Service

Rainbow trout										
TL (mm)	168									

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Feather River, Middle Fork upstream Clio (518MFFRUC)



Latitude: 39.74654

Longitude: -120.56721

Collection Method: Hook and line

Date (s) of Collection: May 23, 2011

Samplers: Gary Ichikawa and Billy Jakl

Rainbow trout										
TL (mm)	314	289	241	236	284					

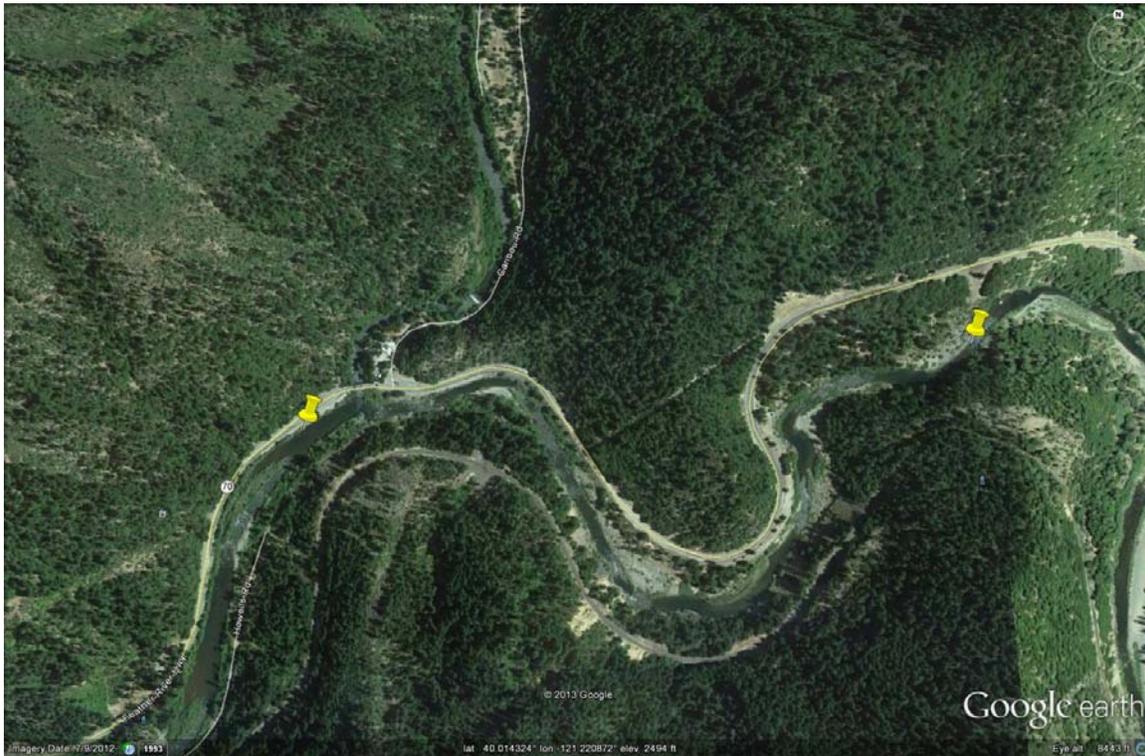
Largemouth bass										
TL (mm)	302	251								

Smallmouth bass										
TL (mm)	205									

Brook trout										
TL (mm)	177	168								

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Feather River, North Fork above Beldon Bridge (518NFFRBB)



Latitude: 40.01388

Longitude: -121.22560

Collection Method: Hook and line, backpack shocker, gill net

Date (s) of Collection: July 25, 27, 28, August 24, and September 20, 2011

Samplers: Dylan Service, Dustin Service, John Negrey, Sean Mundell, and Billy Jakl

Rainbow trout											
TL (mm)	234	234	265	300	337	389	380	302	220	218	

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Yuba River, South Fork above Canyon Creek (517YRSFNW)



Latitude: 39.36039

Longitude: -120.74963

Collection Method: Hook and line, gill net

Date (s) of Collection: July 19, 2011

Samplers: Dylan Service and Dustin Service

Rainbow trout										
TL (mm)	205	215	215	210	272	275	286			

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Yuba River South Fork upstream Lake Spaulding (517YRSFLS)



Latitude: 39.32098

Longitude: -120.37768

Collection Method: Hook and line, backpack shocker

Date (s) of Collection: July 20, 27 & August 22, 2011

Samplers: Dylan Service, Gary Ichikawa, John Negrey, Sean Mundell and Dustin Service

Brook trout											
TL (mm)	154	155	172	161	154	145	141	231	198	200	

California roach											
TL (mm)	130	126	125	152							

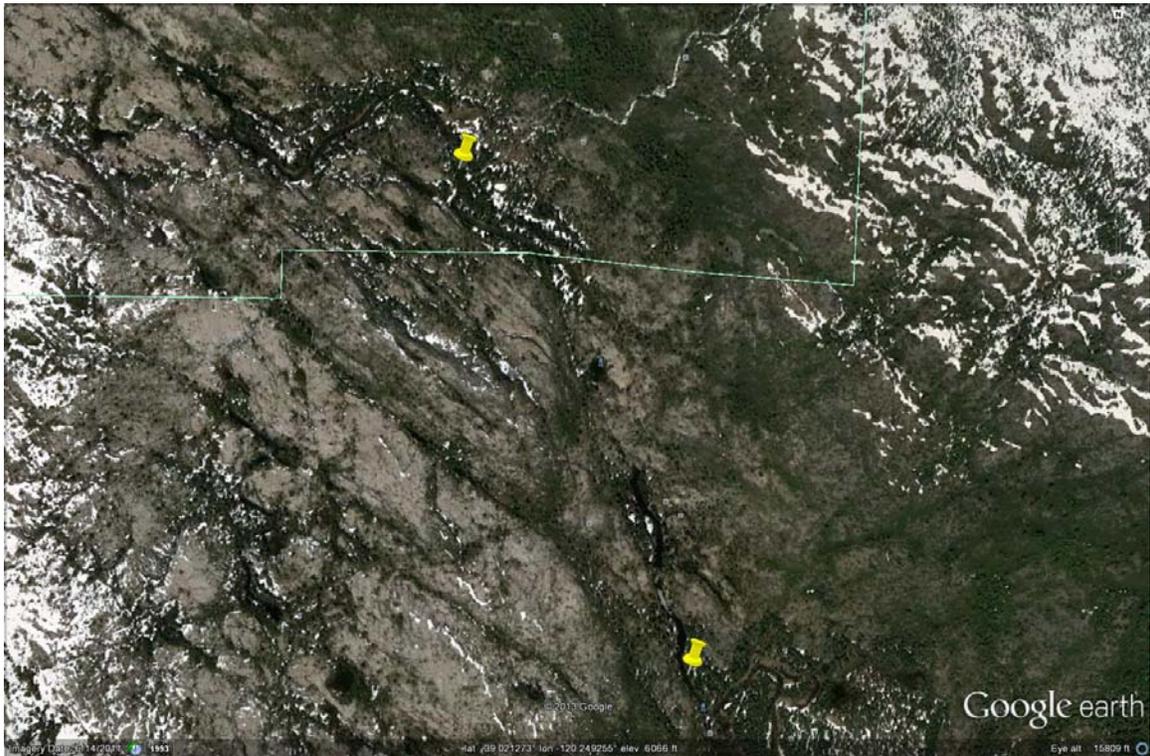
Yellow perch											
TL (mm)	165										

Brown trout											
TL (mm)	200										

Channel catfish											
TL (mm)	125										

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Rubicon River downstream Rubicon Springs (514RRRUBS)



Latitude: 39.02698

Longitude: -120.25342

Collection Method: Hook and line

Date (s) of Collection: July 20, 27 & August 22, 2011

Samplers: Dylan Service, Gary Ichikawa, John Negrey, and Dustin Service

Brook trout										
TL (mm)	217									

Rainbow trout										
TL (mm)	152									

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American River, South Fork at Coloma (514ARSFCL)



Latitude: 38.80513

Longitude: -120.89314

Collection Method: Hook and line, electroshocking boat

Date (s) of Collection: June 14, 15, & 30, 2011

Samplers: Gary Ichikawa, John Negrey, and Dylan Service

Rainbow trout										
TL (mm)	342	336	258	260	267					

Brown trout										
TL (mm)	212	198	196							

Sacramento pike minnow										
TL (mm)	395	381	435	400	392					

Sacramento sucker										
TL (mm)	491	505	441	442	425					

Comments: All the fish were collected on June 30th by electroshocking.

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San Joaquin River at Vernalis (541INDVRN)



Latitude: 37.66691

Longitude: -121.25314

Collection Method: Electroshocking boat

Date (s) of Collection: May 16, 2011

Samplers: Gary Ichikawa, and Billy Jakl

Largemouth bass											
TL (mm)	234	215	234	257	341	315	328	384	390	445	461

Carp											
TL (mm)	684	580	640	6464	609						

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Mokelumne River near I-5 (544MOKNH5)



Latitude: 38.25494

Longitude: -121.43745

Collection Method: Electroshocking boat

Date (s) of Collection: April 26, May 17, & July 21, 2011

Samplers: Gary Ichikawa, Dylan Service, Dustin Service, Jennifer Salisbury, and Billy Jakl

Largemouth bass											
TL (mm)	506	450	395	391	332	326	205	203	399	385	260

Rainbow trout											
TL (mm)	370	352	366	313	316						

Striped bass											
TL (mm)	505	625									

Sacramento sucker											
TL (mm)	488	436	472	485	488						

Channel catfish					White catfish					
TL (mm)	498				TL (mm)	331	580	640	646	609

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San Joaquin R at Louis Park (544LSAC12)



Latitude: 37.95601

Longitude: -121.34730

Collection Method: Electroshocking boat

Date (s) of Collection: April 20,2011

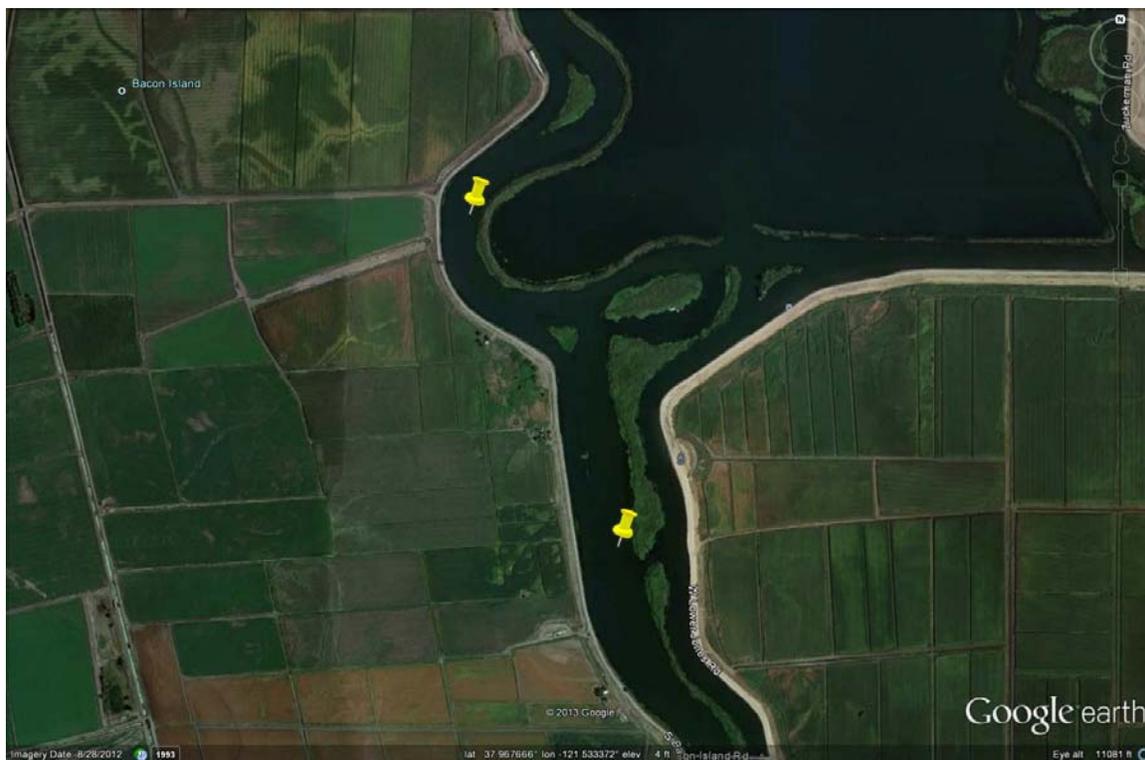
Samplers: Dylan Service and Dustin Service

Largemouth bass											
TL (mm)	580	572	322	360	354	359	331	209	235	296	295

White catfish											
TL (mm)	403	337	315	309	317						

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Middle River near Empire Cut (544MREMP)



Latitude: 37.96278

Longitude: -121.53193

Collection Method: Electroshocking boat

Date (s) of Collection: April 19,2011

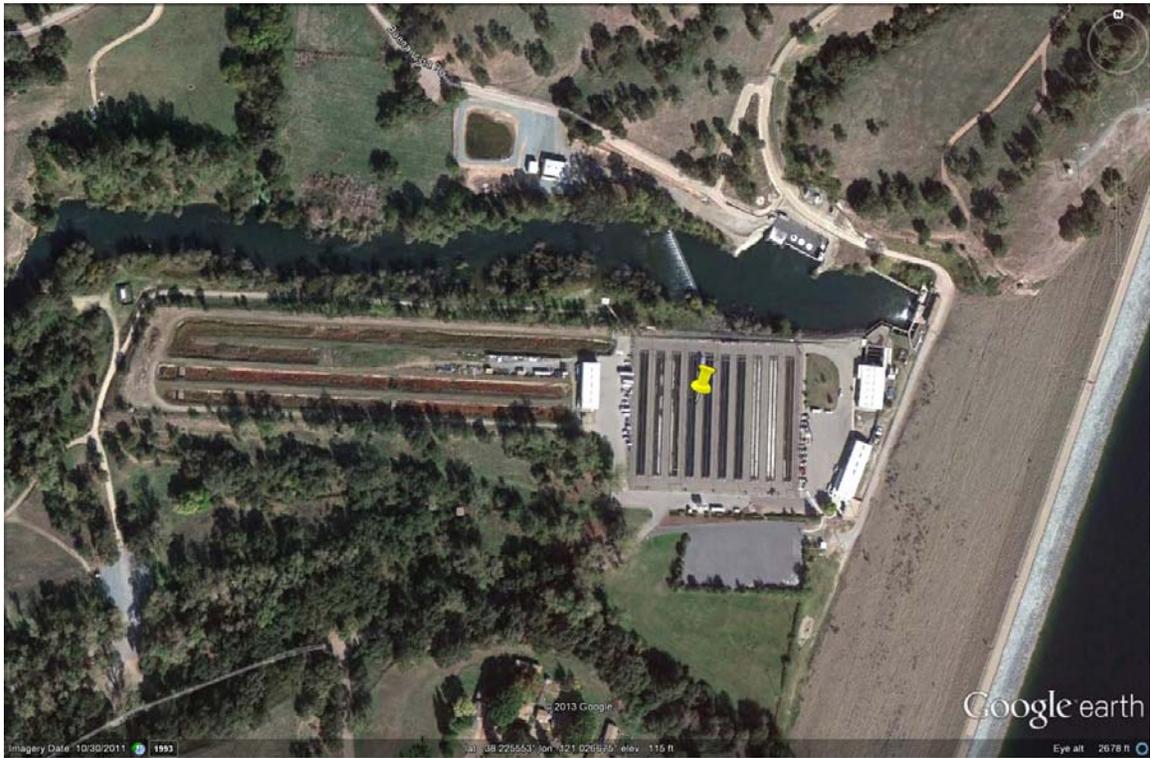
Samplers: Dylan Service and Dustin Service

Largemouth bass											
TL (mm)	295	305	219	205	505	537	382	347	330	349	394

Carp											
TL (mm)	680	776	735	879	856						

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Mokelumne River Fish Hatchery (531ADVMOK)



Latitude: 38.22540

Longitude: -121.02562

Collection Method: Dip net

Date (s) of Collection: February 10, 2011 & January 5, 2012

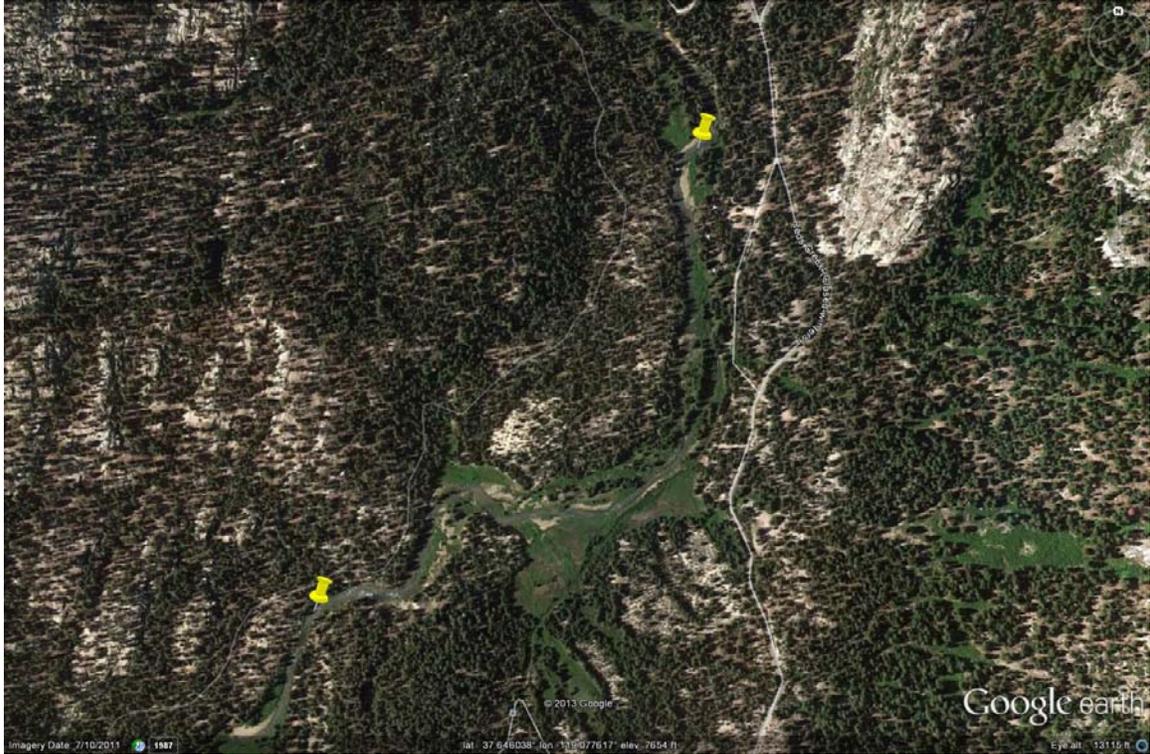
Samplers: Hatchery staff

Chinook salmon										
TL (mm)	795	855	815	714	842					

Steelhead trout										
TL (mm)	522	499	485	531	500					

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San Joaquin River, Middle Fork near Agnew Meadows (540SJRMFA)



Latitude: 37.65025

Longitude: -119.075156

Collection Method: Hook and line

Date (s) of Collection: August 10, 2011

Samplers: Dylan Service and Dustin Service

Rainbow trout										
TL (mm)	259	260	278	282	260	243	199	204	192	

Brown trout										
TL (mm)	180	202	191	172						

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Merced River at El Portal Foresta Road (537MCRAEP)



Latitude: 37.66938

Longitude: -119.81729

Collection Method: Hook and line

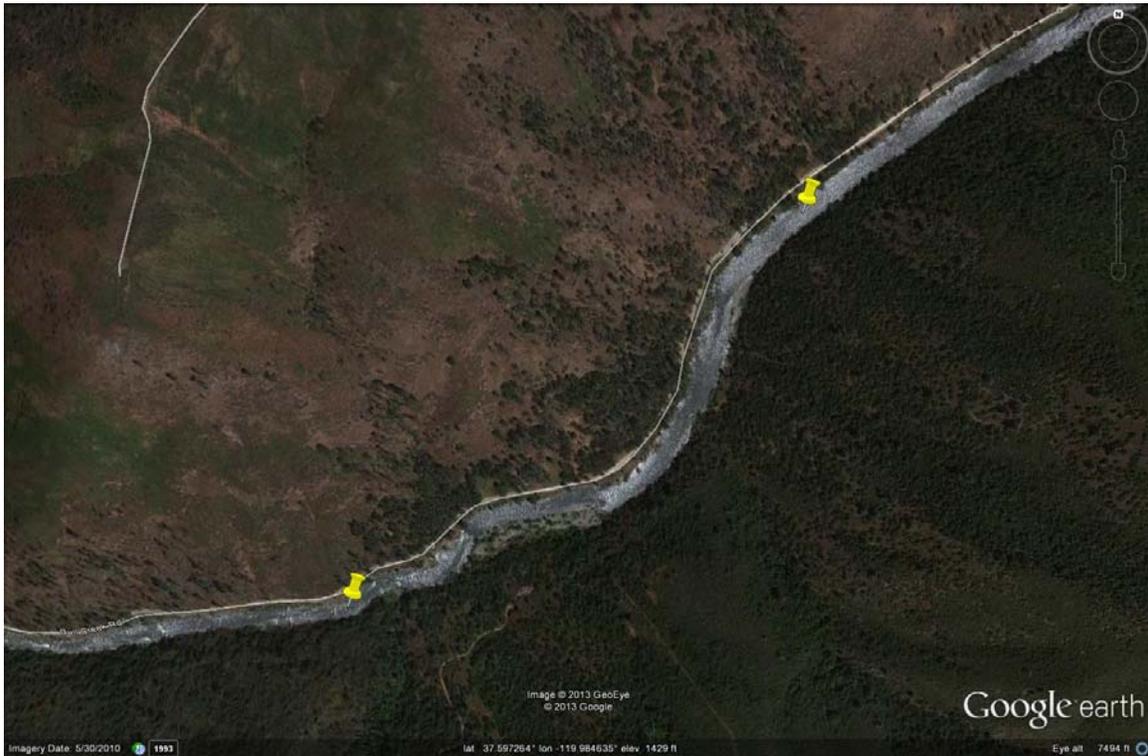
Date (s) of Collection: September 6, 2011

Samplers: Gary Ichikawa and Billy Jakl

Rainbow trout										
TL (mm)	213	260	262	406	392					

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Merced River below Briceburg Bridge (537MCRBBB)



Latitude: 37.600211

Longitude: -119.97961

Collection Method: Hook and line

Date (s) of Collection: August 8, September 6, & October 4, 2011

Samplers: Dylan Service and Dustin Service

Rainbow trout											
TL (mm)	324	377	348	396	388	250	240	275	263	292	
TL (mm)	217	237									

Smallmouth bass											
TL (mm)	187	219	222	234	243	231	224	235	215		

Comments: Most of the trout were collected in October and all of the bass were collected in September.

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Tuolumne River below Forest Route 1N07 Bridge (536TRCHEC)



Latitude: 37.87545

Longitude: -119.96284

Collection Method: Hook and line

Date (s) of Collection: August 15 & 17, 2011

Samplers: Dylan Service, Gary Ichikawa, Chandler Ichikawa, and Dustin Service

Rainbow trout											
TL (mm)	285	208	227	170	174	156	316	272	267	237	
TL (mm)	215	162	155	141							

Brown trout											
TL (mm)	173	246									

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Cosumnes River, Middle Fork at Pi Pi (532MFCRPP)



Latitude: 38.56789

Longitude: -120.44676

Collection Method: Hook and line and backpack shocker

Date (s) of Collection: August 16 & 23, 2011

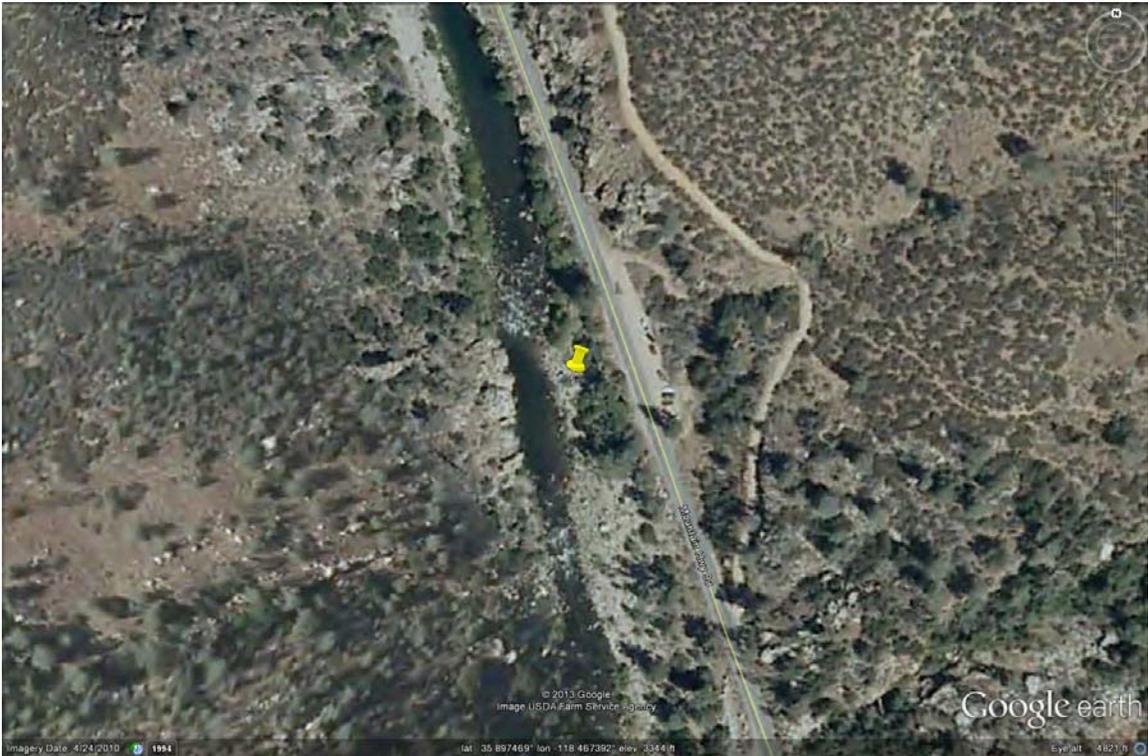
Samplers: Gary Ichikawa, Chandler Ichikawa, Sean Mundell, and John Negrey

Rainbow trout										
TL (mm)	130	131	131	160	168	171	212			

Comments: Rainbow trout were native fish.

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Kern River Below Fairview Campground (554KRBFVC)



Latitude: 35.89747
Longitude: -118.46742

Collection Method: Hook and line and backpack shocker

Date (s) of Collection: April 19 & July 12, 2011

Samplers: Dylan Service, Dustin Service, and Guy Jeans

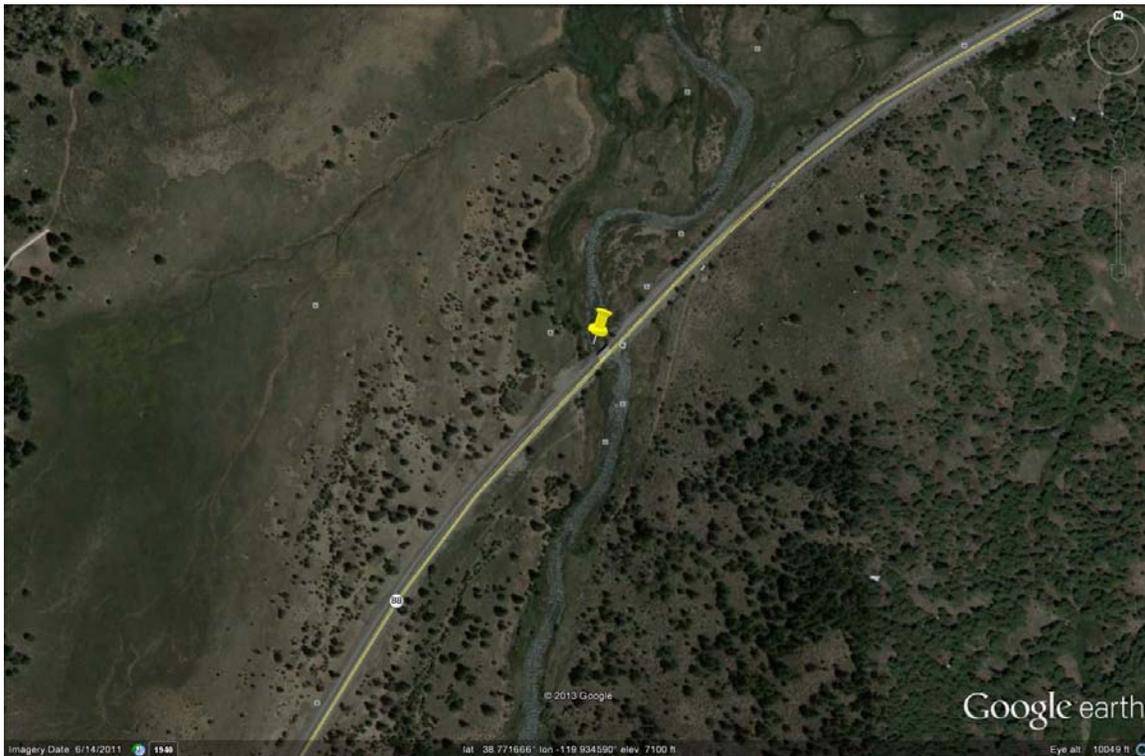
Rainbow trout										
TL (mm)	251	263	267	269	267					

Sacramento sucker										
TL (mm)	332	351								

Comments: All fished collected in July with hook and line.

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West Fork Carson River, at HWY 89 (Hope Valley) (633WCR004)



Latitude: 38.77196

Longitude: -119.93439

Collection Method: Hook and line

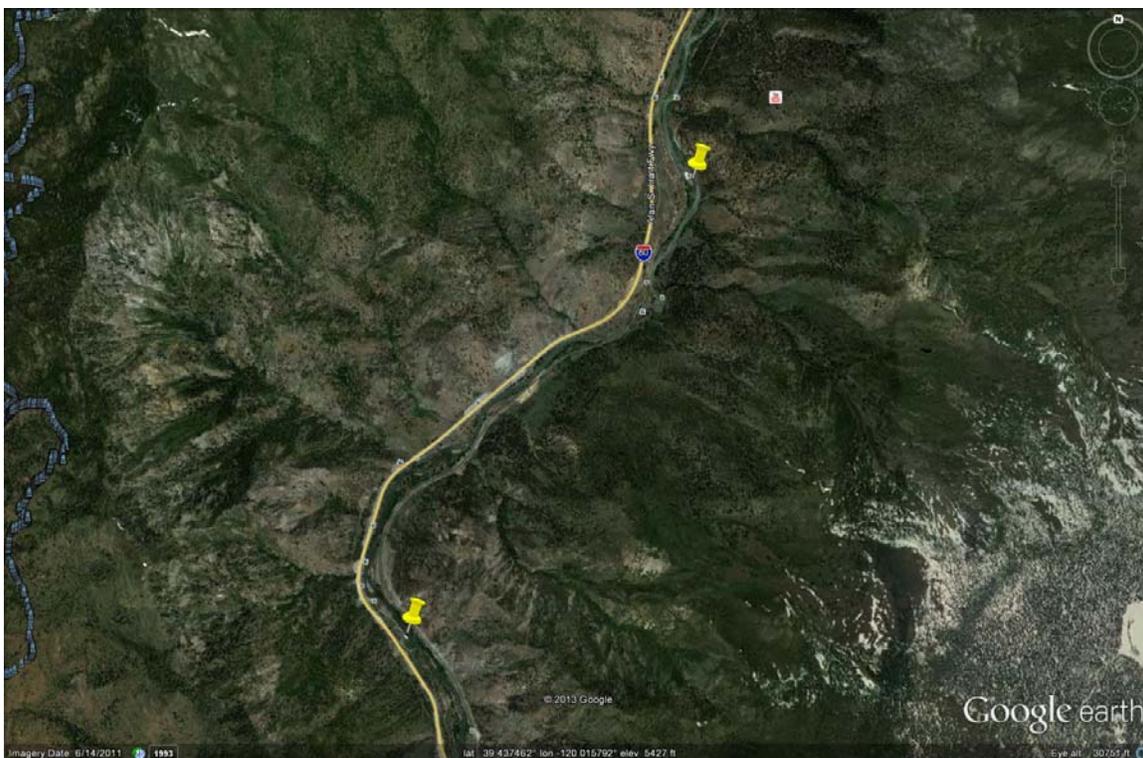
Date (s) of Collection: August 15, 2011

Samplers: Gary Ichikawa and Chandler Ichikawa

Rainbow trout										
TL (mm)	267	268	281	328	298					

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Middle Truckee River, Below Canyon 24 (635MTR001)



Latitude: 39.42215

Longitude: -120.03343

Collection Method: Hook and line

Date (s) of Collection: August 3, 4, 23, September 20 & 21, 2011

Samplers: Dylan Service, Dustin Service, Gary Ichikawa, Sean Mundell, and John Negrey

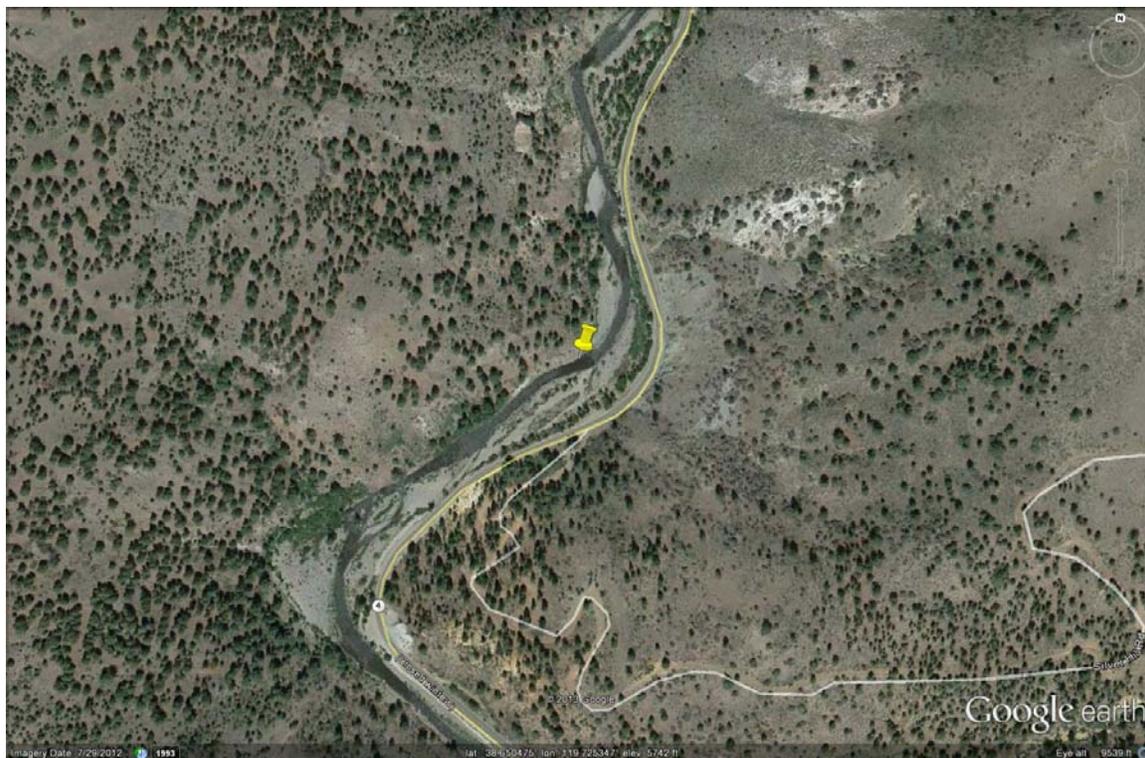
Rainbow trout										
TL (mm)	233	225	220	271	325					

Brown trout										
TL (mm)	292	254	224	195	204	210	192	174	181	196

Comments: All fished collected were native trout

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**Carson River, East Fork upstream of Hangman's Bridge
(632ECR009)**



Latitude: 38.65075

Longitude: -119.72537

Collection Method: Hook and line

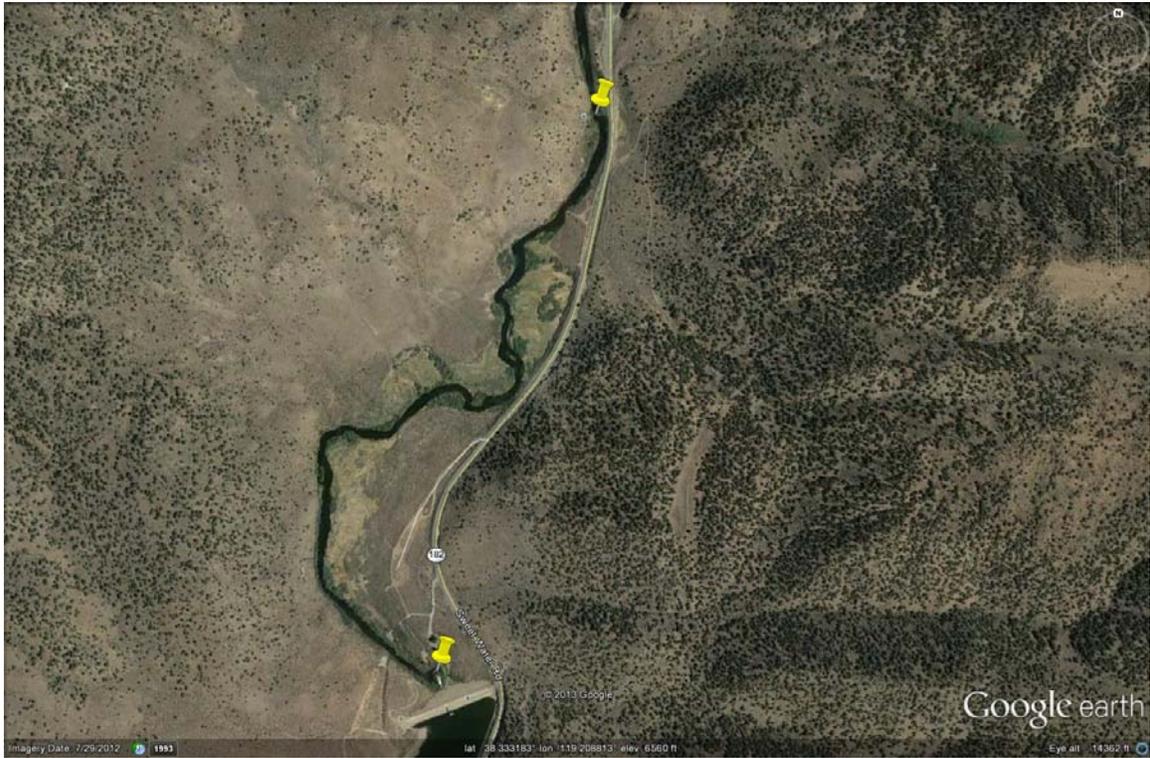
Date (s) of Collection: August 15, 2011

Samplers: Gary Ichikawa and Chandler Ichikawa

Rainbow trout										
TL (mm)	240	248	261	270	288					

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East Walker River below Bridgeport Reservoir (630EWK002)



Latitude: 38.32684

Longitude: -119.21276

Collection Method: Hook and line and backpack shocker

Date (s) of Collection: August 8, 30, September 6, 7 & 8, 2011

Samplers: Dylan Service, Dustin Service, Gary Ichikawa, and Billy Jakl

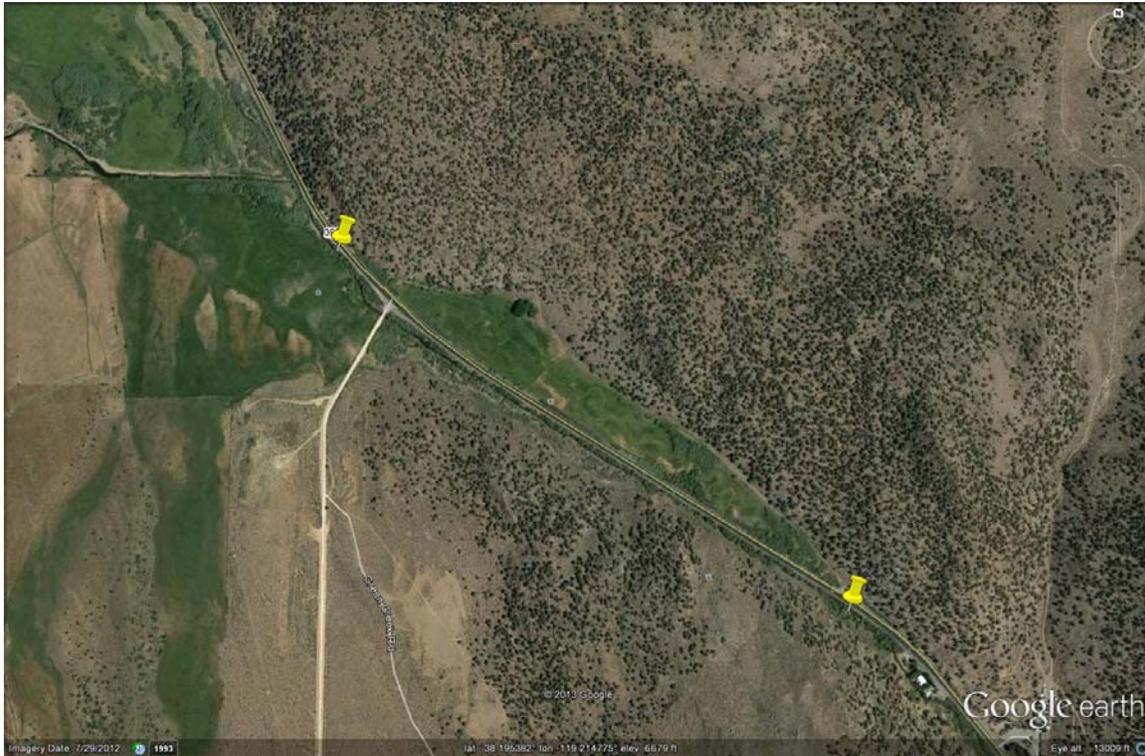
Rainbow trout										
TL (mm)	461									

Sacramento blackfish										
TL (mm)	310	284	307	272	310	343				

Comments: A lot of sub-legal (18 inches) trout caught.

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Virginia Cr, below Willow Springs (at USGS gage) (630VIR004)



Latitude: 38.191366

Longitude: -119.208849

Collection Method: Hook and line and backpack shocker

Date (s) of Collection: August 9, 2011

Samplers: Dylan Service and Dustin Service

Rainbow trout										
TL (mm)	229	246	285	270	255	271				

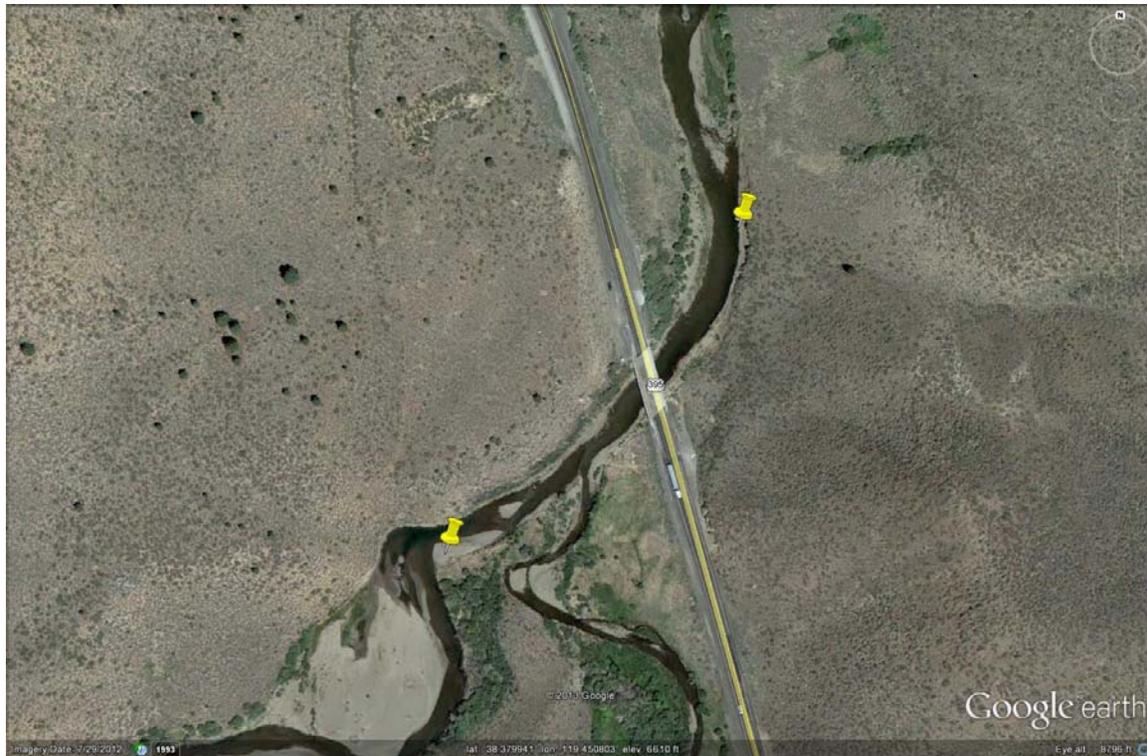
Sacramento sucker											
TL (mm)	140	117	145	132	130	117	107	127	122	133	114

Brown trout										
TL (mm)	140	136								

Comments: The trout were caught by hook and line and suckers caught by backpack shocker.

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West Walker River, near Chris Flat Campground (631WWK011)



Latitude: 38.38087

Longitude: -119.44959

Collection Method: Hook and line

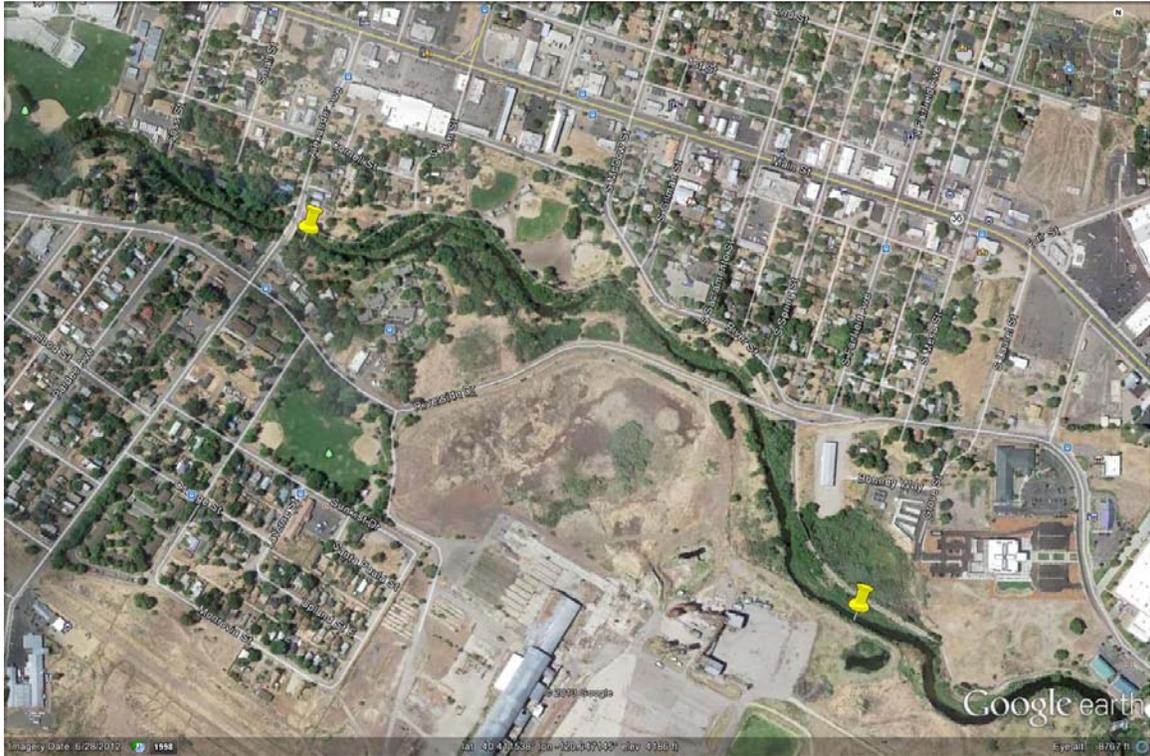
Date (s) of Collection: August 16, 2011

Samplers: Dylan Service, Dustin Service, Gary Ichikawa, and Chandler Ichikawa

Rainbow trout										
TL (mm)	309	271	265	232	266	259				

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Susan River above Jensen Slough (637CE0143)



Latitude: 40.41350

Longitude: -120.65224

Collection Method: Hook and line and backpack shocker

Date (s) of Collection: July 26 and 27, 2011

Samplers: Billy Jakl and Sean Mundell

Brown trout										
TL (mm)	330	173	185	190	172	160	248	270		

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Buckeye Cr, above Eagle Cr (above campground) (630BUC003)



Latitude: 38.23715

Longitude: -119.35800

Collection Method: Hook and line

Date (s) of Collection: August 16, 2011

Samplers: Dylan Service and Dustin Service

Rainbow trout										
TL (mm)	283	263	285	251	281	280	192			

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Lee Vining Cr, at Moraine Camp (601LVC001)



Latitude: 37.93292

Longitude: -119.178400

Collection Method: Hook and line

Date (s) of Collection: August 8 & 9, 2011

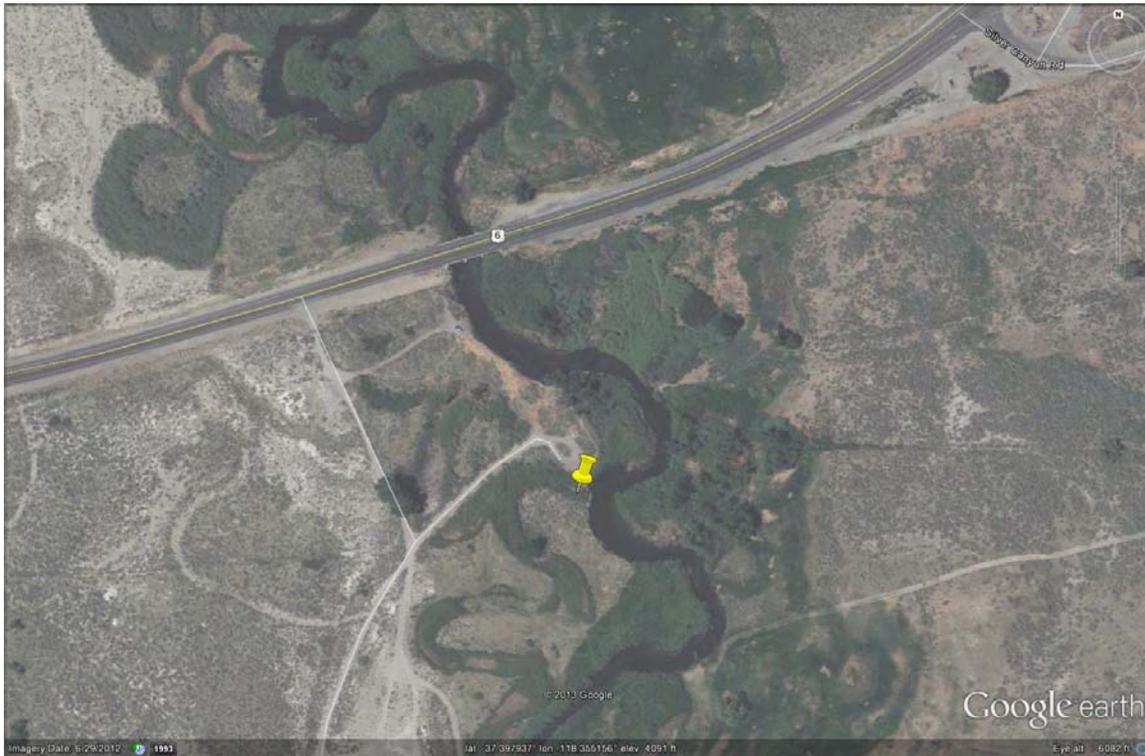
Samplers: Dylan Service and Dustin Service

Rainbow trout											
TL (mm)	320	282	290	275	229	196	292	212	205		

Brown trout											
TL (mm)	263										

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Owens River at Hwy 6 (603LOW009)



Latitude: 37.397326

Longitude: -118.355167

Collection Method: Hook and line

Date (s) of Collection: August 8 & 9, 2011

Samplers: Dylan Service and Dustin Service

Rainbow trout											
TL (mm)	240	259	273	274	276						

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Bishop Creek below Bishop Park Campground (603BSP009)



Latitude: 37.245602

Longitude: -118.587104

Collection Method: Hook and line

Date (s) of Collection: July 13, 2011

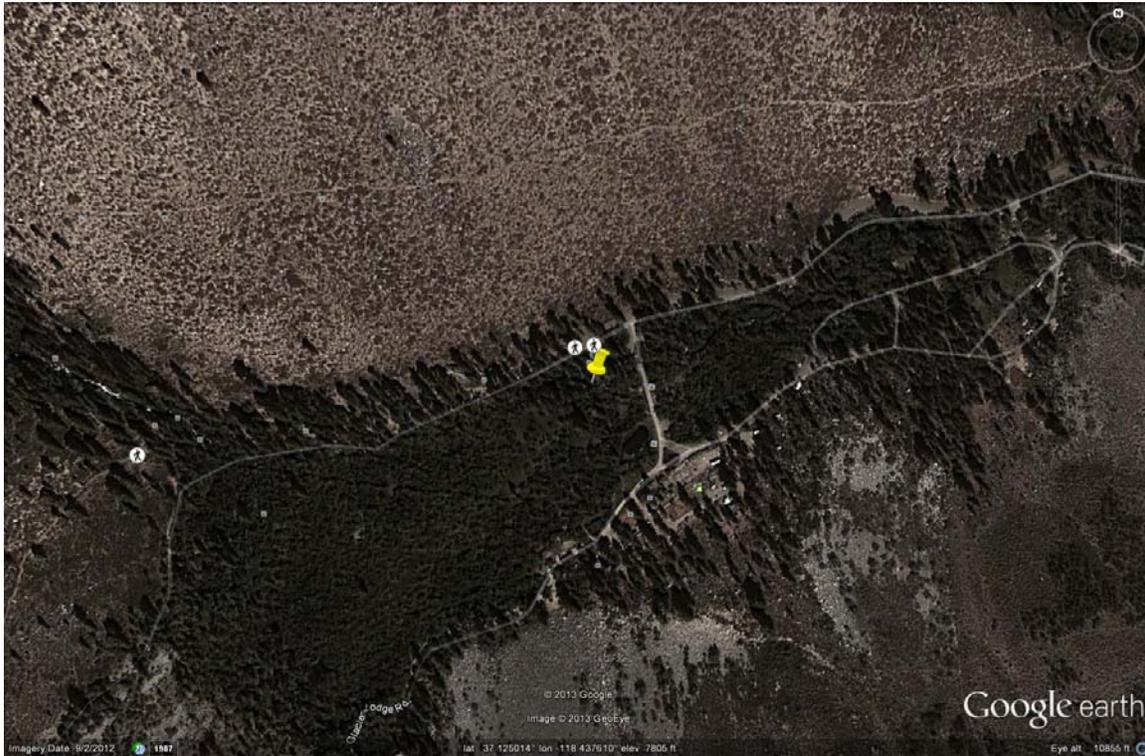
Samplers: Dylan Service and Dustin Service

Rainbow trout										
TL (mm)	272	282	293	314	316	315				

Brown trout										
TL (mm)	199	202	207	227	227	259				

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Big Pine Creek above Big Pine Campground (603BIG005)



Latitude: 37.2125004

Longitude: -118.437480

Collection Method: Hook and line

Date (s) of Collection: July 12, 2011

Samplers: Dylan Service and Dustin Service

Rainbow trout										
TL (mm)	261	264	297	304	319					

Back to Table

Independence Creek at Grays Meadow Campground (603IND005)



Latitude: 36.78393

Longitude: -118.292293

Collection Method: Hook and line and backpack shocker

Date (s) of Collection: June 14, 2011

Samplers: Dylan Service and Dustin Service

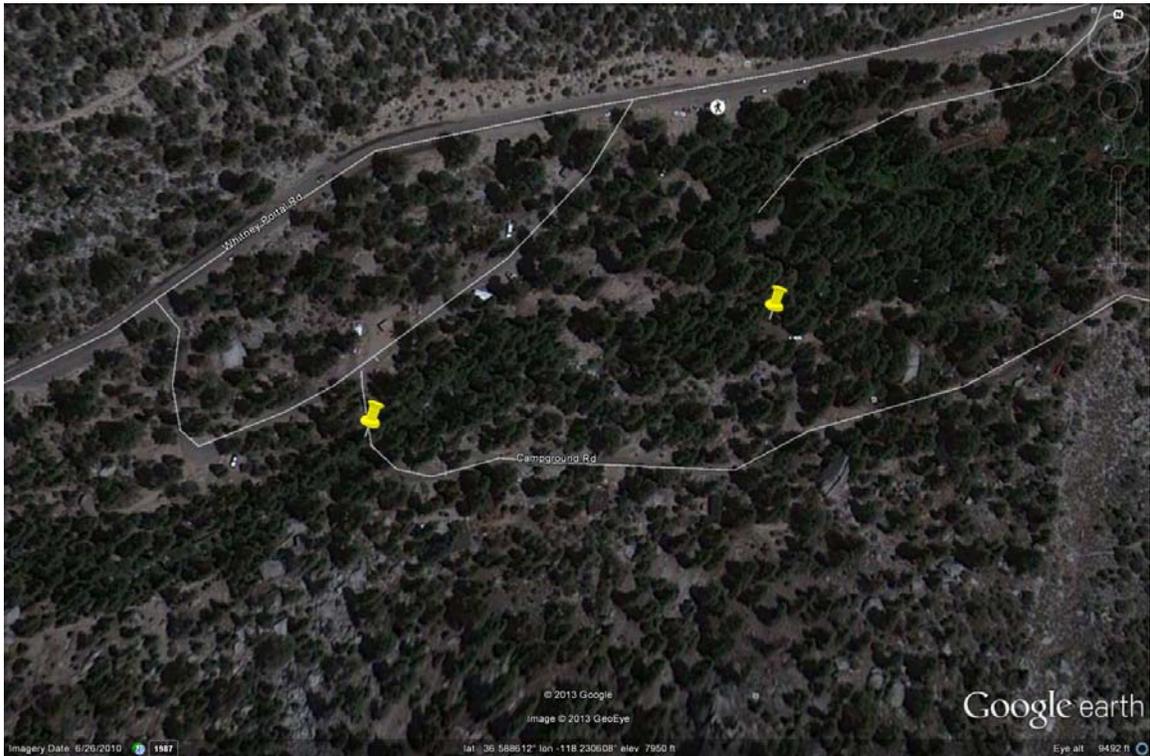
Rainbow trout											
TL (mm)	357	324	306	297							

Brown trout											
TL (mm)	231	167	162								

Comments: All fish collected with backpack shocker.

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Lone Pine Creek at Whitney Portal Campground (603LPC005)



Latitude: 36.58839

Longitude: -118.23171

Collection Method: Hook and line and backpack shocker

Date (s) of Collection: June 13 & 14, 2011

Samplers: Dylan Service and Dustin Service

Rainbow trout										
TL (mm)	245	261	264	301	334					

Brown trout										
TL (mm)	156	179	178	200	212	245				

Comments: All fish collected with backpack shocker.

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Colorado River at Blythe (715CRBLYT)



Latitude: 33.77359

Longitude: -114.50886

Collection Method: Electroshocking boat

Date (s) of Collection: May 10, 2011

Samplers: Dylan Service and Dustin Service

Largemouth bass											
TL (mm)	380	410	370	335	402	492	465	280	295	230	242

Carp											
TL (mm)	575	665	565	583	650						

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Santa Ana River Northwest of South Fork Campgrounds (801SARERL)



Latitude: 34.17514

Longitude: -116.83923

Collection Method: Backpack shocker

Date (s) of Collection: April 4 & 5, 2011

Samplers: Billy Jakl and Sean Mundell

Brook trout											
TL (mm)	157	165	165	178	175	180	186	192	228	233	240

Rainbow trout											
TL (mm)	262	272	245								

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Mokelumne River, NF below Grouse Cr (532PS0050)



Latitude: 38.53712

Longitude: -119.89982

Collection Method: Backpack shocker

Date (s) of Collection: September 14, 2011

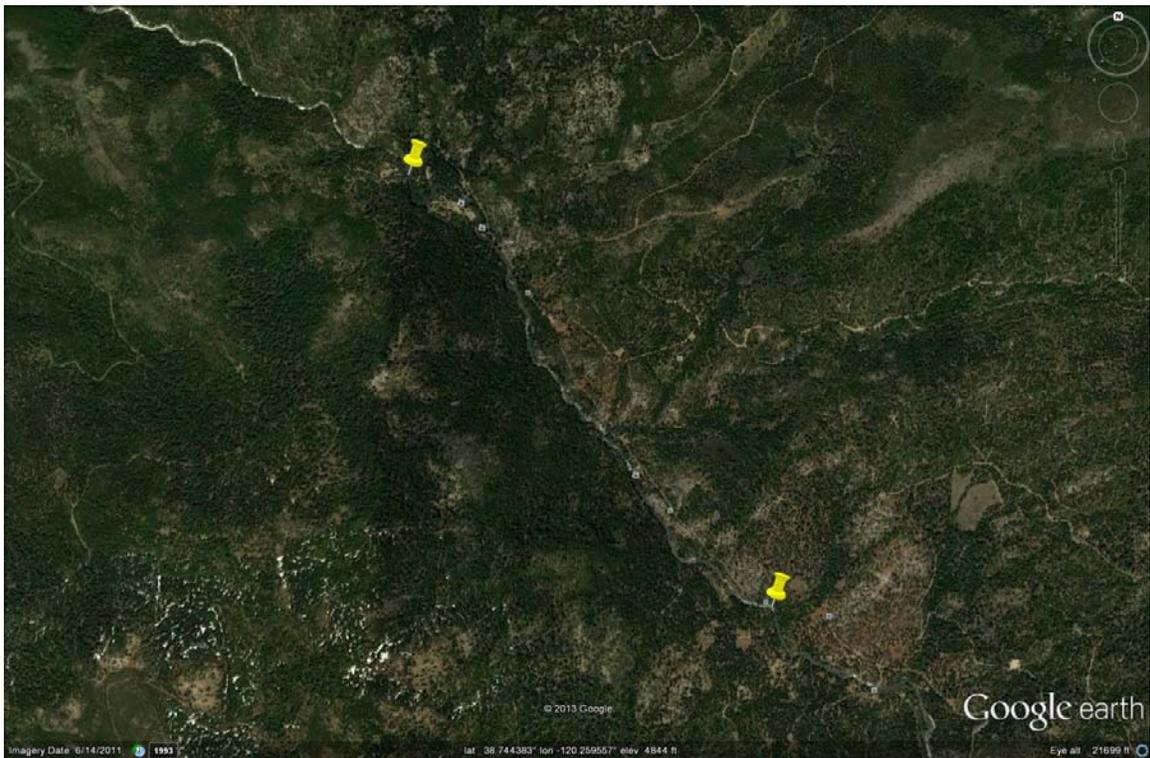
Samplers: Dylan Service and Dustin Service

Rainbow trout										
TL (mm)	168									

Brook trout											
TL (mm)	195	200	192	170	182	191	166	185	179	176	169

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American River, Silver Fork (514SFARKB)



Latitude: 38.75409

Longitude: -120.26976

Collection Method: Hook and line and backpack shocker

Date (s) of Collection: September 12 & 13, 2011

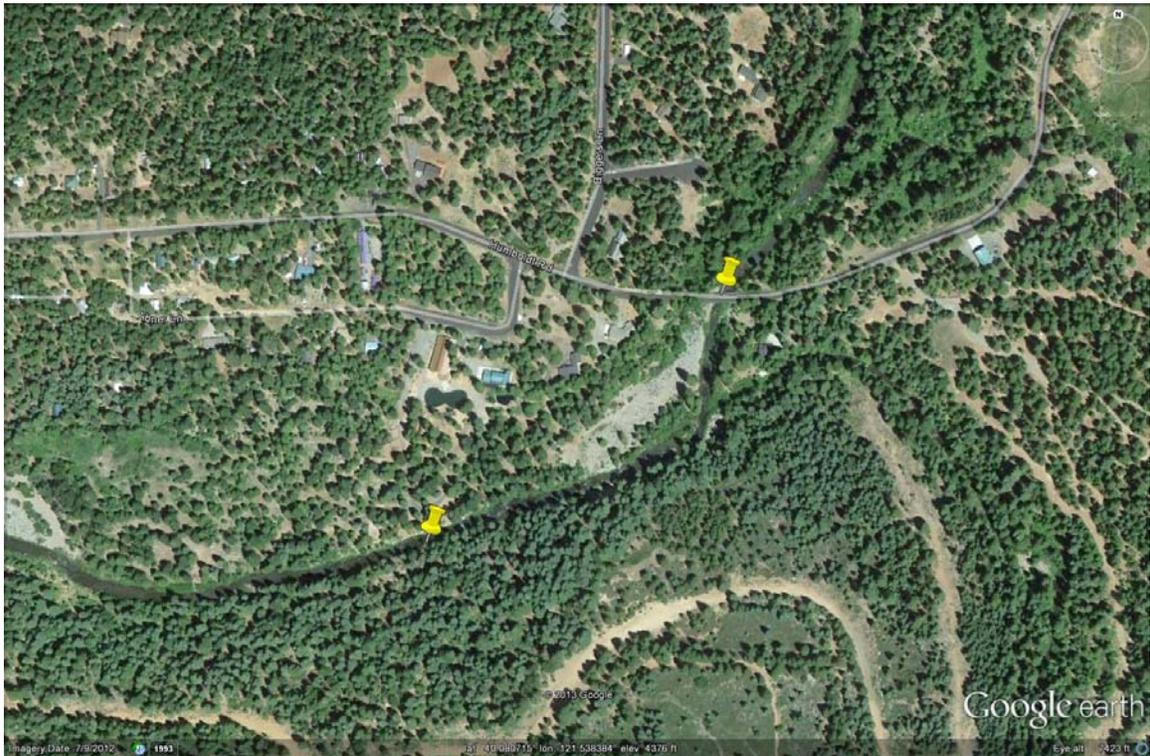
Samplers: Dylan Service and Dustin Service

Rainbow trout										
TL (mm)	206	192	172	173	130	192	185	153	181	

Comments: All fish were native and collected by hook and line.

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Butte Creek near Butte Meadows (521BUTCRK)



Latitude: 40.08147

Longitude: -121.53684

Collection Method: Hook and line

Date (s) of Collection: October 10 & 11, 2011

Samplers: Dylan Service and Dustin Service

Rainbow trout											
TL (mm)	240	218	172	173	171	162	160	243	196	183	

Comments: All fished collected were native trout

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Mokelumne River u/s Pardee Reservoir (532MRUPRE)



Latitude: 38.340941

Longitude: -120.636857

Collection Method: Hook and line

Date (s) of Collection: October 17, 2011

Samplers: Dylan Service, Dustin Service, Gary Ichikawa, and John Negrey

Rainbow trout										
TL (mm)	271	298	302	305	320					

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