Cruise Report for the

Surface Waters Ambient Monitoring Program (SWAMP)

Panel 2 of Long-Term Monitoring of Bass Lakes and Reservoirs in California.

Sampling Dates: March 28-September 13, 2017

Written by: Gary Ichikawa CDFW/Marine Pollution Studies Laboratory (MPSL) at Moss Landing Marine Laboratories

1.0 Introduction

This work was performed as part of the Bioaccumulation Oversight Group (BOG) Work Plan in support of the Surface Water Ambient Monitoring Program (SWAMP) Bioaccumulation Project.

Oversight for this Project was provided by the SWAMP Roundtable. The Roundtable is composed of State and Regional Water Board staff and representatives from other agencies and organizations including USEPA, the California Department of Fish and Wildlife, the California Office of Environmental Health Hazard Assessment (OEHHA), and the California State Universities. Interested parties, including members of other agencies, consultants, and other stakeholders are also welcome to participate.

The Roundtable has formed a subcommittee, the Bioaccumulation Oversight Group (BOG), which focuses on bioaccumulation monitoring. The BOG is composed of State and Regional Water Board staff and representatives from other agencies and organizations including USEPA, the Department of Fish and Wildlife, the San Jose State University Research Foundation, the Office of Environmental Health Hazard Assessment, and the San Francisco Estuary Institute. The members of the BOG individually and collectively possess extensive experience with bioaccumulation monitoring.

Between 2007 and 2008, the BOG sampled sportfish from 258 California lakes and reservoirs. From this initial survey plus additional water bodies added by regional board staff, approximately 190 priority bass lakes have been identified for long term monitoring.

The BOG has developed a set of monitoring objectives and assessment questions for a statewide program evaluating the impacts of bioaccumulation in support of the SWAMP mission. This assessment framework is consistent with the frameworks developed for other components of SWAMP, and is intended to guide the bioaccumulation monitoring program over the long term. The four objectives can be summarized as 1) status; 2) trends; 3) sources and pathways; and 4) effectiveness of management actions.

Over the long term, the primary emphasis of the statewide bioaccumulation monitoring program will be on evaluating status and trends. Bioaccumulation monitoring is a very effective and an essential tool for evaluating status, and is the most cost-effective tool for evaluating trends for many contaminants. Monitoring status and trends in bioaccumulation will provide information useful for identifying sources and pathways and for evaluating the effectiveness of management actions at a broader geographic scale.

This work plan represents the first step in developing a long-term program to provide status and trend monitoring of bioaccumulation that support the fishing beneficial use in lakes and reservoirs. Lakes with black bass account for a large number and proportion of the water bodies that are not being covered by other programs and need to be sampled at a 10-year frequency.

The overall approach will establish a long-term cycle for sampling the 190 priority bass lakes and reservoirs (Appendix 1) that have been identified by the regional boards. Sampling of the entire group of lakes and reservoirs will occur in five biennial rounds of sampling over a 10-year period. The cycle will then be repeated. This effort will ensure that each of these lakes is sampled once every 10-years to provide updated information on concentrations of priority contaminants. By creating five randomly selected subsets (or "rotating panels") of the overall population, each round of sampling will yield a representative estimate of the statewide average mercury concentration that will add to a long-term time series that will allow evaluation of the statewide trend in food web mercury.

The annual SWAMP bioaccumulation monitoring budget is sufficient for sampling about 35 lakes in any given year. A biennial sampling scheme could therefore cover the entire list over a 10-year period.

The goal of this sampling is to provide repeated measures of contaminant concentrations in fish to allow for status updates and assessment of long-term trends. The sampling therefore will largely replicate the approach used in prior sampling, whether the sampling was done as part of the 2007-2008 SWAMP survey (BOG 2007) or as part of another study. The one general difference from past sampling will be a narrower focus on mercury in black bass. Bass tissue mercury will be measured in all of these lakes. PCBs and organochlorine pesticides will only be measured at a subset of the lakes that have relatively high concentrations of these chemicals. High-lipid bottom-feeders (e.g., carp or catfish) will be targeted for organics analysis.

In sport fish sampling using an electroshocking boat, it is frequently necessary to sample over a linear course of 0.5 - 1 mi to obtain an adequate number of fish. For small lakes less than 500 ha in size, one sampling location covers a significant fraction of the surface area of the lake. Therefore, for lakes less than 500 ha, one location will be sampled. For lakes of medium size (500 - 1000 ha), two locations will generally be sampled. For lakes in the large (1000 - 5000 ha) and very large categories (>5000 ha), two to four locations will be sampled. Since the goal of the study is to characterize human exposure, the existing locations have been established near centers of fishing activity.

In 2015 the first panel of randomly chosen lakes was sampled. This year the second panel of lakes (Table 1) was sampled, in addition to some of the lakes that weren't sampled in 2015 because of low water.

At some of the lakes, in addition to black bass species, other sportfish species was requested by OEHHA for contaminant analyses.

In all the lakes sampled, 1-4 prey species (<100mm, TL, 10 fish/species) were collected for mercury analysis to determine wildlife risk. This followed protocols from the BOG 2015 study.

The fish collections and analyses followed the BOG Quality Assurance Program Plan (QAPP) and approved by Peer Review Panel.

1.0 Cruise Report

1.1 Objectives

The objectives were to collect 11 individual black bass over a designated size range at each location in the 38 selected lakes. Two lakes from 2015 (Panel 1) list of lakes were also added to the list. Additionally, prey fish (25-100 mm, total length) were sampled using traps, seines, electroshocking and dip nets from shoreline areas adjacent to the locations where sport fish are collected. Ten individuals each from one-four different prey fish species were sampled from each lake. We targeted the following primary prey fish target species at all lakes: Mississippi silversides, young-of-the-year black bass, young-of-the-year bluegill, young-of-the-year green sunfish and threadfin shad. Other species that were within the target size range were collected if the primary targets are not available. Efforts were made to sample the same species across all lakes, and when not possible fish that overlap in trophic guilds were sampled.

The fish tissue samples were analyzed as directed by the approved sampling plan (see Section 1.3 below). Sample sites were reached by boating and fish were collected by electroshocking, hook and line, fish traps and by nets.

Gary Ichikawa	Crew Lead
William Jakl	Crew Lead
Chris Beebe	Research Assistant
Jon Goetzl	Environmental Scientist
April Guimaraes	Research Tech
Stephen Martenuk	Research Assistant

1.2 MPSL/CDFW Sampling personnel

1.3 Authorization to collect samples

All sampling personnel are MPSL staff (San Jose State University Foundation and the California Department of Fish and Wildlife) contracted through San Jose State University Research Foundation (SJSURF) and the State Water Resources Control Board (SWRCB) to conduct the sample collection activities listed herein.

1.4 Station selection

Based upon the random selection of the BOG 2007-2008 Lakes and Reservoir Screening study and input from the regional boards, 38 lakes/reservoirs were selected to resample. Two additional lakes from 2015 sampling were also added to the list of lakes.

Up to eleven black bass per location within each lake were targeted. One to four prey species (10 fish/species) per water body were also targeted. Six lakes were designated for a bottom species collection for PCB and/or OC analyses.

1.5 Summary of types of samples authorized to be collected

Zero to thirty-three black bass, depending upon the size of the lake or fish being present, were collected to better determine mercury trends. For biomagnification estimates, 1-4 prey fish species were collected for mercury analysis. Additional sport fish species were collected as requested by OEHHA for certain water bodies.

Physical parameters were collected for each individual fish, which included: weight, total length, fork length, standard length (for prey species only) and presence of any abnormalities. Each adult black bass or sport fish was individually tagged, wrapped in aluminum foil, placed in labeled zipper-closure bag and stored on dry ice for the duration of the trip.

At the MPSL lab, samples were stored in a freezer until they were processed for authorized analysis, per appropriate SOP's. The QAPP dictates tissue analysis (QA/QC requirements-preservatives, dissecting, etc.).

1.6 Discussion

A total of 37 of the 40 lakes were sampled. Three lakes were not sampled due to differing reasons. Elizabeth Lake (from 2015, Panel 1) was not sampled because it had been completely dry for the couple year and has not been restocked with fish. We did not get our boat into Crystal Lake which had little water. It was sampled by hook and line. Mountain Meadow Reservoir had inadvertently been drained of water the prior fall and has not re-established fish. These water bodies will be sampled in 2019 if adequate water and restocking.

1.7 Results

A summary of number of prey and black bass samples collected from the 37 lakes are in Table 1.

Multiple MPSL teams sampled the 37 lakes. A more detailed fish catch, fish total length and descriptions and maps of sample collection for all lakes and species sampled are linked to Table 1.7.1 below.

1.8 References Cited

- BOG (Bioaccumulation Oversight Group). 2007. Sampling and Analysis Plan for a Screening Study of Bioaccumulation in California Lakes and Reservoirs. Surface Water Ambient Monitoring Program. California State Water Resources Control Board, Sacramento, CA.
- Bonnema, A. 2015 in preparation. Quality Assurance Project Plan: Long-term Monitoring of Bass Lakes and Reservoirs in California. Moss Landing Marine Labs. Prepared for SWAMP BOG, 64 pages plus appendices and attachments

Table1. Panel 2, 2017 BOG Fish Collection Summary

Region	Waterbody				:	Sport fish							Prey	spp		
		Black Bass Spp	Common Carp	Bluegill	Redear	Green Sunfish	Catfish Spp	Crappie	Brown Bullhead	Other	Bass Spp	Bluegill	Threadfin shad	Silverside	Green sunfish	other
1	Iron Gate Reservoir	11			10				10		10					30
1	Pillsbury, Lake	22									20	20				
2	Upper San Leandro Reservoir	11		10	10						10	10				10
2	San Pablo Reservoir	11		-							10	10		10		
2	Nicasio Reservoir	11						7			10	10				10
2	Coyote Lake	11		10				10			10	10				
3	Cachuma, Lake	22	10								20		20			
3	Pinto Lake	11					6	5			10	10				
3	N Reservoir	11									10	10				
3	Lopez Lake	11									10	10	10			
3	Santa Margarita Lake	11									10	10	10			10
4	Crystal Lake	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	Wilderness Park Lake		4	9								10				10
4	Magic Johnson Lakes	11		10							10	10		10		
4	Alondra Park Lake	11		10							10	10		7		
4	Elizabeth Lake															
5	New Hogan Lake	33									30	30				
5	Whiskeytown Lake	33									30	30				
5	Natomas, Lake	11		10		10				10	10	10		10	10	
5	Isabella Lake Mile Long Pond (One Mile	22					4				20	20	20			
5	Lake)	11	10		10						10	10				10
5	Black Butte Lake	11									20	10	10			
5	Davis Creek Reservoir	11		10							10	10				
5	Los Banos Reservoir	11	10		10						10		10			
5	Pardee Reservoir	22										20				10

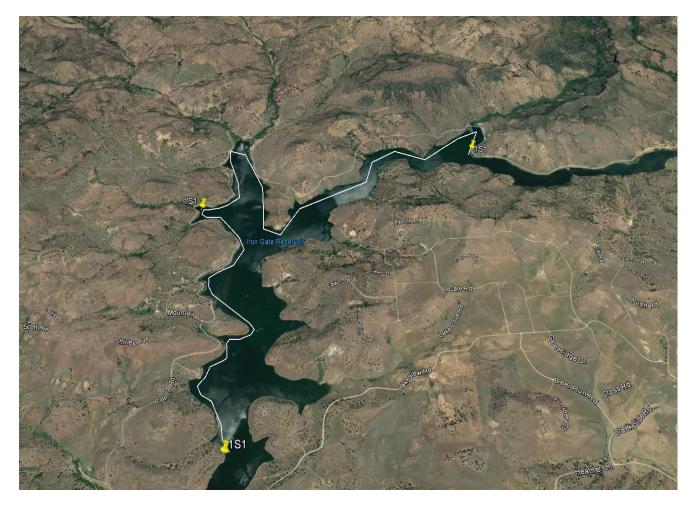
5	Webb, Lake Mountain Meadows Reservoir	11				10				10	10		10		
5	Collins Lake	11			10	3	10			10	10			10	
5	Lake of the Pines	11			10					10	10			10	
5	Hensley Lake	19		10		6	11	1	8	20	20			21	
6	Palmdale Lake	11		16	8	12	11		10	10	10		10		10
6	Silverwood Lake	11	3	10		9		6	5		10		10		11
7	Ferguson Lake	11								10					
8	Elsinore, Lake	2													
8	Evans Lake					8									
9	Skinner Reservoir	11	10	7						10					1
9	Hodges, Lake	11				10					10	10			
9	Jennings, Lake	11					10			10	10				
9	Laguna Niguel Park Lake (Sulphur Ck Res)	11	10	10						10					
9	Sutherland, Lake	11	10	10						10		10			

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Appendix 1. List of Priority Bass Lakes73

2017 BOG Lakes, Iron Gate Reservoir (105PIG154)



Latitude: 41.96266 Longitude: -122.44086 Collection Method: Electrofisher boat Date (s) of Collection: August 14, 2017 Samplers: William Jakl and Chris Beebe

Sportfish Caught: Largemouth Bass, TL (mm)											
195	200	260	285	307	335	336	337	340	350	368	

	Sportfish Caught: Brown Bullhead, TL (mm)												
205	205	210	213	215	215	215	220	220	225				

	Sportfish Caught: Redear, TL (mm)												
40	42	43	44	45	45	45	46	48	48				

	Prey Fish Caught: Largemouth Bass, TL (mm)												
56	65	73	85	93	93	93	93	96	96				

	Prey Fish Caught: Black Crappie, TL (mm)												
40	46	48	50	52	53	55	57	59	60				

	Prey Fish Caught: Hitch, TL (mm)											
65	65	66	66	67	68	68	70	72	77			

Prey Fish Caught: Redear, TL (mm)											
105 112 112 116 120 122 137 140 143 145											

Comments: The sampling vessel was launched from the dirt ramp at the north western portion of the lake. Largemouth bass, brown bullhead, redear sunfish and four samples of prey fish were collected.

2017 BOG Lakes, Lake Pillsbury (111PLP137)



Latitude: 39.40990 Longitude: -122.94452 Collection Method: Electrofisher boat Date (s) of Collection: August 8, 2017 Samplers: Gary Ichikawa and Chris Beebe

Location 1: Sportfish Caught: Largemouth Bass, TL (mm)											
214	242	277	283	357	360	370	388	405	436	523	

	Location 1: Prey Fish Caught: Largemouth Bass, TL (mm)											
51	51	51	54	55	55	60	60	62	62			

	Location 1: Prey Fish Caught: Bluegill, TL (mm)											
41	44	47	50	51	60	70	74	75	75			

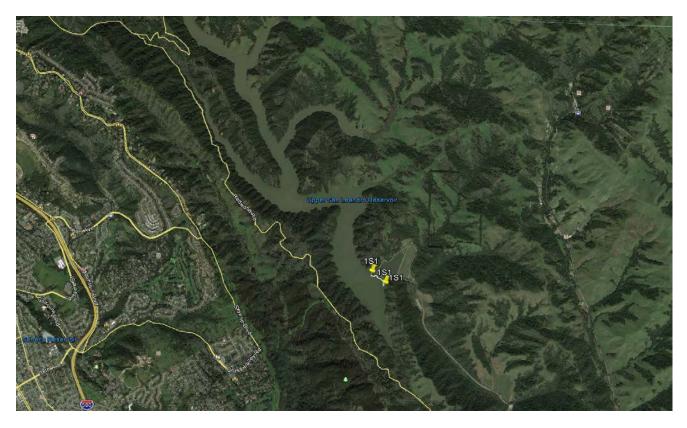
	Location 2: Sportfish Caught: Largemouth Bass, TL (mm)												
208	214	263	266	357	360	380	382	398	410	410			

	Location 2: Prey Fish Caught: Largemouth Bass, TL (mm)										
59	59	60	61	62	63	65	65	65	81		

	Location 2: Prey Fish Caught: Bluegill, TL (mm)											
59	59	60	62	63	65	65	67	72	83			

Comments: The sampling vessel was launched from the main public boat ramp at the north western portion of the lake. Two locations were sampled. Largemouth bass and two samples of prey fish were collected at each location.

2017 BOG Lakes, Upper San Leandro Reservoir (204TL0138)



Latitude: 37.76432 Longitude: -122.09892 Collection Method: Electrofisher boat Date (s) of Collection: June 13, 2017 Samplers: Gary Ichikawa and Chris Beebe

	Sportfish Caught: Largemouth Bass, TL (mm)											
236	242	258	275	308	316	348	398	404	411	422		

Sportfish Caught: Bluegill, TL (mm)										
235	242	248	257	262	265	273	276	281	315	

Sportfish Caught: Redear, TL (mm)											
124	153	160	177	212	223	226	230	230	244		

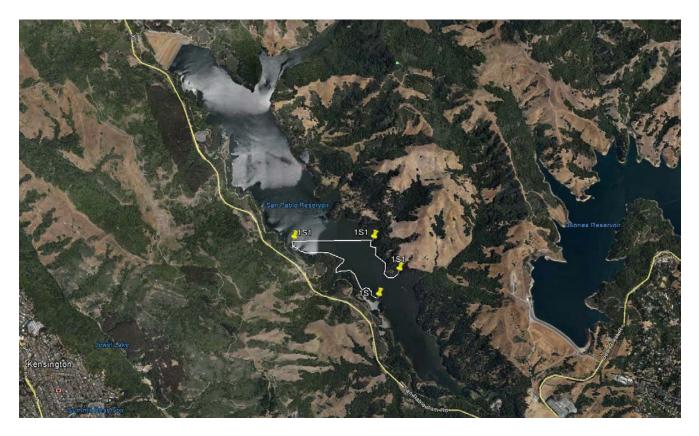
Prey Fish Caught: Largemouth Bass, TL (mm)											
30	32	33	35	37	38	40	40	41	42		

Prey Fish Caught: Bluegill, TL (mm)											
39	41	42	42	45	46	48	48	50	53		

	Prey Fish Caught: Goby, TL (mm)										
44	44	48	49	52	58	66	67	75	75		

Comments: The sampling vessel was launched from the dirt boat ramp off Peninsula Road. Access through the locked gate was given to us by the East Bay Municipal Utility District. Largemouth bass, bluegill, redear and three samples of prey fish were collected at each location.

2017 BOG Lakes, San Pablo Reservoir (206PSP205)



Latitude: 37.91705 Longitude: -122.2333 Collection Method: Electrofisher boat Date (s) of Collection: July 5, 2017 Samplers: April Guimaraes and Autumn Bonnema

	Sportfish Caught: Largemouth Bass, TL (mm)									
215	243	253	264	310	324	335	342	358	408	453

	Prey Fish Caught: Largemouth Bass, TL (mm)									
43	46	46	47	49	49	49	50	51	54	

Prey Fish Caught: Bluegill, TL (mm)									
57	59	60	63	63	64	65	72	76	82

Prey Fish Caught: Silverside, TL (mm)									
75	76	79	81	83	86	86	91	96	98

Comments: The sampling vessel was launched from the main public ramp. Access was granted to us by the East Bay Municipal Utility District. Largemouth bass and three samples of prey fish were collected.

2017 BOG Lakes, Nicasio Reservoir (201PNL105)



Latitude: 38.07708 Longitude: -122.7547 Collection Method: Electrofisher boat Date (s) of Collection: June 6, 2017 Samplers: Gary Ichikawa and Chris Beebe

Sportfish Caught: Largemouth Bass, TL (mm)										
231	237	269	280	291	325	360	380	382	435	470

Sportfish Caught: Black Crappie, TL (mm)									
132	137	138	166	166	171	177			

Prey Fish Caught: Largemouth Bass, TL (mm)									
87	89	91	93	95	97	99	99	100	105

Prey Fish Caught: Bluegill, TL (mm)									
57	60	61	62	66	69	87	90	97	99

Prey Fish Caught: Goby, TL (mm)									
65	67	70	73	74	74	79	80	81	86

Comments: The sampling vessel was launched from the dirt ramp near the dam. Access was granted to us by the Marin Water District. Largemouth bass, black crappie and three samples of prey fish were collected.

2017 BOG Lakes, Coyote Lake (205PCL212)



Latitude: 37.11847 Longitude: -121.54790 Collection Method: Electrofisher boat Date (s) of Collection: May 15, 2017 Samplers: Gary Ichikawa and April Guimaraes

Sportfish Caught: Largemouth Bass, TL (mm)										
219	232	251	300	315	322	325	335	382	450	493

Sportfish Caught: Bluegill, TL (mm)									
121	126	130	136	152	152	154	161	179	200

Sportfish Caught: Black Crappie, TL (mm)									
115	127	153	158	167	186	192	193	204	290

Prey Fish Caught: Largemouth Bass, TL (mm)										
70	70	72	77	77	86	90	93	93	99	

	Prey Fish Caught: Bluegill, TL (mm)										
56	62	69	72	72	72	74	77	79	80		

Comments: The sampling vessel was launched from the public ramp. Access was granted to us by the Santa Clara County Parks. Largemouth bass, bluegill, black crappie and two samples of prey fish were collected.

2017 BOG Lakes, Lake Cachuma (314PLC191)



Latitude: 34.58987 Longitude: -119.95135 Collection Method: Electrofisher boat Date (s) of Collection: May 17, 2017 Samplers: William Jakl and Chris Beebe

Location 1: Sportfish Caught: Largemouth Bass, TL (mm)										
160	201	300	301	315	325	353	355	364	409	449

Location 1: Sportfish Caught: Carp, TL									
(mm)									
480 500 515 521 650									

Location 1: Prey Fish Caught: Largemouth Bass, TL (mm)										
39	40	44	45	46	46	46	47	50	51	

	Location 1: Prey Fish Caught: Threadfin Shad, TL (mm)										
59	60	61	62	66	67	68	69	70			

Location 2: Sportfish Caught: Largemouth Bass, TL (mm)										
202	217	252	303	316	320	333	357	364	407	414

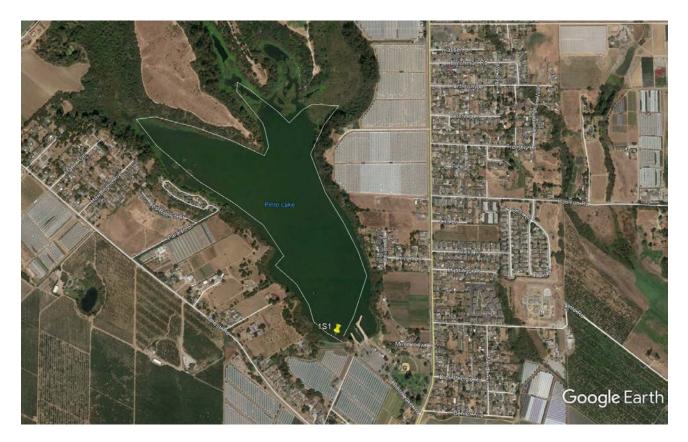
Location 2: Sportfish Caught: Carp, TL (mm)								
475 503 515 540 605								

	Location 2: Prey Fish Caught: Largemouth Bass, TL (mm)										
35	36	38	40	43	44	45	46	47	47		

	Location 2: Prey Fish Caught: Threadfin Shad, TL (mm)										
48	54	55	56	59	62	65	65	67	72	74	

Comments: The sampling vessel was launched from the public boat ramp at the Cachuma Lake Recreation Area. Largemouth bass, carp and two samples of prey fish were collected at two locations.

2017 BOG Lakes, Pinto Lake (305PPL088)



Latitude: 36.95093 Longitude: -121.76911 Collection Method: Electrofisher boat Date (s) of Collection: May 17, 2017 Samplers: April Guimaraes and Autumn Bonnema

	Sportfish Caught: Largemouth Bass, TL (mm)										
235	245	255	277	315	325	373	375	397	420	440	

 Sportfish Caught: Brown Bullhead, TL (mm)

 374
 385
 386
 386
 390
 408

Sportfish Caught: Black Crappie, TL (mm)									
365									

Prey Fish Caught: Largemouth Bass, TL (mm)										
34	35	36	36	37	38	40	40	42	44	

Prey Fish Caught: Bluegill, TL (mm)										
32	32	33	34	34	35	35	35	36	39	

Comments: The sampling vessel was launched from the public boat ramp. Access was granted by the City of Watsonville. The entire lake was shocked. Largemouth bass, brown bullhead, black crappie and two samples of prey fish were collected.

2017 BOG Lakes, Chesbro Reservoir (305PCB032)



Latitude: 37.1165178 Longitude: -121.694164 Collection Method: Electrofisher boat Date (s) of Collection: September 13, 2017 Samplers: Chris Beebe and Melissa Nehmens

	Sportfish Fish Caught: Largemouth Bass, TL (mm)											
208	220	280	295	315	346	365	380	380	409	552		

Prey Fish Caught: Largemouth Bass, TL (mm)											
47	47	53	57	58	67	67	69	70	74		

Prey Fish Caught: Bluegill, TL (mm)									
34	35	37	37	40	41	43	52	54	55

Comments: The sampling vessel was launched from the locked boat ramp near the dam. Access was granted by the Santa Clara County Parks and Recreation. The entire lake was shocked. Largemouth bass and two samples of prey fish were collected.

2017 BOG Lakes, Lopez Lake (310PLL106)



Latitude: 35.18905 Longitude: -120.46304 Collection Method: Electrofisher boat Date (s) of Collection: May 31, 2017 Samplers: Gary Ichikawa and Jon Goetzl

Sportfish Caught: Largemouth Bass, TL (mm)										
236	243	293	293	315	352	364	400	400	430	448

	Prey Fish Caught: Largemouth Bass, TL (mm)											
39	40	41	43	48	48	49	50	51	55			

Prey Fish Caught: Bluegill, TL (mm)										
35	40	40	42	42	43	44	44	99	100	

	Prey Fish Caught: American Shad, TL (mm)										
54	57	58	59	59	60	66	67	68	68		

Comments: The sampling vessel was launched from the main public boat ramp. Largemouth bass and three samples of prey fish were collected.

2017 BOG Lakes, Santa Margarita Lake (309PSM206)



Latitude: 35.32557 Longitude: -120.48792 Collection Method: Electrofisher boat Date (s) of Collection: June 1, 2017 Samplers: Gary Ichikawa and Jon Goetzl

	Sportfish Fish Caught: Largemouth Bass, TL (mm)											
205	229	225	268	310	391	397	404	404	431	456		

	Prey Fish Caught: Largemouth Bass, TL (mm)										
38	38	39	41	42	43	44	50	51	79		

	Prey Fish Caught: Bluegill, TL (mm)											
33	35	36	36	39	47	49	78	87	98			

	Prey Fish Caught: Threadfin Shad, TL (mm)												
60	65	68	70	71	72	74	75	77	78				

	Prey Fish Caught: Sucker, TL (mm)												
55	59	59	60	67	69	70	75	75	78				

Comments: Santa Margarta Lake was from the 2015, Panel 1 list of lakes. The sampling vessel was launched from the main public boat ramp. Largemouth bass and four samples of prey fish were collected.

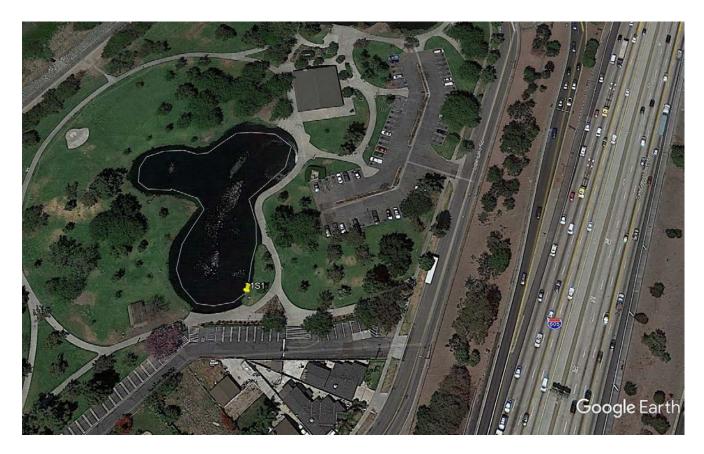
2017 BOG Lakes, Crystal Lake (405CRYTLK)



Latitude: 34.31818 Longitude: -117.847541 Collection Method: Hook and line Date (s) of Collection: May 5, 2017 Samplers: William Jakl and Chris Beebe

Comments: Unable to launch boat. Very low water. Samplers fished with hook and line, but did not catch any fish. Samplers had to leave to prevent getting snowed in.

2017 BOG Lakes, Wilderness Park Lake (405WOWILD)



Latitude: 33.93583 Longitude: -118.10111 Collection Method: Electrofisher boat Date (s) of Collection: June 26, 2017 Samplers: Gary Ichikawa and Adam Newman

Sportfish Caught: Carp, TL									
(mm)									
360 384 425 450									

Sportfish Caught: Bluegill, TL (mm)											
92	95	101	101	110	122	128	140	160			

	Prey Fish Caught: Carp, TL (mm)												
32	34	34	37	40	42	42	44	44	47				

	Prey Fish Caught: Bluegill, TL (mm)												
59	69	75	76	77	78	78	85	87	95				

Comments: The boat was launched from the bank of the lake using ramps and 4 X 4. Access was granted by the City of Downey Parks and Recreation. The southwestern lake was sampled.

The entire lake was shocked. No largemouth bass were seen. Carp, bluegill and two samples of prey fish were collected.

2017 BOG Lakes, Magic Johnson Lakes (412MGJSLK)



Latitude: 33.92004 Longitude: -118.26054 Collection Method: Electrofisher boat Date (s) of Collection: May 8, 2017 Samplers: Gary Ichikawa and Jon Goetzl

	Sportfish Caught: Largemouth Bass, TL (mm)												
230	248	270	274	312	315	322	328	384	409	460			

	Sportfish Caught: Bluegill, TL (mm)												
101	106	111	115	115	125	128	140	150	215				

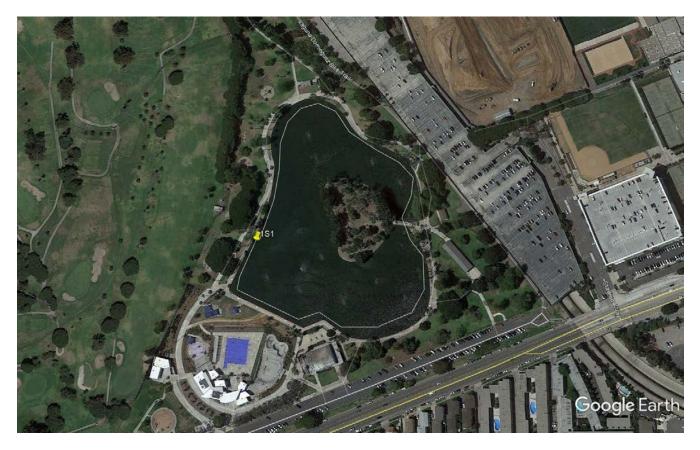
	Prey Fish Caught: Largemouth Bass, TL (mm)												
39	42	42	44	50	52	53	53	56	60				

		Р	rey Fish	Caught:	Bluegill	, TL (mn	า)		
70	70	71	75	82	83	85	85	91	95

	Prey Fish Caught: Silverside, TL (mm)												
75	78	78	78	79	79	80	82	82	86				

Comments: The boat was launched from the bank of the lake using ramps and 4 X 4. Access was granted by the Los Angeles County Parks. The southwestern lake was sampled. The entire lake was shocked. No adult largemouth bass were seen. Largemouth bass, bluegill and three samples of prey fish were collected.

2017 BOG Lakes, Alondra Park Lake (411PAP023)



Latitude: 33.88214 Longitude: -118.33456 Collection Method: Electrofisher boat Date (s) of Collection: May 8, 2017 Samplers: Gary Ichikawa and Jon Goetzl

		Sp	ortfish (Caught:	Largemo	outh Bas	s, TL (m	m)		
252	260	275	289	320	335	350	361	368	408	480

Sportfish Caught: Bluegill, TL (mm)										
107	115	120	120	120	120	123	123	132	147	

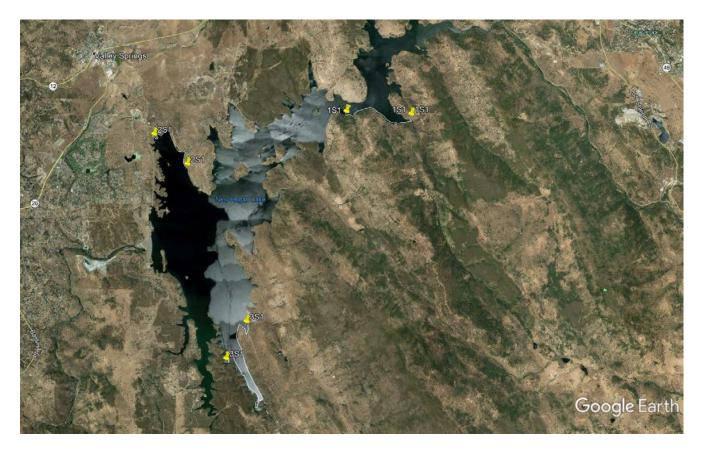
Prey Fish Caught: Largemouth Bass, TL (mm)											
90	95	95	97	99	99	105	105	105	110		

Prey Fish Caught: Bluegill, TL (mm)											
79	79	88	95	95	97	100	104	105	106		

Prey Fish Caught: Silverside, TL (mm)									
85	87	95	98	100	100	102			

Comments: The boat was launched from the bank of the lake using ramps and 4 X 4. Access was granted by the Los Angeles County Parks. The entire lake was shocked. Largemouth bass, bluegill and three samples of prey fish were collected.

2017 BOG Lakes, New Hogan Lake (533PNH089)



Latitude: 38.17832 Longitude: -120.76138 Collection Method: Electrofisher boat Date (s) of Collection: June 27-28, 2017 Samplers: Chris Beebe and Autumn Bonnema

Location 1: Sportfish Caught: Largemouth Bass, TL (mm)											
208	227	253	262	345	365	369	392	397	407	475	

Location 1: Prey Fish Caught: Largemouth Bass, TL (mm)										
31	42	43	43	43	45	51	56	59	62	

Location 1: Prey Fish Caught: Bluegill, TL (mm)										
52	61	63	71	75	79	79	80	80	84	

Location 2: Sportfish Caught: Largemouth Bass, TL (mm)											
208	235	260	289	308	310	318	328	349	407	415	

Location 2: Prey Fish Caught: Largemouth Bass, TL (mm)										
35	36	39	40	41	43	43	51	52	64	

Location 2: Prey Fish Caught: Bluegill, TL (mm)											
63	67	68	68	71	72	73	75	89	96		

Location 3: Sportfish Caught: Largemouth Bass, TL (mm)											
219	225	255	262	311	341	359	362	377	381	440	

219	225	255	262	311	341	359	362	377	381	440
										I
	Loca	tion 3: F	Prey Fish	n Caught	:: Larger	nouth B	ass, TL (mm)		
36	42	45	47	48	49	57	70	76	85	
							. / \			
		Locatio	n 3: Pre	y Fish Ca	aught: B	luegill, T	L (mm)			
51	52	54	54	56	60	77	86	87	99	

Location 3: Prey Fish Caught: Bluegill, TL (mm)									
51	52	54	54	56	60	77	86	87	99

Comments: The sampling vessel was launched from the main public boat ramp. Access was granted by the US Army Corps. Largemouth bass and two samples of prey fish were collected at each of the three locations.

2017 BOG Lakes, Whiskeytown Lake (524PWT057)



Latitude: 40.63844 Longitude: -122.54666 Collection Method: Electrofisher boat Date (s) of Collection: September 5-6, 2017 Samplers: Gary Ichikawa and Chris Beebe

	Location 1: Sportfish Caught: Smallmouth Bass, TL (mm)										
210	218	279	280	281	308	311	324	369	420	470	

Location 1: Prey Fish Caught: Smallmouth Bass, TL (mm)										
42	55	56	62	66	66	67	74	76	85	

	Location 1: Prey Fish Caught: Bluegill, TL (mm)										
54	57	58	59	59	62	65	69	69	72		

Location 2: Sportfish Caught: Smallmouth Bass, TL (mm)											
222	244	287	288	308	318	334	336	337	390	557	

Location 2: Prey Fish Caught: Smallmouth Bass, TL (mm)									
54	60	63	65	66	71	75	79	84	85

Location 2: Prey Fish Caught: Bluegill, TL (mm)											
64	64	66	68	71	73	74	74	75	84		

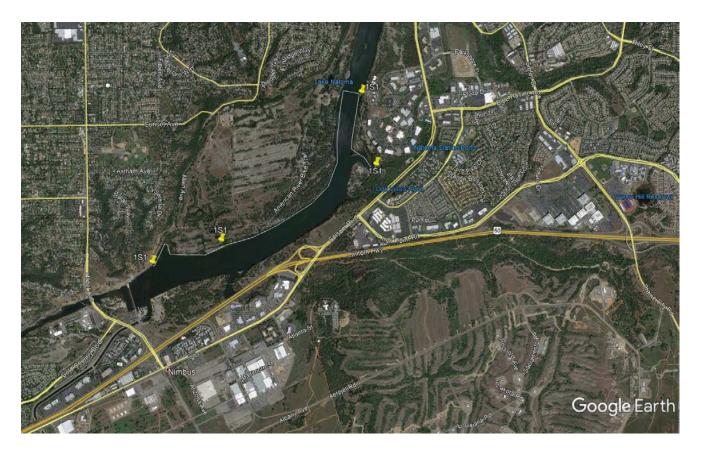
Location 3: Sportfish Caught: Smallmouth Bass, TL (mm)										
216	217	232	241	269	270	277	278	287	305	352

Location 3: Prey Fish Caught: Smallmouth Bass, TL (mm)											
43	49	50	59	70	72	77	77	79	81		

	Location 3: Prey Fish Caught: Bluegill, TL (mm)										
55	56	57	59	60	65	70	70	73	76		

Comments: On September 5th the sampling vessel was launched from the public boat ramp off Whiskey Creek Road. On September 6th the sampling vessel was launched from the public boat ramp at Whiskeytown Shasta Trinity NRA. Access was granted by the National Recreation Area. Smallmouth bass and two samples of prey fish were collected at each of the three locations.

2017 BOG Lakes, Lake Natomas (519PLN133)



Latitude: 38.63927 Longitude: -121.21736 Collection Method: Electrofisher boat Date (s) of Collection: June 20, 2017 Samplers: April Guimaraes and Jessica Heath

	Sportfish Caught: Largemouth Bass, TL (mm)											
223	230	261	292	296	355	380	385	394	415	415		

Sportfish Caught: Bluegill, TL (mm)										
102	104	108	108	110	110	111	116	128	128	

Sportfish Caught: Green Sunfish, TL (mm)										
105	115	115	134	138	140	143	143	150	176	

	Sportfish Caught: Sucker, TL (mm)											
419	465	479	480	490	500	500	505	542	551			

Prey Fish Caught: Largemouth Bass, TL (mm)										
57	63	64	67	80	80	85	86	88	98	

Prey Fish Caught: Bluegill, TL (mm)											
56	58	60	60	60	62	65	67	69	69		

Prey Fish Caught: Green Sunfish, TL (mm)										
65	68	76	79	80	85	85	86	89	96	

Prey Fish Caught: Silverside, TL (mm)									
75	78	78	80	81	82	83	84	88	90

Comments: The boat was launched from the ramp near the Nimbus dam. Access was granted by the Folsom Lake State Parks. Largemouth bass, bluegill, green sunfish, sucker and three samples of prey fish were collected.

2017 BOG Lakes, Lake Isabella (554PLB026)



Latitude: 35.64380 Longitude: -118.48017 Collection Method: Gill nets and Electrofisher boat Date (s) of Collection: May 8-9, 2017 Samplers: William Jakl and Stephen Martenuk

	Location 1: Sportfish Caught: Largemouth Bass, TL (mm)											
210	211	250	281	330	335	358	372	406	429	439		

Location 1: Sportfish Caught: Channel Catfish, TL (mm) 442 475 514

Location 1: Prey Fish Caught: Largemouth Bass, TL (mm)											
65	67	79	84	85	87	88	90	90	93		

	Location 1: Prey Fish Caught: Bluegill, TL (mm)											
52	56	57	64	65	68	69	70	75	87			

Location 1: Prey Fish Caught: Threadfin Shad, TL (mm)									
90	90	90	90	90	90	92	95	96	98

Location 2: Sportfish Caught: Largemouth Bass, TL (mm)											
200	200	251	289	305	306	315	370	378	428	452	

Location 2: Sportfish Caught: Channel Catfish, TL (mm) 440

Location 2: Prey Fish Caught: Largemouth Bass, TL (mm)										
77	87	88	90	94	95	96	98	100	100	

	Location 2: Prey Fish Caught: Bluegill, TL (mm)												
43	45	49	52	54	57	58	58	60	69				

	Location 2: Prey Fish Caught: Threadfin Shad, TL (mm)										
89	89	91	94	95	95	97	99	100	100		

Comments: The boat was launched from the banks of the lake. Access was granted by the Isabella Lake Patrol Office. Largemouth bass, channel catfish and three samples of prey fish were collected at two locations.

2017 BOG Lakes, Mile Long Pond (One Mile Lake) (515MILGPD)



Latitude: 39.43345 Longitude: -121.63878 Collection Method: Electrofisher boat Date (s) of Collection: August 22, 2017 Samplers: Stephen Martenuk and April Guimaraes

	Sportfish Caught: Largemouth Bass, TL (mm)												
205	206	290	295	306	310	311	342	380	440	442			

Sportfish Caught: Redear, TL (mm)											
110	115	120	120	120	125	125	127	129	141		

	Sportfish Caught: Carp, TL (mm)										
330	345	349	430	480	548	578	585	637	775		

	Prey Fish Caught: Largemouth Bass, TL (mm)										
49	50	50	54	54	64	65	76	77	92		

Prey Fish Caught: Bluegill, TL (mm)											
45	46	57	58	60	66	67	68	71	84		

Prey Fish Caught: Redear, TL (mm)										
74	78	78	85	90	90	91	91	94	99	

Comments: The boat was launched from the banks of the lake. Access was granted by the Oroville Wildlife Area. Largemouth bass, redear, carp and two samples of prey fish were collected.



2017 BOG Lakes, Black Butte Lake (625PBL114)

Latitude: 39.80869 Longitude: -122.36662 Collection Method: Electrofisher boat Date (s) of Collection: August 9, 2017 Samplers: Gary Ichikawa and Chris Beebe

	Sportfish Caught: Largemouth Bass, TL (mm)											
206	235	262	305	334	337	358	363	373	382	433		

	Prey Fish Caught: Largemouth Bass, TL (mm)											
50	55	55	56	62	64	88	90	93	93			

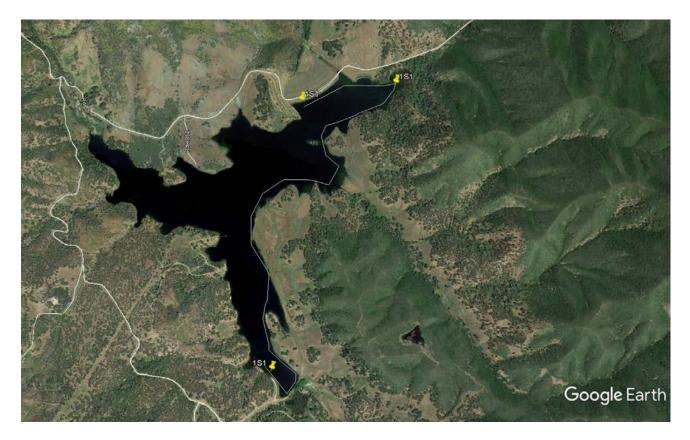
	Prey Fish Caught: Bluegill, TL (mm)											
43	57	59	59	64	67	67	70	75	89			

	Prey Fish Caught: Threadfin Shad, TL (mm)										
61	62	62	66	67	67	70	75	77	77		

Prey Fish Caught: Smallmouth Bass, TL (mm)										
50	52	53	53	53	53	54	60	62	62	

Comments: The boat was launched from the main boat ramp off Buckhorn Road. Access was granted by the US Army Corps. Largemouth and four samples of prey fish were collected.

2017 BOG Lakes, Davis Creek Reservoir (513DAVSCR)



Latitude: 38.84963 Longitude: -122.35782 Collection Method: Electrofisher boat Date (s) of Collection: August 21, 2017 Samplers: Stephen Martenuk and April Guimaraes

	Sportfish Caught: Largemouth Bass, TL (mm)									
219	224	257	279	325	335	364	366	383	464	465

Sportfish Caught: Bluegill, TL (mm)										
144	150	151	160	165	170	189	228	231	236	

Prey Fish Caught: Largemouth Bass, TL (mm)										
44	47	57	58	62	66	68	74	76	78	

		Р	rey Fish	Caught:	Bluegill	, TL (mn	n)		
62	70	80	88	93	94	98	99	100	100

Comments: The boat was launched from the banks of the lake. Davis Creek Reservoir is a private lake. Access was granted by the Homestake Mining Company. Largemouth bass, bluegill and two samples of prey fish were collected.

2017 BOG Lakes, Los Banos Reservoir (524PLB064)



Latitude: 36.99085 Longitude: -120.93674 Collection Method: Electrofisher boat Date (s) of Collection: June 21, 2017 Samplers: April Guimaraes and Jessica Heath

Sportfish Caught: Largemouth Bass, TL (mm)										
240	241	271	278	327	348	349	379	381	407	452

Sportfish Caught: Carp, TL (mm)									
430	487	511	525	540	554	580	650	655	725

Sportfish Caught: Redear, TL (mm)									
144	153	156	162	175	186	192	197	216	256

	Prey Fish Caught: Largemouth Bass, TL (mm)										
45	50	50	51	55	55	55	57	67	70		

	Prey Fish Caught: Threadfin Shad, TL (mm)										
65	69	71	72	75	75	75	75	77	80		

Comments: The boat was launched from the main boat ramp. Access was granted by the Los Banos State Recreation Area. Largemouth, carp, redear and two samples of prey fish were collected.

2017 BOG Lakes, Pardee Reservoir (532PPD073)



Latitude: 38.28698 Longitude: -120.86574 Collection Method: Electrofisher boat Date (s) of Collection: June 28-29, 2017 Samplers: Chris Beebe and Autumn Bonnema

Locat	tion 1: S	portfish	Caught:	Largem	nouth						
	Bass, TL (mm)										
259	262	279	301	316	321						
328	340	345	362	365	469						

Location 1: Prey Fish Caught: Bluegill, TL (mm)									
39	42	45	49	50	51	51	61	92	95

Location 2: Sportfish Caught: Largemouth Bass, TL (mm)										
180	184	292	304	310	323	345	350	370	408	435

	Location 2: Prey Fish Caught: Green Sunfish, TL (mm)										
37	39	39	43	45	52	55	56	57	63		

	Location 2: Prey Fish Caught: Bluegill, TL (mm)										
35	35 35 40 42 42 42 47 48 48										

Comments: The boat was launched from the main boat ramp on the northern end of the reservoir. Access was granted by the East Bay Municipal Utility District. Largemouth and one sample of prey fish were collected at location 1. Largemouth and two samples of prey fish were collected at location 2.

2017 BOG Lakes, Lake Webb (557PWB010)



Latitude: 35.64380 Longitude: -118.48017 Collection Method: Gill net and Electrofisher boat Date (s) of Collection: May 10, 2017 Samplers: William Jakl and Stephen Martenuk

		Sp	ortfish (Caught: I	Largemo	outh Bas	s <i>,</i> TL (m	m)		
225	226	258	277	310	328	329	371	389	408	440

		Sport	fish Cau	ght: Cha	nnel Ca	tfish, TL	(mm)		
245	249	262	264	267	329	333	377	395	400

		Prey Fi	ish Caug	ht: Larg	emouth	Bass, Tl	_ (mm)		
31	31	32	34	34	35	36	36	38	49

		Р	rey Fish	Caught:	Bluegill	<i>,</i> TL (mn	า)		
70	73	80	80	83	85	88	88	90	97

		Pre	ey Fish C	aught: S	Silversid	e, TL (m	m)		
61	62	63	65	67	68	68	78	78	88

Comments: The boat was launched from the main boat ramp. Access was granted by the Buena Vista Aquatic Recreational Area. Largemouth, catfish and three samples of prey fish were collected.

2017 BOG Lakes, Collins Lake (517PCL005)



Latitude: 39.33057 Longitude: -121.32072 Collection Method: Electrofisher boat Date (s) of Collection: August 22-23, 2017 Samplers: Stephen Martenuk and April Guimaraes

		Spo	ortfish C	aught: La	argemou	uth Bass	, TL (mr	n)		
215	225	289	300	310	315	322	365	375	428	444

		Sp	ortfish	Caught:	Redear,	TL (mm)		
132	139	140	140	143	144	145	147	149	169

		Spor	tfish Cau	ight: Bla	ck Crapp	oie, TL (r	nm)		
162	178	190	204	205	225	238	250	258	264

Sport	Sportfish Caught: White Catfish, TL									
	(mm)									
255	255 265 585									

		Prey Fi	sh Caugl	ht: Large	emouth l	Bass, TL	(mm)		
73	74	74	75	85	89	95	95	96	100

	Prey Fish Caught: Bluegill, TL (mm)									
64	65	66	66	68	69	72	73	80	82	

	Prey Fish Caught: Green Sunfish, TL (mm)									
34	45	49	50	50	52	54	59	85	86	

Comments: The boat was launched from the main boat ramp. Access was granted by the Collins Lake Recreational Area. Largemouth, redear, black crappie, catfish and three samples of prey fish were collected.

2017 BOG Lakes, Lake of the Pines (516TP0045)



Latitude: 39.03154 Longitude: -121.05659 Collection Method: Electrofisher boat Date (s) of Collection: June 19, 2017 Samplers: April Guimaraes and Jessica Heath

	Sportfish Caught: Largemouth Bass, TL (mm)									
220	225	255	270	330	353	374	380	390	415	455

	Sportfish Caught: Redear, TL (mm)									
102	109	115	120	120	125	125	125	134	135	

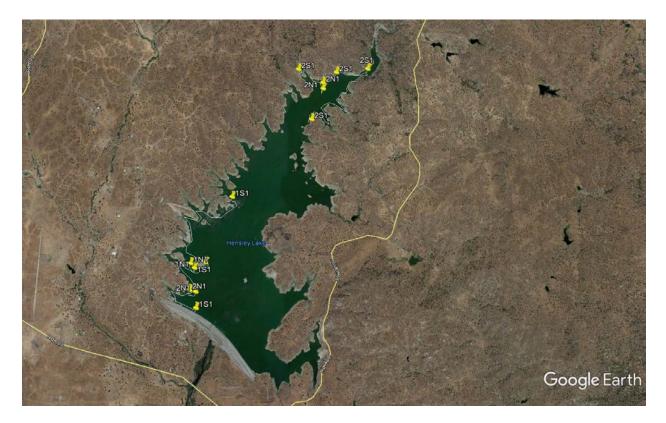
		Prey Fi	sh Caug	ht: Larg	emouth	Bass, Tl	_ (mm)		
86	89	92	94	94	95	95	95	96	100

	Prey Fish Caught: Bluegill, TL (mm)									
52	55	57	58	59	60	62	65	65	73	

Prey Fish Caught: Green Sunfish, TL (mm)									
82	90	90	90	90	94	95	99	100	100

Comments: The boat was launched from the main boat ramp. Lake of the Pines is a private lake. Access was granted by the Lake of the Pines Association. Largemouth, redear, and three samples of prey fish were collected.

2017 BOG Lakes, Hensley Lake (539PHL082)



Latitude: 37.11883 Longitude: -119.88675 Collection Method: Electrofisher boat Date (s) of Collection: July 6-7, 2017 Samplers: April Guimaraes and Autumn Bonnema

Lo	Location 1: Sportfish Caught: Largemouth Bass, TL (mm)								
225	230	248	262	298	332	342	560		

Locati	Location 1: Sportfish Caught: Bluegill, TL (mm)							
104								

Location 1: Sportfish Caught: Crappie, TL (mm)								
150	160	160	167	169	170			

Locat	Location 1: Sportfish Caught: Pumpkinseed, TL								
(mm)									
169	169 172 174 175 179 170								

	Lo	cation 1: P	rey Fish C	aught: La	rgemou	th Bass,	TL (mm)	
52	54	55	55	55	55	59	60	64	65

	Location 1: Prey Fish Caught: Bluegill, TL (mm)									
53	59	59	68	69	69	74	77	84	89	

	Location 1: Prey Fish Caught: Green Sunfish, TL (mm)										
73	92	93	95	95	97	97	98	98	100		

	Location 2: Sportfish Caught: Largemouth Bass, TL (mm)										
213	222	233	262	270	294	307	320	320	345	385	

Location 2: Sportfish Caught: Channel Catfish, TL (mm)									
550 590 623 640 710									

Locat	Location 2: Sportfish Caught: Bluegill, TL (mm)								
101	110	110	113	149					

Locat	ion 2: Spo	ortfish Ca	ught: Crap	opie, TL (mr	n)
140	141	152	155	155	

Locat	ion 2: Spo	ortfish Ca	ught: Pun	npkinseed	I, TL				
(mm)									
165	165 168 170								

Location 2: Prey Fish Caught: Largemouth Bass, TL (mm)										
55	60	60	60	61	64	65	65	66	74	

	Location 2: Prey Fish Caught: Bluegill, TL (mm)									
79	85	85	86	88	88	90	96	97	98	

Comments: The boat was launched from the main boat ramp. Access was granted by the US Army Corps. Largemouth, bluegill, black crappie, pumpkinseed and three samples of prey fish were collected at location 1. Largemouth, channel catfish, bluegill, black crappie, pumpkinseed and two samples of prey fish were collected at location 2.

2017 BOG Lakes, Lake Palmdale (626TU0279)



Latitude: 34.55521 Longitude: -118.12815 Collection Method: Electrofisher boat Date (s) of Collection: August 31- September 1, 2017 Samplers: Gary Ichikawa and April Guimaraes

	Sportfish Caught: Largemouth Bass, TL (mm)										
216	221	264	276	375	384	394	395	396	410	412	

		Prey Fi	ish Caug	ht: Larg	emouth	Bass, Tl	_ (mm)		
55	56	58	59	62	64	65	65	67	86

	Prey Fish Caught: Bluegill, TL (mm)										
32	32	33	33	33	34	36	38	50	52		

	Prey Fish Caught: Silverside, TL (mm)									
46	46	48	50	52	53	53	53	54	55	

Prey Fish Caught: Goby, TL (mm)										
38	42	43	46	50	51	52	54	55	60	

Comments: The boat was launched from the main boat ramp. Lake Palmdale is a private lake. Access was granted by the Palmdale Fin and Feather Club. Largemouth and four samples of prey fish were collected.

2017 BOG Lakes, Silverwood Lake (628PSW035)



Latitude: 34.28378 Longitude: -117.33360 Collection Method: Electrofisher boat Date (s) of Collection: May 16, 2017 Samplers: William Jakl and Chris Beebe

	Sportfish Caught: Largemouth Bass, TL (mm)										
200	235	280	299	366	375	376	385	392	410	475	

Sportfish Caught: Bluegill, TL (mm)									
95	126	130	132	150	152	155	158	159	190

Sportfish Caught: Brown Bullhead, TL (mm)							
300	300	310	320	360	385		

	Sportfish Caught: Channel Catfish, TL (mm)									
452	466	470	485	490	492	520	535	600		

Sportfish Caught: Carp, TL (mm) 510 520 612

Spor	tfish Cau	ıght: Str (mm)	iped Bas	ss, TL
	450	475	525	

	Prey Fish Caught: Sculpin, TL (mm)											
40	52	59	65	66	75	75	80	80	84			
Prey Fish Caught: Bluegill, TL (mm)												
72	74	75	76	78	80	83	84	85	85			
Prey Fish Caught: Silverside, TL (mm)												
55	61	65	66	67	67	72	73	75	80			

Comments: The boat was launched from the main boat ramp. Largemouth, bluegill, brown bullhead, channel catfish, carp, striped bass and three samples of prey fish were collected.

2017 BOG Lakes, Ferguson Lake (715TF0091)



Latitude: 32.97013 Longitude: -114.49481 Collection Method: Electrofisher boat Date (s) of Collection: March 28, 2017 Samplers: William Jakl and Chris Beebe

	Sportfish Caught: Largemouth Bass, TL (mm)										
230	249	290	304	345	347	373	384	401	444	445	

	Prey Fish Caught: Largemouth Bass, TL (mm)									
111	124	128	130	132	135	136	144	144	149	

Comments: The boat was launched from the main boat ramp at Squaw Lake. It's about a 13 kilometer boat ride to Ferguson Lake from Squaw Lake. Largemouth and one sample of prey fish were collected.

2017 BOG Lakes, Lake Evans (801PEL155)



Latitude: 33.99795 Longitude: -117.37970 Collection Method: Electrofisher boat and gill nets Date (s) of Collection: May 1, 2017 Samplers: Chris Beebe and Stephen Martenuk

	Sportfish Caught: Brown Bullhead, TL (mm)									
205	215	220	245	250	262	271	535			

Comments: The boat was launched from the dirt boat ramp. Access was granted by Evans Lake. The entire lake was shocked and 2 gill nets were used. Catfish were the only species requested. A sample of brown bullhead was collected.

2017 BOG Lakes, Lake Elsinore (802PEL058)



Latitude: 33.67803 Longitude: -117.361351 Collection Method: Electrofisher boat Date (s) of Collection: September 11, 2017 Samplers: Chris Beebe and April Guimaraes

Sportfish Cau	Sportfish Caught: Largemouth Bass,							
TL (mm)								
205 318								

Comments: The boat was launched from the main boat ramp off Lake Shore Drive. Very few fish were seen. The lake was very shallow and difficult to navigate. They have yearly fish kills at Elsinore. Only 2 largemouth and no prey fish were collected.

2017 BOG Lakes, Skinner Reservoir (902SKINLK)



Latitude: 33.59232 Longitude: -117.04231 Collection Method: Electrofisher boat Date (s) of Collection: April 25, 2017 Samplers: Gary Ichikawa and Jon Goetzl

	Sportfish Caught: Largemouth Bass, TL (mm)											
220	230	278	285	350	358	368	375	375	427	510		

	Sportfish Caught: Bluegill, TL (mm)										
130	220	232	232	259	261	271					

Sportfish Caught: Carp, TL (mm)											
460	558	565	575	580	582	608	630	655	682		

	Prey Fish Caught: Largemouth Bass, TL (mm)											
33	37	37	38	39	40	40	40	41	43			

Comments: The boat was launched from the main boat ramp at the lake marina. Access was granted by Lake Skinner Park. Largemouth, bluegill and two samples of prey fish were collected.

2017 BOG Lakes, Lake Hodges (905PLH070)



Latitude: 33.06630 Longitude: -117.10861 Collection Method: Electrofisher boat Date (s) of Collection: May 3, 2017 Samplers: Chris Beebe and Stephen Martenuk

	Sportfish Caught: Largemouth Bass, TL (mm)												
210	217	255	256	307	320	365	365	395	422	515			

Sportfish Caught: Channel Catfish, TL (mm)											
385	410	410	450	485	505	521	555	572	582		

Prey Fish Caught: Bluegill, TL (mm)										
68	70	71	75	78	79	79	82	91	93	

	Prey Fish Caught: Threadfin Shad, TL (mm)											
73	73	74	74	76	79	82	88	90	94			

Comments: The boat was launched from the main boat ramp. Access was granted by the City of San Diego. Largemouth, channel catfish and two samples of prey fish were collected.

2017 BOG Lakes, Lake Jennings (907PLJ102)



Latitude: 32.85329 Longitude: -116.88849 Collection Method: Electrofisher boat Date (s) of Collection: May 3-4, 2017 Samplers: Chris Beebe and Stephen Martenuk

	Sportfish Caught: Largemouth Bass, TL (mm)											
203	205	271	281	307	315	320	340	377	411	425		

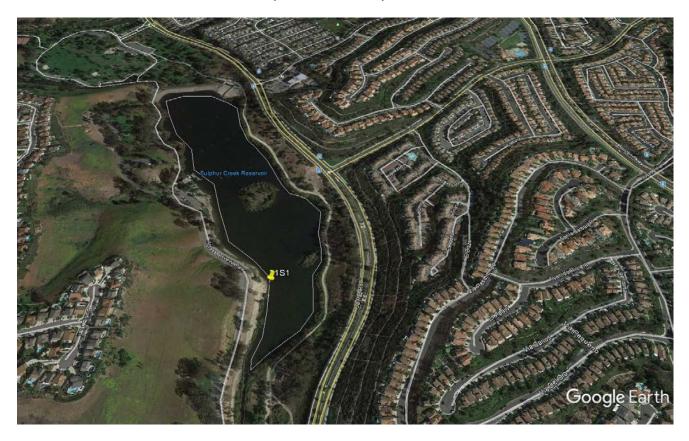
	Sportfish Caught: Black Crappie, TL (mm)												
135	141	145	162	165	165	167	170	185	185				

Prey Fish Caught: Largemouth Bass, TL (mm)												
75	89	94	95	95	95	97	98	100	100			

Prey Fish Caught: Bluegill, TL (mm)										
52	56	65	65	79	80	82	85	90	95	

Comments: The boat was launched from the main boat ramp. Access was granted by the San Diego Department of Parks and Recreation. Largemouth, black crappie and two samples of prey fish were collected.

2017 BOG Lakes, Laguna Niguel Park Lake (Sulphur Creek Reservoir) (901LAGNPL)



Latitude: 33.54966 Longitude: -117.70728 Collection Method: Electrofisher boat Date (s) of Collection: April 24, 2017 Samplers: Gary Ichikawa and Jon Goetzl

	Sportfish Caught: Largemouth Bass, TL (mm)										
225	235	268	328	330	341	370	373	390	442	451	

	Sportfish Caught: Bluegill, TL (mm)										
135	142	152	160	172	175	182	190	219	220		

	Sportfish Caught: Carp, TL (mm)										
660	677	690	690	690	700	710	747	772	775		

	Prey Fish Caught: Largemouth Bass, TL (mm)										
30	32	32	32	33	34	35	35	35	35		

Comments: The boat was launched from the dirt boat ramp. Access was granted by the Laguna Niguel Park Ranger Station. The entire lake was shocked. Largemouth, bluegill, carp and one sample of prey fish were collected.

2017 BOG Lakes, Lake Sutherland (905PLS198)



Latitude: 33.10642 Longitude: -116.78432 Collection Method: Electrofisher boat Date (s) of Collection: May 2, 2017 Samplers: Chris Beebe and Stephen Martenuk

	Sportfish Caught: Largemouth Bass, TL (mm)										
202	240	273	276	352	352	365	370	375	429	435	

	Sportfish Caught: Bluegill, TL (mm)										
135	136	142	144	145	154	157	159	175	184		

	Sportfish Caught: Carp, TL (mm)										
440	441	451	455	465	468	470	475	478	501		

	Prey Fish Caught: Largemouth Bass, TL (mm)										
26	27	28	29	30	31	32	32	35	38		

	Prey Fish Caught: Carp, TL (mm)										
35	37	41	43	45	45	55	57	64	64		

	Prey Fish Caught: Threadfin Shad, TL (mm)										
54	55	55	55	55	56	57	57	58	59		

Comments: The boat was launched from the main boat ramp. Access was granted by the Lake Sutherland Park Station. Largemouth, bluegill, carp and three samples of prey fish were collected.

Year	Panel	RegBoard	<u>StationNam</u>	Latitude	Longitude	County
Yr1	2	7	Havasu, Lake	34.4025	-114.269	San Bernardino
Yr1	2	4	Crystal Lake	34.3187	-117.847	Los Angeles
Yr1	2	5	New Hogan Lake	38.175	-120.771	Calaveras
Yr1	2	5	Whiskeytown Lake	40.6255	-122.575	Shasta
Yr1	2	9	Skinner	33.58892	-117.053	
Yr1	2	3	Cachuma, Lake	34.59443	-119.943	Santa Barbara
Yr1	2	5	Natomas, Lake	38.6501	-121.194	Sacramento
Yr1	2	2	Upper San Leandro Reservoir	37.7761	-122.117	Alameda, Contra Costa
Yr1	2	4	Wilderness Park Lake	33.9368	-118.1	Los Angeles
Yr1	2	5	Isabella Lake	35.6658	-118.427	Kern
Yr1	2	5	Mile Long Pond	39.42861	-121.634	Butte
Yr1	2	3	Pinto Lake	36.956	-121.773	Santa Cruz
Yr1	2	9	Hodges, Lake	33.06837	-117.114	San Diego
Yr1	2	5	Black Butte Lake	39.7581	-122.379	Tehama, Glenn
Yr1	2	5	Davis Creek Reservoir	38.8591	-122.359	Yolo
Yr1	2	5	Los Banos Reservoir	36.9799	-120.964	Merced
Yr1	2	7	Ferguson Lake	32.972	-114.5	Imperial
Yr1	2	6	Palmdale Lake	34.5506	-118.121	Los Angeles
Yr1	2	5	Pardee Reservoir	38.2659	-120.843	Amador, Calaveras
Yr1	2	1	Iron Gate Reservoir	41.9722	-122.402	Siskiyou
Yr1	2	8	Elsinore, Lake	33.66669	-117.341	Riverside
Yr1	2	5	Webb, Lake	35.2226	-119.262	Kern
Yr1	2	5	Mountain Meadows Reservoir	40.2738	-120.962	Lassen
Yr1	2	2	San Pablo Reservoir	37.923	-122.238	Contra Costa
Yr1	2	4	Magic Johnson Lakes	33.91924	-118.261	
Yr1	2	9	Jennings, Lake	32.8586	-116.886	San Diego
Yr1	2	5	Collins Lake	39.3359	-121.318	Yuba
Yr1	2	3	Chesbro Reservoir	37.1227	-121.709	Santa Clara
Yr1	2	9	Laguna Niguel Park Lake	33.54697	-117.705	Orange
Yr1	2	1	Pillsbury, Lake	39.42739	-122.931	Lake
Yr1	2	2	Nicasio Lake	38.08587	-122.732	Marin
Yr1	2	2	Coyote Lake	37.12078	-121.552	Santa Clara
Yrl	2	9	Sutherland, Lake	33.102	-116.774	San Diego
Yr1	2	6	Silverwood Lake	34.28472	-117.334	San Bernardino
Yr1	2	5	Lake of the Pines	39.0356	-121.063	Nevada
Yr1	2	3	Lopez Lake	35.1973	-120.469	San Luis Obispo
Yr1	2	4	Alondra Park Lake	33.8814	-118.334	Los Angeles
Yr1	2	5	Hensley Lake	37.1272	-119.878	Madera
Yr2	3	5	Oroville, Lake	39.5799	-121.36	Butte
Yr2	3	5	Marsh Creek Reservoir	37.88764	-121.726	Contra Costa
Yr2	3	4	Sepulveda Lake	34.1755	-118.473	Los Angeles
Yr2	3	9	Loveland Reservoir	32.7865	-116.768	San Diego
Yr2	3	5	Blue Lakes	39.175	-123.016	Lake
Yr2	3	2	Lexington Reservoir	37.1735	-121.986	Santa Clara

Appendix1. List of Priority Bass Lakes

Yr2	3	4	Lindero, Lake	34.1487	-118.79	Los Angeles
Yr2	3	6	Tahoe, Lake (Tahoe Keys)	39.10241	-120.159	Placer, El Dorado
Yr2	3	1	Reservoir F	41.5564	-120.88	Modoc
Yr2	3	5	Modesto Reservoir	37.6629	-120.654	Stanislaus
Yr2	3	8	Hemet, Lake	33.667	-116.694	Riverside
Yr2	3	4	Pyramid Lake	34.6573	-118.785	Los Angeles
Yr2	3	5	Wildwood, Lake	39.2394	-121.21	Nevada
Yr2	3	3	San Antonio, Lake	35.89164	-121.061	Monterey, San Luis Obispo
Yr2	3	4	Puddingstone Reservoir	34.09028	-117.801	Los Angeles
Yr2	3	5	Bass Lake	37.3133	-119.551	Madera
Yr2	3	5	Scotts Flat Reservoir	39.2767	-120.915	Nevada
Yr2	3	2	Calaveras Reservoir	37.4553	-121.805	Alameda, Santa Clara
Yr2	3	4	Echo Park Lake	34.07362	-118.261	Los Angeles
Yr2	3	9	Sweetwater Reservoir	32.6962	-116.987	San Diego
Yr2	3	1	Sonoma, Lake	38.73935	-123.069	Sonoma
Yr2	3	2	Stevens Creek Reservoir	37.2958	-122.079	Santa Clara
Yr2	3	4	Sherwood, Lake	34.1395	-118.868	Ventura
Yr2	3	5	Slab Creek Reservoir	38.7875	-120.676	El Dorado
Yr2	3	5	Siskiyou Lake	41.2801	-122.338	Siskiyou
Yr2	3	5	Tulloch Reservoir	37.8944	-120.572	Calaveras, Tuolumne
Yr2	3	6	Little Rock Reservoir	34.4811	-118.024	Los Angeles
Yr2	3	5	William Pond (Arden Pond)	38.5839	-121.334	Sacramento
Yr2	3	9	Diamond Valley Reservoir	33.68003	-117.027	
Yr2	3	4	Casitas, Lake	34.38277	-119.36	Ventura
Yr2	3	2	Chabot, Lake (San Leandro)	37.72715	-122.103	Alameda
Yr2	3	4	Legg Lake	34.03584	-118.061	Los Angeles
Yr2	3	5	Thermalito Afterbay	39.4566	-121.658	Butte
Yr2	3	2	Ogier Quarry Ponds	37.183	-121.693	Santa Clara
Yr2	3	5	East Park Reservoir	39.3295	-122.507	Colusa
Yr2	3	2	Henne, Lake	38.5877	-122.462	Napa
Yr2	3	5	San Luis Reservoir	37.0436	-121.071	Merced
Yr2	3	7	Wiest Lake	33.04227	-115.49	Imperial
Yr3	4	6	Arrowhead, Lake	34.2565	-117.185	San Bernardino
Yr3	4	5	Amador, Lake	38.2959	-120.875	Amador
Yr3	4	8	Prado Lake	33.94723	-117.648	San Bernardino
Yr3	4	5	Pine Flat Lake	36.8903	-119.26	Fresno
Yr3	4	2	Lower Crystal Springs Reservoir	37.5313	-122.371	San Mateo
Yr3	4	4	Belvedere Park Lake	34.03501	-118.158	Los Angeles
Yr3	4	5	Antelope Lake	40.1784	-120.595	Plumas
Yr3	4	2	Calero Reservoir	37.1805	-121.787	Santa Clara
Yr3	4	9	O'Neill Lake	33.3292	-117.322	San Diego
Yr3	4	5	Stony Gorge Reservoir	39.5413	-122.522	Glenn
Yr3	4	2	Soulejoule Lake	38.1475	-122.777	Marin
Yr3	4	9	Wohlford, Lake	33.1754	-116.989	San Diego
Yr3	4	4	Castaic Lagoon	34.5061	-118.61	Los Angeles
Yr3	4	5	Combie, Lake	39.0067	-121.043	Nevada, Placer
Yr3	4	4	El Dorado Park Lakes	33.82502	-118.085	Los Angeles
Yr3	4	5	Millerton Lake	37.0097	-119.667	Fresno, Madera

Yr3	4	2	Shadow Cliffs Reservoir	37.6696	-121.836	Alameda
Yr3	4	9	El Capitan	32.8826	-116.792	
Yr3	4	5	Indian Valley Reservoir	39.1135	-122.541	Lake
Yr3	4	2	Almaden Reservoir	37.16245	-121.831	Santa Clara
Yr3	4	4	Malibou Lake	34.1071	-118.758	Los Angeles
Yr3	4	5	Union Valley Reservoir	38.8615	-120.405	El Dorado
Yr3	4	6	Pete's Valley Reservoir	40.5442	-120.452	Lassen
Yr3	4	8	Big Bear Lake	34.26334	-116.944	San Bernardino
Yr3	4	5	Castac Lake	34.8353	-118.843	Kern
Yr3	4	4	Peck Road Water Conservation Park	34.1023	-118.013	Los Angeles
Yr3	4	5	New Bullards Bar Reservoir	39.4282	-121.122	Yuba
Yr3	4	2	Del Valle Reservoir	37.57965	-121.694	Alameda
Yr3	4	9	Morena Reservoir	32.686	-116.537	San Diego
Yr3	4	2	Chabot, Lake (Vallejo)	38.13631	-122.236	Solano
Yr3	4	3	Loch Lomond Reservoir	37.1102	-122.065	Santa Cruz
Yr3	4	4	Hughes, Lake	34.6755	-118.447	Los Angeles
Yr3	4	5	Finnon Reservoir	38.7986	-120.749	El Dorado
Yr3	4	1	Shastina, Lake	41.5203	-122.394	Siskiyou
Yr3	4	7	Gene Wash Reservoir	34.2974	-114.172	San Bernardino
Yr3	4	4	Hansen Dam Lake	34.266	-118.388	Los Angeles
Yr3	4	1	Trinity Lake	41.0532	-122.7	Trinity
Yr3	4	8	Perris Reservoir	33.8535	-117.175	Riverside
Yr4	5	5	San Juan Pond	38.6229	-121.287	Sacramento
Yr4	5	2	Lafayette Reservoir	37.8824	-122.141	Contra Costa
Yr4	5	6	Haiwee Reservoir	36.22799	-117.964	Inyo
Yr4	5	5	Robinson Pond	39.4698	-121.598	Butte
Yr4	5	2	Anderson Lake	37.16611	-121.625	Santa Clara
Yr4	5	9	Miramar Reservoir	32.91573	-117.101	
Yr4	5	1	Mendocino, Lake	39.23517	-123.008	Mendocino
Yr4	5	1	Spring Lake	38.4557	-122.653	Sonoma
Yr4	5	9	Lake Henshaw	33.23756	-116.75	
Yr4	5	6	Gregory, Lake	34.2421	-117.271	San Bernardino
Yr4	5	1	Dead Lake	41.7836	-124.227	Del Norte
Yr4	5	4	Harbor Lake (Machado Lake)	33.78752	-118.293	Los Angeles
Yr4	5	5	Almanor, Lake	40.2289	-121.155	Plumas
Yr4	5	5	Contra Loma Reservoir	37.9744	-121.827	Contra Costa
Yr4	5	9	Murray Reservoir	32.78679	-117.043	
Yr4	5	5	Lower Blue Lake (Lake County)	39.1642	-123	Lake
Yr4	5	3	Uvas Reservoir	37.0757	-121.703	Santa Clara
Yr4	5	4	Calabasas Lake	34.1531	-118.638	Los Angeles
Yr4	5	5	California, Lake	40.3444	-122.201	Tehama
Yr4	5	5	Bethany Reservoir	37.77752	-121.608	
Yr4	5	9	Cuyamaca, Lake	32.98754	-116.582	
Yr4	5	4	Piru, Lake	34.463	-118.75	Ventura
Yr4	5	3	Oso Flaco Lake	35.03054	-120.622	San Luis Obispo
Yr4	5	5	Paradise Lake	39.8584	-121.582	Butte
Yr4	5	5	Los Vaqueros Reservoir	37.8169	-121.738	Contra Costa
Yr4	5	4	Toluca Lake	34.1466	-118.349	Los Angeles

Yr4	5	9	Lower Otay Reservoir	32.6193	-116.916	San Diego
Yr4	5	5	Clear Lake	39.1156	-122.829	Lake
Yr4	5	4	Westlake Lake	34.1425	-118.829	Los Angeles, Ventura
Yr4	5	5	Jenkinson Lake	38.7214	-120.553	El Dorado
Yr4	5	5	Turlock Lake	37.5961	-120.57	Stanislaus
Yr4	5	8	Irvine Lake	33.7684	-117.714	Orange
Yr4	5	5	Rollins Reservoir	39.1546	-120.932	Nevada, Placer
Yr4	5	3	Hernandez Reservoir	36.39302	-120.834	San Benito
Yr4	5	5	Kaweah, Lake	36.4	-118.966	Tulare
Yr4	5	5	Englebright Lake	39.2832	-121.235	Yuba, Nevada
Yr4	5	2	Bon Tempe Lake	37.9558	-122.6	Marin
Yr4	5	4	Lincoln Park Lake	34.06667	-118.202	Los Angeles
Yr5	1	9	Barrett	32.69173	-116.665	
Yr5	1	5	Berryessa, Lake	38.6054	-122.042	Napa
Yr5	1	4	Elizabeth Lake	34.666	-118.403	Los Angeles
Yr5	1	5	New Melones Lake	37.9919	-120.507	Calaveras, Tuolumne
Yr5	1	5	McSwain, Lake	37.5164	-120.295	Mariposa
Yr5	1	5	Beach Lake	38.44068	-121.485	Sacramento
Yr5	1	1	Copco Lake	41.98125	-122.302	Siskiyou
Yr5	1	5	Brite Valley Lake	35.1069	-118.543	Kern
Yr5	1	5	Camp Far West Reservoir	39.0339	-121.283	Yuba, Placer, Nevada
Yr5	1	4	La Mirada Park Lake	33.904	-118.004	Los Angeles
Yr5	1	7	Sunbeam Lake	32.7846	-115.688	Imperial
Yr5	1	5	O'Neill Forebay	37.0762	-121.039	Merced
Yr5	1	5	Camanche Reservoir	38.2186	-120.95	San Joaquin, Amador, Calaveras
Yr5	1	3	Santa Margarita Lake	35.3216	-120.464	San Luis Obispo
Yr5	1	5	Eastman Lake	37.2245	-119.978	Madera, Mariposa
Yr5	1	5	Butt Valley Reservoir	40.1326	-121.166	Plumas
Yr5	1	4	Balboa, Lake	34.1816	-118.495	Los Angeles
Yr5	1	1	Ruth Lake	40.3161	-123.392	Trinity
Yr5	1	5	Woodward Reservoir	37.8558	-120.86	Stanislaus
Yr5	1	5	Zayak/Swan Lake	39.1356	-121.133	Nevada
Yr5	1	3	Nacimiento, Lake	35.75692	-121.005	San Luis Obispo
Yr5	1	4	Cerritos Park Lake	33.8513	-118.061	Los Angeles
Yr5	1	5	545TU0164-BOG Other Lake 164	36.8653	-119.807	Madera
Yr5	1	4	Ken Hahn Park Lake	34.0086	-118.364	Los Angeles
Yr5	1	2	Vasona Reservoir	37.24578	-121.968	Santa Clara
Yr5	1	5	Britton, Lake	41.0202	-121.626	Shasta
Yr5	1	5	Don Pedro Reservoir	37.6981	-120.375	Tuolumne
Yr5	1	4	Castaic Lake	34.5249	-118.599	Los Angeles
Yr5	1	5	Folsom Lake	38.7396	-121.093	Sacramento, Placer, El Dorado
Yr5	1	4	Santa Fe Reservoir	34.1171	-117.955	Los Angeles
Yr5	1	5	Success Lake	36.0791	-118.913	Tulare
Yr5	1	9	San Marcos, Lake	33.12698	-117.204	San Diego
Yr5	1	3	Roberts Lake (Laguna Del Rey)	36.60746	-121.858	Monterey
Yr5	1	5	Shasta Lake	40.8253	-122.398	Shasta
Yr5	1	5	McClure, Lake	37.6624	-120.21	Mariposa