

**Cruise Report for the
Surface Waters Ambient Monitoring Program (SWAMP)
Panel 3 of Long-Term Monitoring of Bass Lakes and Reservoirs in California.**

Sampling Dates: April 22-October 31, 2019

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

1.0 Introduction

This report describes the sampling activities in Lakes and Reservoirs identified for long-term monitoring of bioaccumulated contaminants as part of the Surface Water Ambient Monitoring Program (SWAMP) Bioaccumulation Oversight Group (BOG). 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 is being conducted every other year for ten (10) years in five (5) panels of lakes to allow coverage of the entire set of identified lakes and reservoirs. This report covers the Panel 3 sampling during the 2019 field season.

1.0 Cruise Report

1.1 Objectives

The objectives were to collect 14 individual black bass over a designated size range (Table 1) at each location in the 46 selected lakes. This is a change from the eleven individual black bass previously collected at the Panel 1 and Panel 2 locations. The additional three bass were collected for Panel 3 sampling locations to provide increased statistical power for analysis.

Table 1. Target species, size ranges, and processing instructions. I - process as individuals. C – process as composites. Target sizes will be adjusted as necessary based on lake-specific size limits to maintain a focus on legal sized fish.

	Process for Mercury	Process for Organics and Selenium	Numbers and Size Ranges (mm)
Primary Targets: stay on location until one of these targets from both Group 1 and 2 is obtained, or collect secondary targets if primary targets are not available			
Group 1) Predator			
Black bass	I		2X(200-249), 2X(250-304), 7X(305-407), 3X(407-500)
Sacramento pikeminnow	I		3X(200-300), 7X(300-400), 3X(400-500)
Group 2) Bottom feeder			
White catfish	C	C	5X(229-305)
Channel catfish	C	C	5X(375-500)

Group2) Bottom feeder continued	Process for Mercury	Process for Organics and Selenium	Numbers and Size Ranges (mm)
Common carp	C	C	5X(450-600)
Brown bullhead	C		5X(262-350)
Sacramento sucker	C	C	5X(375-500)
Secondary Targets: collect these if primary targets are not available			
Bluegill	C	C	5X(127-170)
Redear sunfish	C	C	5X(165-220)
Black crappie	C	C	5X(187-250)
Tilapia	C	C	5X(235-314)
Green sunfish	C	C	5X(119-159)

One lake from 2015 (Panel 1) and two lakes from 2017 (Panel 2) list of lakes were included in the list. Five additional lakes were added with Regional Water Board input because three of the Panel 3 lakes were not able to be sampled and from other cost savings.

Additionally, prey fish (25-100 mm, total length) were sampled using electro-shocking and dip nets from shoreline areas adjacent to the locations where sport fish are collected. Ten individuals each of from one to four different prey fish species were sampled from each lake. Targeted prey fish species at all lakes include: 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 target species were 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 according to Quality Assurance Project Plan (QAPP): Long-term Monitoring of Bass Lakes and Reservoirs in California (2017). Sample sites were reached by boating and fish were collected primarily by electro-shocking.

1.2 MPSSL/CDFW Sampling personnel

Gary Ichikawa	Crew Lead
William Jakl	Crew Lead
Scot Lucas	Crew Lead
Chris Beebe	Research Technician
April Guimaraes	Research Technician
Jessica Heath	Research Technician
Autumn Bonnema	Associate Program Director
Jon Goetzl	Environmental Scientist (DFW)

1.3 Authorization to collect samples

All sampling personnel are MPSL staff (San Jose State University Foundation and 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 sampling. Details of the project, including the description of the locations, number of samples and species necessary to be collected at each lake, can be found in the Bioaccumulation Monitoring Plan for Lakes and Reservoirs in California: 2016. Quality Assurance details can be found in the 2017 QAPP.

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 (Panel 3) to be sampled in 2019. Alternate, but similar lakes were chosen, if possible, as substitutes for lakes that were not able to be sampled, bringing the total to 46 lakes identified for this round of sampling (Table 2).

Up to fourteen black bass per location within each lake were targeted. One to four prey species (10 fish/species) per water body (or per location if more than one location in the lake was sampled) were also targeted. Fourteen lakes were designated for additional bottom species collection for PCB and/or OC analyses, based on previously measured contaminants and input on data needs from the California Office of Environmental Health Hazard Assessment (OEHHA).

1.5 Summary of types of samples authorized to be collected

Zero to 56 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), sex (where possible) 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 at -20°C until they were processed for authorized analysis, per appropriate SOP's.

1.7 Results

Numbers of fish collected by species group at each lake are summarized for both adult and prey fish in Table 2 below.

Multiple MPSL teams participated in sampling of the 42 lakes. A more detailed fish catch, fish total length and site descriptions with maps of sample collection for all lakes and species sampled are linked to Table 3 below.

Table 2. Panel 3, 2019 BOG Fish Collection Summary

Region	Station Code	Waterbody	Sport fish										Prey spp					
			Black Bass Spp	Common Carp	Bluegill	Redear	Sacramento Pike Minnow	Catfish Spp	Salmon Spp	Trout Spp	Striped Bass	Other	Bass Spp	Bluegill	Threadfin shad	Silverside	Green sunfish	other
1	105TF0007	Reservoir F	14									10	10					
1	114PLS121	Sonoma Lake	28									40	10				20	
2	205ALMDNR	Almaden Reservoir	14				4					10		10				10
2	204TC0122	Calaveras Reservoir	28									20	20					
2	204TC0514	Chabot Lake (San Leandro)	14	5								10	10			10		
2	205STO538	Guadalupe Reservoir	14		5					4		10	10					
2	206TH0126	Henne Lake	14										10				10	
2	205PLR144	Lexington Reservoir	26									10	10	10	10			
2	205TU0132	Ogier Quarry Ponds	14									10						10
2	205PSC048	Stevens Creek Reservoir	14							2		10	10					
3	309PLN060	Nacimiento Lake	37		15					16			30	29	30	10		
3	309PSA164	San Antonio Lake	27		10							20	20	20				
4	402PLC055	Casitas Lake	28	6			10					20		20				
4	405CRYTLK	Crystal Lake																
4	412ECHOLK	Echo Lake	14	4			10					10	10			10	10	
4	403ELIZLK	Elizabeth Lake																
4	411HARBLK	Harbor Lake (Lake Machado)	9	5									10					
4	404LINDLK	Lake Lindero																
4	412LEGGLK	Legg Lake	14										10	10		10		
4	405PPS051	Puddingstone Reservoir	14	10			10					10	10	10				3
4	403PPL039	Pyramid Lake	28	7	9					8		10	20	10				
4	412SEPLLK	Sepulveda Lake		5									10	10		10		10
4	404SHERLK	Sherwood Lake	14				5					10	10					
5	540PBL098	Bass Lake	14		5					10	9	10	10					
5	504PBB125	Black Butte Reservoir	28									20	10					20
5	513PBL097	Blue Lakes	14									10	10			4		
5	522PEP025	East Park Reservoir	28									20	20					
5	543MRSHCR	Marsh Creek Reservoir																
5	535PMR063	Modesto Reservoir	28				10					19	20	10				
5	518MTMEDR	Mountain Meadows Reservoir																
5	518POV021	Oroville Lake	56							10		40	40					
5	542PLS200	San Luis Reservoir	42	10								11	10		20			60
5	517PSF049	Scotts Flat Reservoir	14										10	10				
5	525PSL186	Siskiyou Lake	6									11	10			7		
5	514SLABCR	Slab Creek Reservoir						12						10				10
5	515TT0326	Thermalito Afterbay	17										30	30		10		
5	534PTR111	Tulloch Reservoir	22		10								20	20				
5	517WILDWL	Wildwood Lake	14	10									10	10				10
5	519WILMPD	William Pond (Arden Pond)	14															20
6	626PLR135	Little Rock Reservoir	14											2				
6	634PTL040	Tahoe Lake (Tahoe Keys)	14										10	10				
7	723PWT019	Wiest Lake	14											10				
8	802PHM003	Hemet Lake	14								4		10	10			10	
9	902DMDVLK	Diamond Valley Reservoir	28							10		11	20	20		10	20	
9	909TL0063	Loveland Reservoir	14	8						1				10	10			
9	909PSW046	Swetwater Reservoir	14	10										10	10			

Table 3. Table of Contents for BOG Long-term Monitoring of Bass Lakes Fish Study

<u>Region-Lake Name (Station Code)</u>	<u>Page Number</u>
1- Reservoir F (105TF0007)	7
1- Lake Sonoma (114PLS121)	8
2- Almaden Reservoir (205ALMDNR)	10
2- Calaveras Reservoir (204CT0122)	12
2- Lake Chabot (San Leandro) (204TC0514)	14
2- Guadalupe Reservoir (205ST0538)	15
2- Lake Henne (206THST0126)	17
2- Lexington Reservoir (205PLR144)	18
2- Oiger Quarry Ponds (205TU0132)	20
2- Stevens Creek Reservoir (205PSC048)	21
3- Lake Nacimiento (309PLN060)	22
3- Lake San Antonio (309PSA164)	25
4- Lake Casitas (402PLC055)	27
4- Crystal Lake (405CRYTLK)	29
4- Echo Lake (412ECHOLK)	30
4- Harbor Lake (Lake Machado) (411HARBLK)	32
4- Legg Lake (412LEGGLK)	33
4- Puddingstone Reservoir (405PPS051)	35
4- Pyramid Lake (403PPL039)	37
4- Sepulveda Lake (412SEPLLK)	40
4- Lake Sherwood (404SHERLK)	42

5- Bass Lake (540PBL098)	43
5- Black Butte Lake (504PBB125)	45
5- Blue Lakes (513PBL097)	47
5- East Park Reservoir (522PEP025)	48
5- Modesto Reservoir (535PMR063)	50
5- Lake Oroville (518POV021)	52
5- San Luis Reservoir (542PLS200)	54
5- Scotts Flat Reservoir (517PSF049)	57
5- Siskiyou Lake (525PSL186)	58
5- Slab Creek Reservoir (514SLABCR)	60
5- Thermalito Afterbay (515TT0326)	62
5- Tulloch Reservoir (534PTR111)	64
5- Wildwood Lake (517WILDWL)	66
5- William Pond (Arden Pond) (519WILMPD)	68
6- Little Rock Reservoir (626PLR135)	70
6- Lake Tahoe Keys (634LTKEYS)	71
7- Wiest Lake (723PWT019)	72
8- Lake Hemet (802PHM003)	73
9- Diamond Valley Lake (902DMDVLK)	75
9- Loveland Reservoir (909TL0063)	77
9- Sweetwater Reservoir (909PSW046)	79
Appendix	81

2019 BOG Lakes, Reservoir F (105TF0007)



Latitude: 41.55644

Longitude: -120.87954

Collection Method: Electrofisher boat

Date (s) of Collection: August 13, 2019

Samplers: William Jakl and Chris Beebe

Sport Caught: Largemouth Bass, TL (mm)						
226	241	255	289	290	306	306
310	310	311	320	350	380	435

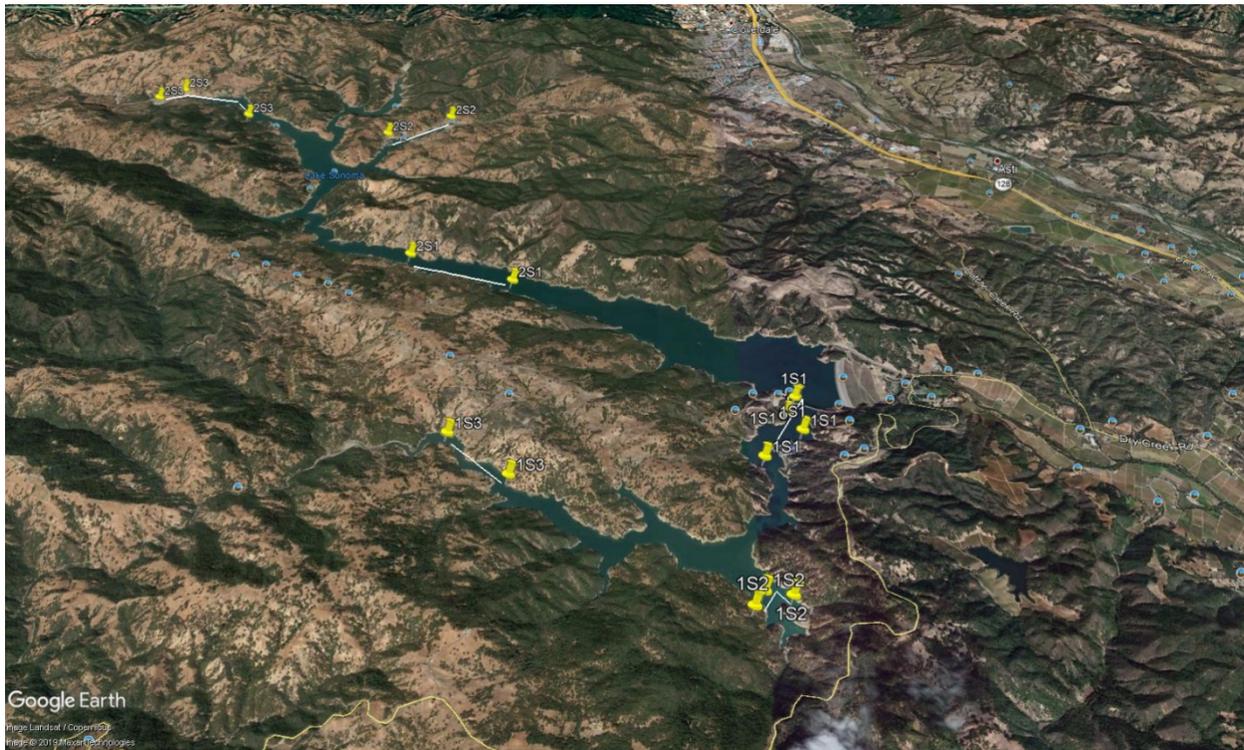
Prey Fish Caught: Bluegill, TL (mm)									
69	71	72	75	79	80	81	81	87	90

Prey Fish Caught: Largemouth Bass, TL (mm)									
49	51	52	52	52	53	60	60	61	62

Comments: The reservoir was accessed from the northeast end using a public dirt launch ramp. The entire reservoir was traveled with the electrofisher boat. However, high winds, heavy aquatic vegetation and shallow depths made collections very difficult. A few green sunfish were the only other fish seen.

Back to table

2019 BOG Lakes, Lake Sonoma (114PLS121)



Latitude: 38.70898

Longitude: -123.07072

Collection Method: Electrofisher boat

Date (s) of Collection: October 9-10, 2019

Samplers: April Guimaraes and Jessica Heath

Location 1: Sport Caught: Largemouth Bass, TL (mm)						
245	256	278	290	300	320	330
367	400	405	446	303	391	415

Location 1: Prey Fish Caught: Green Sunfish, TL (mm)									
56	58	64	68	70	72	75	75	76	88

Location 1: Prey Fish Caught: Smallmouth Bass, TL (mm)									
71	79	79	80	81	82	83	84	87	99

Location 1: Prey Fish Caught: Spotted Bass, TL (mm)									
51	54	57	60	63	65	75	76	86	90

Location 2: Sport Caught: Largemouth Bass, TL (mm)						
205	225	282	302	314	315	325
358	362	366	375	406	407	458

Location 2: Prey Fish Caught: Bluegill, TL (mm)									
68	70	72	74	77	80	87	91	97	97

Location 2: Prey Fish Caught: Green Sunfish, TL (mm)									
55	58	61	63	70	71	75	76	79	90

Location 2: Prey Fish Caught: Largemouth Bass, TL (mm)									
63	76	79	82	88	89	90	92	92	94

Location 2: Prey Fish Caught: Smallmouth Bass, TL (mm)									
71	76	78	83	84	87	89	97	97	97

Comments: The sampling vessel was launched from the Public Launch Ramp. Black bass were difficult to find throughout the lake. In addition to the black bass, 3 prey species were collected from location 1, and 4 prey species from location 2.

Back to Table

2019 BOG Lakes, Almaden Reservoir (205ALMDNR)



Latitude: 37.16245

Longitude: -121.83106

Collection Method: Electrofisher boat

Date (s) of Collection: September 24, 2019

Samplers: Gary Ichikawa and Scot Lucas

Sport Caught: Largemouth Bass, TL (mm)						
221	245	252	260	337	364	371
378	393	401	406	441	449	460

Sportfish Caught: Redear Sunfish, TL (mm)			
116	120	125	132

Prey Fish Caught: Largemouth Bass, TL (mm)									
71	73	74	78	80	81	81	84	85	86

Prey Fish Caught: Black Crappie, TL (mm)									
69	74	75	76	77	79	80	83	83	88

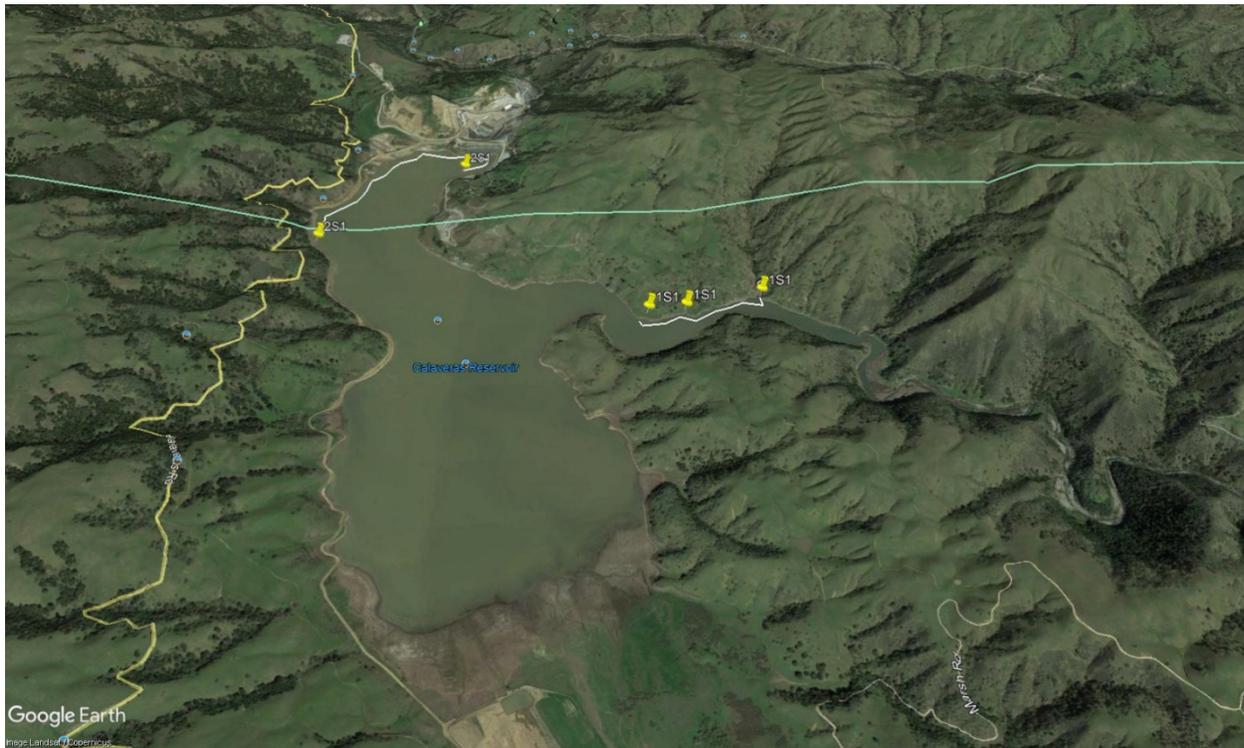
Prey Fish Caught: Threadfin Shad, TL (mm)									
56	71	72	73	74	74	75	77	77	78

Comments: A Special Use Permit from the Santa Clara County Parks, an Encroachment Permit from Santa Clara Valley Water District and a vessel inspection were required prior to putting the vessel on the water. Access to the lake was by a locked service road across the top of the

dam to a rocky shore launch near the northeast side. Samples of adult largemouth bass and redear sunfish were collected along with three species of prey fish.

Back to Table

2019 BOG Lakes, Calaveras Reservoir (204CT0122)



Latitude: 37.47051

Longitude: -121.82042

Collection Method: Electrofisher boat

Date (s) of Collection: September 26, 2019

Samplers: Gary Ichikawa and Chris Beebe

Location 1: Sport Caught: Largemouth Bass, TL (mm)						
207	210	252	272	354	385	390
401	401	404	405	415	430	475

Location 1: Prey Fish Caught: Bluegill, TL (mm)									
56	60	64	65	66	66	74	79	91	98

Location 1: Prey Fish Caught: Largemouth Bass, TL (mm)									
76	81	85	86	99	100	101	102	105	106

Location 2: Sport Caught: Largemouth Bass, TL (mm)						
230	246	259	299	390	394	402
402	404	405	405	412	435	436

Location 2: Prey Fish Caught: Bluegill, TL (mm)									
49	54	60	71	71	84	89	90	90	91

Location 2: Prey Fish Caught: Largemouth Bass, TL (mm)									
82	107	109	115	120	127	130	135	135	135

Comments: A permit is needed from the City and County of San Francisco Public Utilities Commission. The Commission also required a witnessed hot pressure washing of the sampling vessel. Locked access to the boat ramp was given to us by the former entity. Conditions were very windy making collections challenging. A sample of adult largemouth bass was collected along with two species of prey fish at both locations.

Back to Table

2019 BOG Lakes, Lake Chabot (San Leandro) (204TC0514)



Latitude: 37.72062

Longitude: -122.10636

Collection Method: Electrofisher boat

Date (s) of Collection: June 13, 2019

Samplers: Scot Lucas and April Guimaraes

Sport Caught: Largemouth Bass, TL (mm)						
209	245	262	266	311	334	342
342	350	362	382	408	445	475

Sportfish Caught: Carp, TL (mm)				
466	466	468	470	491

Prey Fish Caught: Bluegill, TL (mm)									
57	59	61	65	66	75	82	87	92	95

Prey Fish Caught: Largemouth Bass, TL (mm)									
38	41	41	45	45	45	46	48	49	53

Prey Fish Caught: Mississippi Silverside, TL (mm)									
68	80	80	82	82	85	87	91	94	95

Comments: The lake is situated in a high-use foot-traffic park/greenbelt area with a small ramp used mainly for kayaks and small skiffs. The small electrofisher boat was used to gain access, accordingly. Access was gained through permission from the East Bay Regional Park District. Largemouth and carp adults were collected along with three prey species.

Back to Table

2019 BOG Lakes, Guadalupe Reservoir (205ST0538)



Latitude: 37.1925

Longitude: -121.8727

Collection Method: Electrofisher boat

Date (s) of Collection: September 24, 2019

Samplers: Gary Ichikawa and Scot Lucas

Sport Caught: Largemouth Bass, TL (mm)							
238	239	255	270	312	342	343	366
368	375	386	389	419	433	571	

Sportfish Caught: Bluegill, TL (mm)				
119	121	130	130	143

Sportfish Caught: Rainbow Trout, TL (mm)			
244	247	251	268

Prey Fish Caught: Largemouth Bass, TL (mm)									
78	80	82	87	87	89	94	95	97	99

Prey Fish Caught: Bluegill, TL (mm)									
56	62	66	67	67	70	72	75	77	85

Comments: A Special Use Permit from the Santa Clara County Parks, an Encroachment Permit from Santa Clara Valley Water District and a vessel inspection were required prior to putting the vessel on the water. Access to the lake was by gravel service driveway across the top of the

dam to a steep shore launch near the dam at the north end. Samples of adult largemouth bass, bluegill and four rainbow trout were collected along with bluegill and largemouth prey.

[Back to Table](#)

2019 BOG Lakes, Lake Henne (206THST0126)



Latitude: 38.58773

Longitude: -122.46204

Collection Method: Electrofisher boat

Date (s) of Collection: July 15, 2019

Samplers: Scot Lucas and Chris Beebe

Sport Caught: Largemouth Bass, TL (mm)						
205	220	253	263	305	312	315
320	320	322	350	415	485	485

Prey Fish Caught: Bluegill, TL (mm)									
35	38	40	41	43	43	44	44	44	47

Prey Fish Caught: Green Sunfish, TL (mm)									
45	52	53	58	59	59	63	66	66	70

Comments: Lake Henne is a private lake owned by the Angwin Water District with access to sample granted by the lake manager, after much discussion. Boat launched from shore using portable ramps and making a rock “runway”.

Back to Table

2019 BOG Lakes, Lexington Reservoir (205PLR144)



Latitude: 37.17349

Longitude: -121.9856

Collection Method: Electrofisher boat

Date (s) of Collection: October 22, 2019

Samplers: Gary Ichikawa, Scot Lucas and Carrie Austin

Sport Caught: Largemouth Bass, TL (mm)					
247	311	317	329	340	376
394	425	432	432	441	444

Sport Caught: Spotted Bass, TL (mm)						
229	239	273	286	352	356	360
365	372	377	390	390	419	499

Prey Fish Caught: Largemouth Bass, TL (mm)									
73	76	79	83	89	89	91	92	92	93

Prey Fish Caught: Mississippi Silverside, TL (mm)									
54	66	69	70	73	76	77	80	81	83

Prey Fish Caught: Threadfin Shad, TL (mm)									
69	71	73	73	76	78	80	85	86	98

Comments: A Special Use Permit from the Santa Clara County Parks, an Encroachment Permit from Santa Clara Valley Water District and a vessel inspection were required prior to putting the vessel on the water. Access to the lake was by shore launch from the public parking lot at the north end of the lake. Lexington has a mix of adult largemouth and spotted bass, both of which were retained, along with three prey species. Very windy conditions; joined by Carrie Austin, San Francisco Bay Regional Waterboard.

Back to Table

2019 BOG Lakes, Oiger Quarry Ponds (205TU0132)



Latitude: 37.18304

Longitude: -121.69343

Collection Method: Electrofisher boat

Date (s) of Collection: August 21, 2019

Samplers: Gary Ichikawa and Scot Lucas

Sport Caught: Largemouth Bass, TL (mm)						
208	223	251	260	333	341	358
360	360	365	390	409	416	476

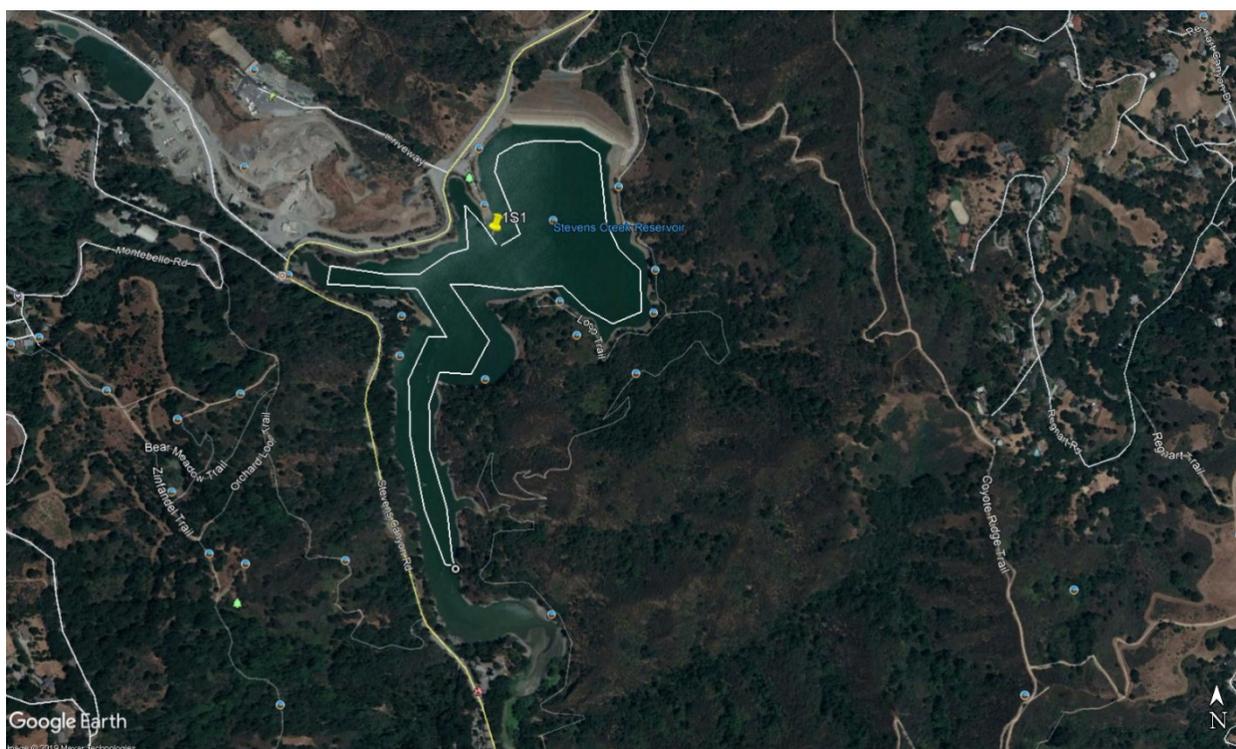
Prey Fish Caught: Largemouth Bass, TL (mm)									
60	65	68	68	73	75	75	77	87	89

Prey Fish Caught: Sculpin, TL (mm)									
36	40	41	41	42	42	42	45	51	56

Comments: A Special Use Permit from the Santa Clara County Parks, an Encroachment Permit from Santa Clara Valley Water District and a vessel inspection were required prior to putting the vessel on the water. Access to the locked pond was by shore launch and granted by Santa Clara County Parks. An excess of macrophytes and shallow water made sampling difficult and limited the sampling area, although the fish were plentiful.

Back to Table

2019 BOG Lakes, Stevens Creek Reservoir (205PSC048)



Latitude: 37.2958

Longitude: -122.0789

Collection Method: Electrofisher boat

Date (s) of Collection: October 21, 2019

Samplers: Gary Ichikawa and Scot Lucas

Sport Caught: Largemouth Bass, TL (mm)						
208	219	270	284	328	330	363
375	377	379	382	431	458	462

Sportfish Caught: Channel Catfish, TL (mm)	
569	686

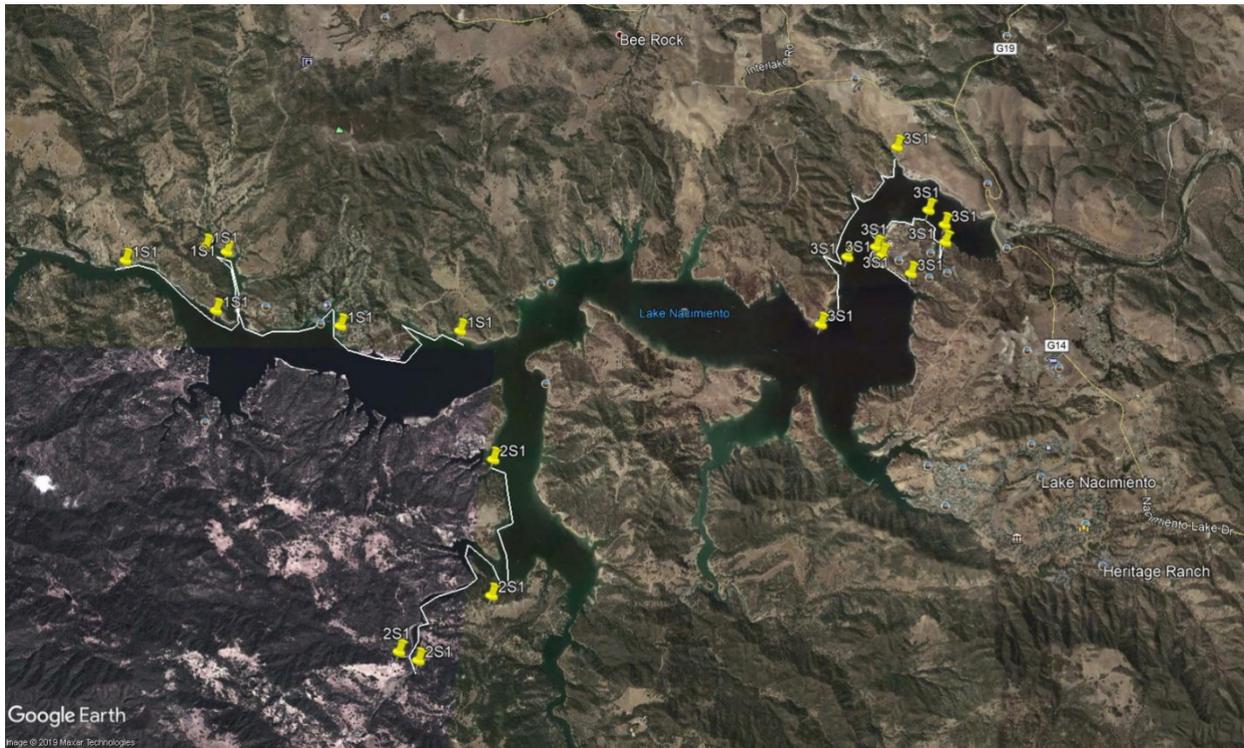
Prey Fish Caught: Largemouth Bass, TL (mm)									
73	73	76	80	81	81	87	88	89	93

Prey Fish Caught: Bluegill, TL (mm)									
41	43	44	44	54	63	64	78	81	97

Comments: A Special Use Permit from the Santa Clara County Parks, an Encroachment Permit from Santa Clara Valley Water District and a vessel inspection were required prior to putting the vessel on the water. Access to the locked dirt launch ramp was provided by the Santa Clara County Park rangers. A sample of largemouth bass and channel catfish along with 2 prey species were collected.

Back to Table

2019 BOG Lakes, Lake Nacimiento (309PLN060)



Latitude: 35.73708

Longitude: -120.98516

Collection Method: Electrofisher boat

Date (s) of Collection: July 2-3 and July 16-17, 2019

Samplers: Gary Ichikawa, William Jakl, April Guimaraes and Autumn Bonnema

Location 1: Sport Caught: Smallmouth Bass, TL (mm)				
222	231	245	258	273
274	310	319	329	333

Location 1: Sportfish Caught: Bluegill, TL (mm)				
140	182	185	187	208

Location 1: Sportfish Caught: White Catfish, TL (mm)				
530	545	548	595	601

Location 1: Sport Caught: Largemouth Bass, TL (mm)				
271	299	438		

Location 1: Sportfish Caught: White Bass, TL (mm)				
250				

Location 1: Prey Fish Caught: Spotted Bass, TL (mm)									
44	44	45	45	45	47	48	51	58	59

Location 1: Prey Fish Caught: Mississippi Silverside, TL (mm)									
72	78	81	82	84	85	86	87	89	98

Location 1: Prey Fish Caught: Bluegill, TL (mm)								
74	78	81	83	85	87	90	92	93

Location 1: Prey Fish Caught: Threadfin Shad, TL (mm)									
86	88	91	91	94	94	95	95	95	99

Location 2: Sport Caught: Smallmouth Bass, TL (mm)						
248	268	292	294	297	297	298
300	308	321	325	325	350	408

Location 2: Sportfish Caught: White Bass, TL (mm)				
319				

Location 2: Sportfish Caught: Bluegill, TL (mm)				
158	171	180	185	216

Location 2: Sportfish Caught: Channel Catfish, TL (mm)				
410	441	481	586	600

Location 2: Prey Fish Caught: Smallmouth Bass, TL (mm)									
53	56	58	59	60	65	65	83	86	94

Location 2: Prey Fish Caught: Bluegill, TL (mm)									
57	78	82	85	88	90	91	94	99	100

Location 2: Prey Fish Caught: Threadfin Shad, TL (mm)									
76	80	82	86	90	90	92	95	96	97

Location 3: Sport Caught: Smallmouth Bass, TL (mm)				
195	206	253	277	
299	307	315	424	

Location 3: Sportfish Caught: Bluegill, TL (mm)				
111	125	129	131	142

Location 3: Sportfish Caught: Largemouth Bass, TL (mm)				
354				

Location 3: Sportfish Caught: Channel Catfish, TL (mm)				
441	507	515	538	545

Location 3: Sportfish Caught: White Catfish, TL (mm)				
319				

Location 3: Prey Fish Caught: Spotted Bass, TL (mm)									
45	51	55	56	59	65	67	68	71	72

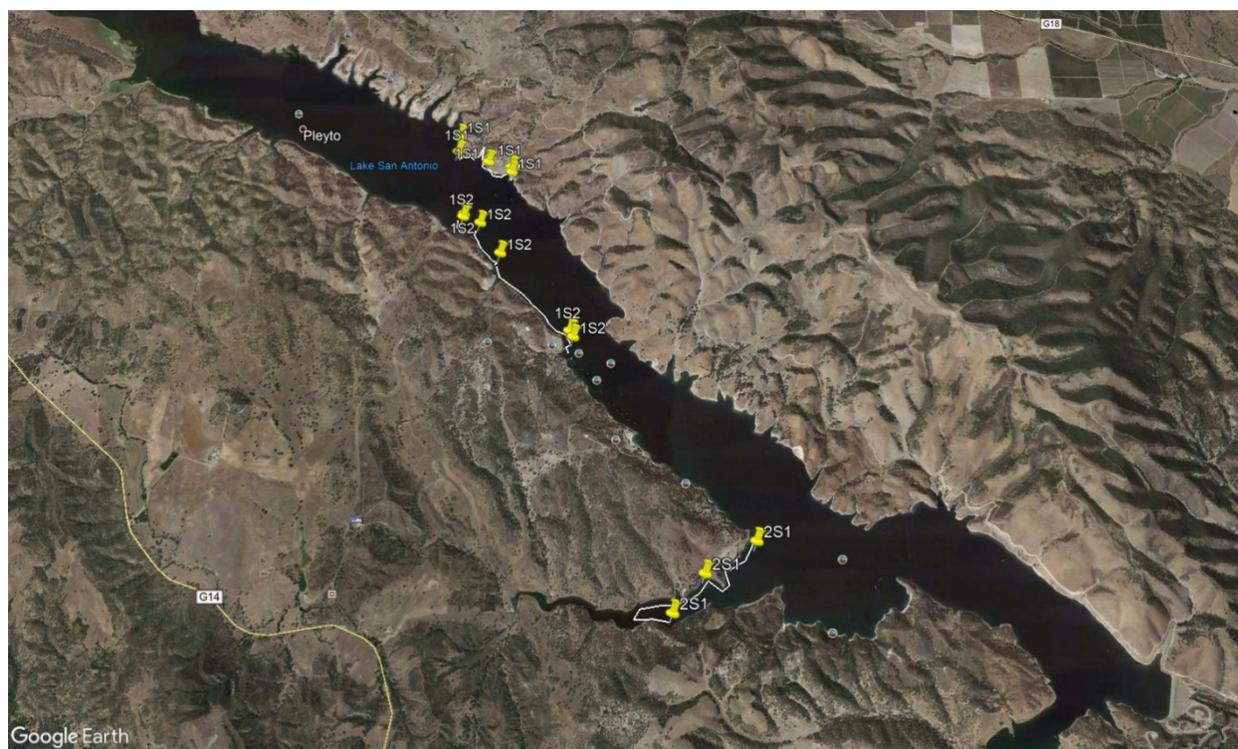
Location 3: Prey Fish Caught: Bluegill, TL (mm)									
72	76	78	82	85	87	90	91	93	93

Location 3: Prey Fish Caught: Threadfin Shad, TL (mm)									
74	75	85	86	86	86	86	90	92	95

Comments: The sampling vessel was launched from the main boat ramp. Multiple trips were required to collect the samples due to the lack of fish requested, size of the lake and adverse conditions. Black bass were difficult to find throughout the lake. Over the 3 locations samples of black bass, white bass, bluegill, channel catfish, white catfish and 10 samples of prey species were collected.

Back to Table

2019 BOG Lakes, Lake San Antonio (309PSA164)



Latitude: 35.85688

Longitude: -120.97666

Collection Method: Electrofisher boat

Date (s) of Collection: July 1-2, 2019

Samplers: April Guimaraes and Autumn Bonnema

Location 1: Sport Caught: Largemouth Bass, TL (mm)						
261	330	350	502	185	223	259
275	288	288	315	340	342	

Location 1: Sportfish Caught: Bluegill, TL (mm)				
157	158	134	153	159

Location 1: Prey Fish Caught: Largemouth Bass, TL (mm)									
60	54	64	66	67	73	73	79	80	81

Location 1: Prey Fish Caught: Bluegill, TL (mm)									
86	91	92	93	94	95	97	100	100	100

Location 1: Prey Fish Caught: Threadfin Shad, TL (mm)									
81	83	84	87	87	87	90	91	92	94

Location 2: Sport Caught: Largemouth Bass, TL (mm)						
227	236	247	251	277	320	334
338	339	360	365	368	369	443

Location 2: Sportfish Caught: Bluegill, TL (mm)				
125	132	137	145	147

Location 2: Prey Fish Caught: Largemouth Bass, TL (mm)									
62	63	63	64	65	66	67	68	69	69

Location 2: Prey Fish Caught: Bluegill, TL (mm)									
64	79	88	90	92	93	95	99	99	100

Location 2: Prey Fish Caught: Threadfin Shad, TL (mm)									
80	85	87	91	92	92	96	97	98	99

Comments: The sampling vessel was launched from Lynch Launch Ramp and two locations were sampled. Full samples of adult black bass and bluegill, along with 3 prey species were collected from each of the two locations.

Back to Table

2019 BOG Lakes, Lake Casitas (402PLC055)



Latitude: 34.3777

Longitude: -119.34386

Collection Method: Electrofisher boat

Date (s) of Collection: May 22, 2019

Samplers: Gary Ichikawa and Jon Goetzl

Location 1: Sport Caught: Largemouth Bass, TL (mm)						
201	240	272	285	345	360	368
382	392	398	399	420	425	462

Location 1: Sportfish Caught: Redear Sunfish, TL (mm)				
210	225	240	273	280

Location 1: Sportfish Caught: Common Carp, TL (mm)				
580	652	655	685	732

Location 1: Prey Fish Caught: Largemouth Bass, TL (mm)									
33	33	33	34	35	38	38	39	40	43

Location 1: Prey Fish Caught: Threadfin Shad, TL (mm)									
57	58	60	61	61	62	64	67	67	68

Location 2: Sport Caught: Largemouth Bass, TL (mm)						
195	259	259	285	345	352	382
385	392	400	400	408	410	425

Location 2: Sportfish Caught: Redear Sunfish, TL (mm)				
247	248	250	262	278

Location 2: Sportfish Caught: Common Carp, TL (mm)				
735				

Location 2: Prey Fish Caught: Largemouth Bass, TL (mm)									
30	30	31	33	35	36	38	39	41	44

Location 2: Prey Fish Caught: Threadfin Shad, TL (mm)									
61	61	62	65	65	66	67	68	69	80

Comments: The Lake Casitas Recreation Area required us to have them hot pressure wash our sampling vessel. The sampling vessel was launched from the main boat ramp. Water levels were very low and conditions were very windy. At the 2 locations, largemouth bass, redear sunfish, carp and 4 prey species were collected.

Back to Table

2019 BOG Lakes, Crystal Lake (405CRYTLK)



Latitude: 34.31874

Longitude: -117.84691

Collection Method: Hook and line

Date (s) of Collection: June 25, 2019

Samplers: William Jakl and Chris Beebe

Comments: Due to a landslide samplers were unable to launch an electrofisher raft. Samplers also walked to the lake and used hook-and-line gear from the shore. No fish were caught.

Back to Table

2019 BOG Lakes, Echo Lake (412ECHOLK)



Latitude: 34.07269

Longitude: -118.26047

Collection Method: Electrofisher boat

Date (s) of Collection: May 29, 2019

Samplers: Gary Ichikawa and Scot Lucas

Sport Caught: Largemouth Bass, TL (mm)						
208	217	291	296	317	323	342
344	347	383	390	422	473	484

Sportfish Caught: Redear Sunfish, TL (mm)				
181	191	224	236	240
262	272	275	279	300

Sportfish Caught: Common Carp, TL (mm)			
635	714	715	791

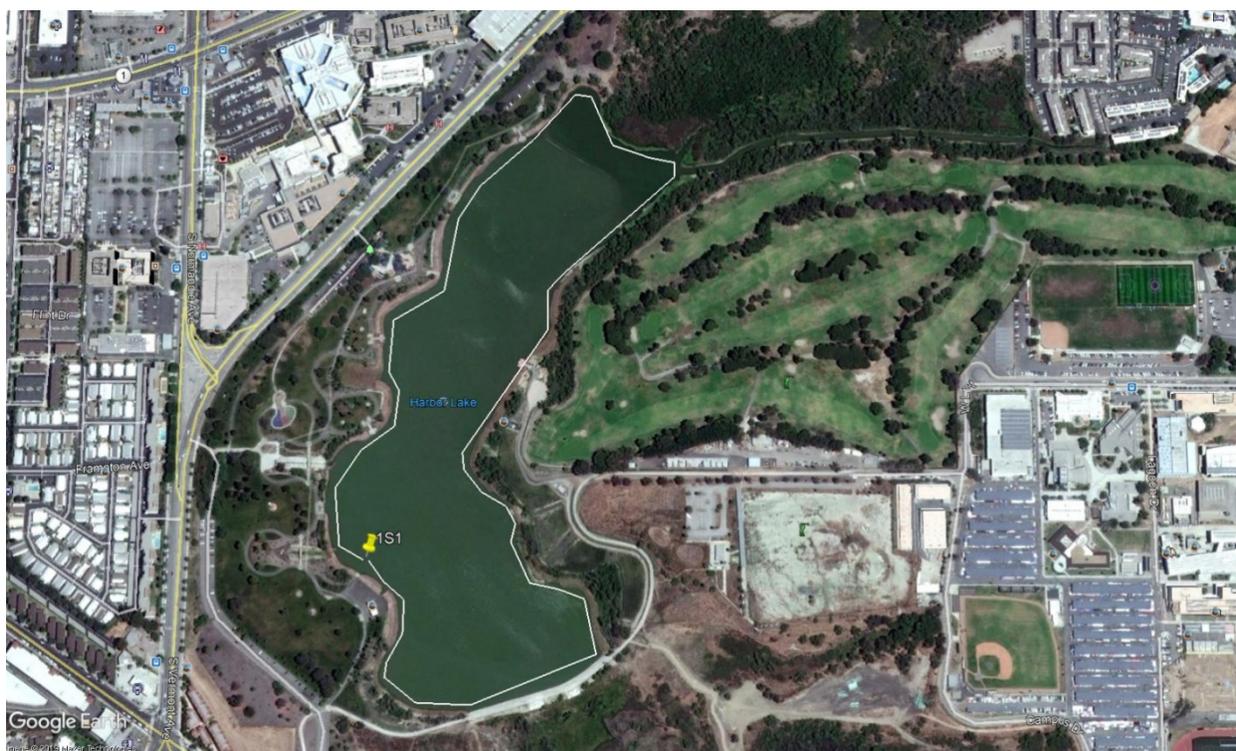
Prey Fish Caught: Largemouth Bass, TL (mm)									
31	31	32	35	37	38	38	39	40	43

Prey Fish Caught: Bluegill, TL (mm)									
48	51	54	55	55	58	60	65	72	82

Comments: The lake is situated in a high-use urban public park with paddle boat rentals and mid-lake fountains. Boat access was from a small chained service ramp at the north end of the lake. Lots of fish in all size ranges including largemouth, redear and bluegill. Carp were more difficult to find.

Back to Table

2019 BOG Lakes, Harbor Lake (Lake Machado) (411HARBLK)



Latitude: 33.78628

Longitude: -118.29367

Collection Method: Electrofisher boat

Date (s) of Collection: October 28, 2019

Samplers: Gary Ichikawa and Scot Lucas

Sport Caught: Largemouth Bass, TL (mm)						
219	223	227	227	231	236	239
422	427					

Sportfish Caught: Common Carp, TL (mm)				
380	389	389	390	397

Prey Fish Caught: Bluegill, TL (mm)									
51	85	88	90	91	94	95	97	97	99

Prey Fish Caught: Green Sunfish, TL (mm)									
62	68	76	77	77	80	86	88	89	90

Prey Fish Caught: Mississippi Silverside, TL (mm)									
61	66	67	69	72	72	75	76	77	83

Comments: This lake is in a public urban park and access was gained by contacting park staff the previous week. Lots of carp but not many bass were seen. Most of the water depth was less than one meter deep. Three samples of prey fish were also collected.

Back to Table

2019 BOG Lakes, Legg Lake (412LEGLK)



Latitude: 34.0333

Longitude: -118.05942

Collection Method: Electrofisher boat

Date (s) of Collection: May 28, 2019

Samplers: Gary Ichikawa and Scot Lucas

Sport Caught: Largemouth Bass, TL (mm)						
208	223	251	300	347	353	354
358	360	370	390	420	423	425

Sportfish Caught: Redear Sunfish, TL (mm)				
173	181	182	182	185
187	189	190	194	196

Sportfish Caught: Common Carp, TL (mm)				
551	555	571	590	597
606	609	614	618	660

Prey Fish Caught: Largemouth Bass, TL (mm)									
57	62	65	66	67	69	70	70	74	83

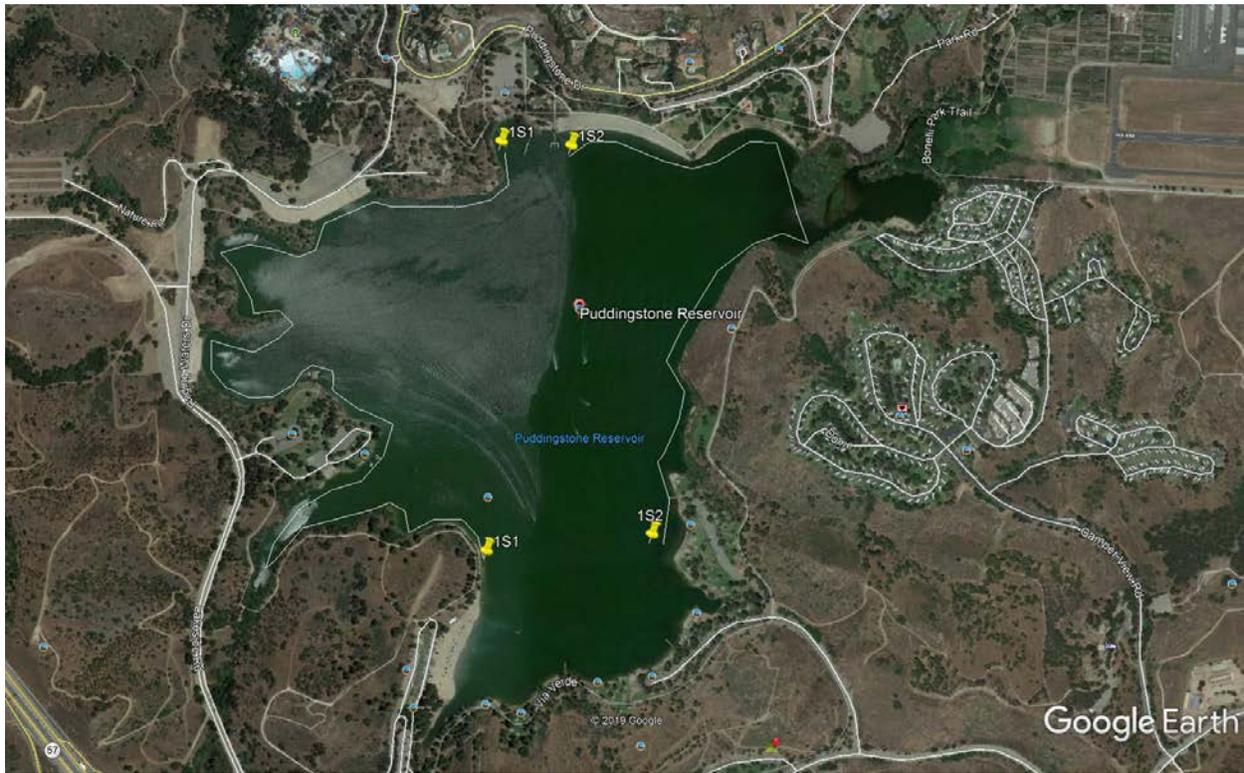
Prey Fish Caught: Bluegill, TL (mm)									
55	62	63	77	77	81	81	88	96	99

Prey Fish Caught: Mississippi Silverside, TL (mm)									
76	84	85	85	90	91	95	97	98	99

Comments: Legg lake is situated in a public urban park with no ramp; samplers launched the vessel from shore using portable ramps and 4 x 4. Adult bass, carp and sunfish were collected along with three species of prey fish.

Back to Table

2019 BOG Lakes, Puddingstone Reservoir (405PPS051)



Latitude: 34.08616

Longitude: -117.803

Collection Method: Electrofisher boat

Date (s) of Collection: April 22, 2019

Samplers: Gary Ichikawa and Jon Goetzl

Sport Caught: Largemouth Bass, TL (mm)						
231	231	268	299	321	332	334
350	352	381	396	448	482	487

Sportfish Caught: Redear Sunfish, TL (mm)				
170	178	182	183	187
188	190	190	196	200

Sportfish Caught: Common Carp, TL (mm)				
550	570	595	611	629
645	652	653	671	693

Prey Fish Caught: Largemouth Bass, TL (mm)									
25	25	26	26	78	90	97	98	98	98

Prey Fish Caught: Bluegill, TL (mm)									
41	49	57	57	61	70	84	89	93	95

Prey Fish Caught: Redear Sunfish, TL (mm)	
85	90

Prey Fish Caught: Threadfin Shad, TL (mm)									
67	70	75	77	80	80	80	80	84	85

Comments: The sampling vessel was launched from the public boat ramp. The perimeter of the whole lake was shocked. A sample of largemouth bass, redear sunfish, carp and 3 prey species were collected

Back to Table

2019 BOG Lakes, Pyramid Lake (403PPL039)



Latitude: 34.6573

Longitude: -118.78457

Collection Method: Electrofisher boat

Date (s) of Collection: May 20, June 12, and October 31, 2019

Samplers: Gary Ichikawa, Scot Lucas and Jon Goetzl

Location 1: Sport Caught: Largemouth Bass, TL (mm)						
249	249	271	299	365	371	375
375	392	399	402	415	431	432

Location 1: Sportfish Caught: Bluegill, TL (mm)				
165	165	168	188	

Location 1: Sport Caught: Channel Catfish, TL (mm)				
303	305	320	381	405
460	495			

Location 1: Sport Caught: Striped Bass, TL (mm)				
398	429	430	491	501
513	523	540	572	

Location 1: Sportfish Caught: Common Carp, TL (mm)				
485	750			

Location 1: Prey Fish Caught: Largemouth Bass, TL (mm)									
34	39	42	44	45	80	81	81	90	95

Location 1: Prey Fish Caught: Bluegill, TL (mm)									
57	57	64	64	68	71	78	78	83	83

Location 2: Sport Caught: Largemouth Bass, TL (mm)						
235	287	300	301	365	368	382
382	392	392	406	413	420	460

Location 2: Sportfish Caught: Bluegill, TL (mm)				
170	182	190	193	220

Location 2: Sport Caught: Channel Catfish, TL (mm)				
632				

Location 2: Sport Caught: Striped Bass, TL (mm)				
400				

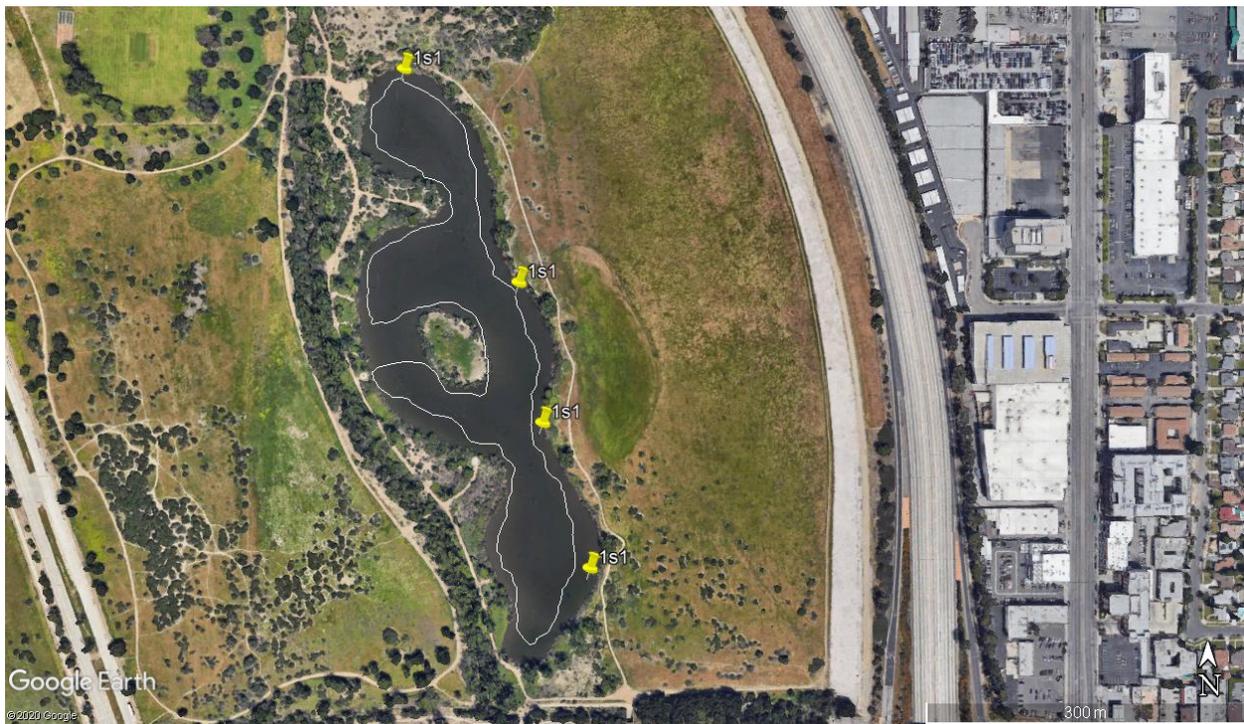
Location 2: Sportfish Caught: Common Carp, TL (mm)				
385	400	410	412	605

Location 2: Prey Fish Caught: Largemouth Bass, TL (mm)									
29	30	30	30	31	31	31	31	31	35

Comments: Multiple boat problems and high winds resulted in three visits to this two location lake over a five month period. Largemouth (full samples), bluegill, carp and striped bass adults were collected at both locations along with largemouth prey at both. A second prey species, bluegill, was only found at location 1.

Back to Table

2019 BOG Lakes, Sepulveda Lake (412SEPLLK)



Latitude: 34.17552

Longitude: -118.47251

Collection Method: Electrofisher boat

Date (s) of Collection: April 29, 2019

Samplers: William Jakl and Chris Beebe

Sportfish Caught: Tilapia spp., TL (mm)				
318	331	335	338	340
344	350	351	380	380

Sportfish Caught: Common Carp, TL (mm)				
429	458	487	502	540

Prey Fish Caught: Bluegill, TL (mm)									
59	63	65	72	73	79	82	90	93	93

Prey Fish Caught: Mississippi Silverside, TL (mm)									
56	56	59	59	60	61	62	62	62	67

Prey Fish Caught: Tilapia spp., TL (mm)									
67	80	82	89	91	94	95	95	98	98

Comments: According to a wildlife volunteer at the lake, there was a fish kill at Sepulveda approximately two months prior. Entire lake was shocked but no largemouth bass were seen.

Back to Table

2019 BOG Lakes, Lake Sherwood (404SHERLK)



Latitude: 34.13946

Longitude: -118.8678

Collection Method: Electrofisher boat

Date (s) of Collection: June 1, 2019

Samplers: Gary Ichikawa and Scot Lucas

Sport Caught: Largemouth Bass, TL (mm)						
210	221	268	271	355	355	375
375	377	383	402	413	434	490

Sportfish Caught: Redear Sunfish, TL (mm)				
270	277	278	280	284

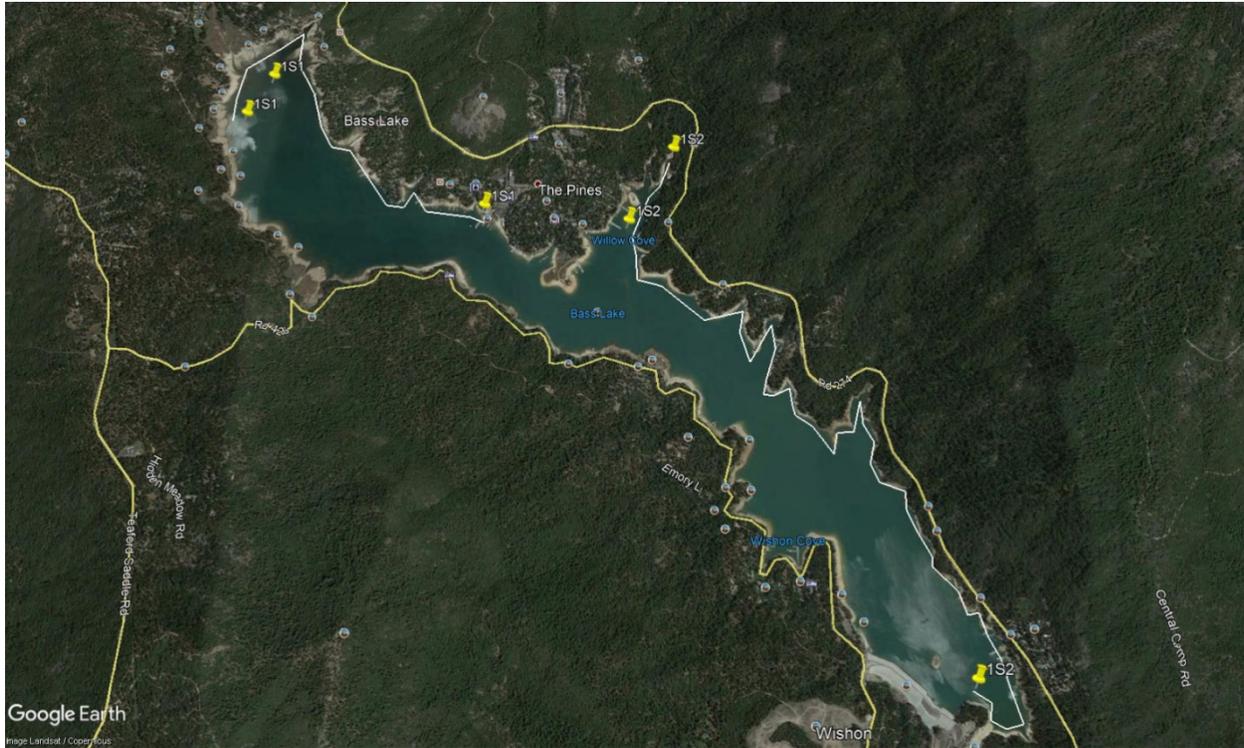
Prey Fish Caught: Largemouth Bass, TL (mm)									
23	24	24	24	24	24	25	25	26	29
75	88	91	99	102	103	105	106	109	115

Prey Fish Caught: Bluegill, TL (mm)									
53	55	66	69	72	72	83	85	87	88

Comments: The lake manager required us to hot pressure wash the sampling vessels prior to launching from the main boat ramp. A sample of largemouth bass, redear sunfish and 2 prey species were collected. Two distinct size classes of Largemouth bass prey were seen and so samples of 10 of each class were collected (20 total).

Back to Table

2019 BOG Lakes, Bass Lake (540PBL098)



Latitude: 37.3133

Longitude: -119.55083

Collection Method: Electrofisher boat

Date (s) of Collection: October 1 and November 4, 2019

Samplers: Gary Ichikawa and Jon Goetzl

Sport Caught: Spotted Bass, TL (mm)						
215	240	265	282	305	306	307
308	312	328	330	358	407	412

Sportfish Caught: Rainbow Trout, TL (mm)				
315	335	342	345	395
418	424	440	555	

Sportfish Caught: Kokanee, TL (mm)				
380	385	395	395	417
432	434	444	450	460

Sportfish Caught: Bluegill, TL (mm)				
146	146	150	150	178

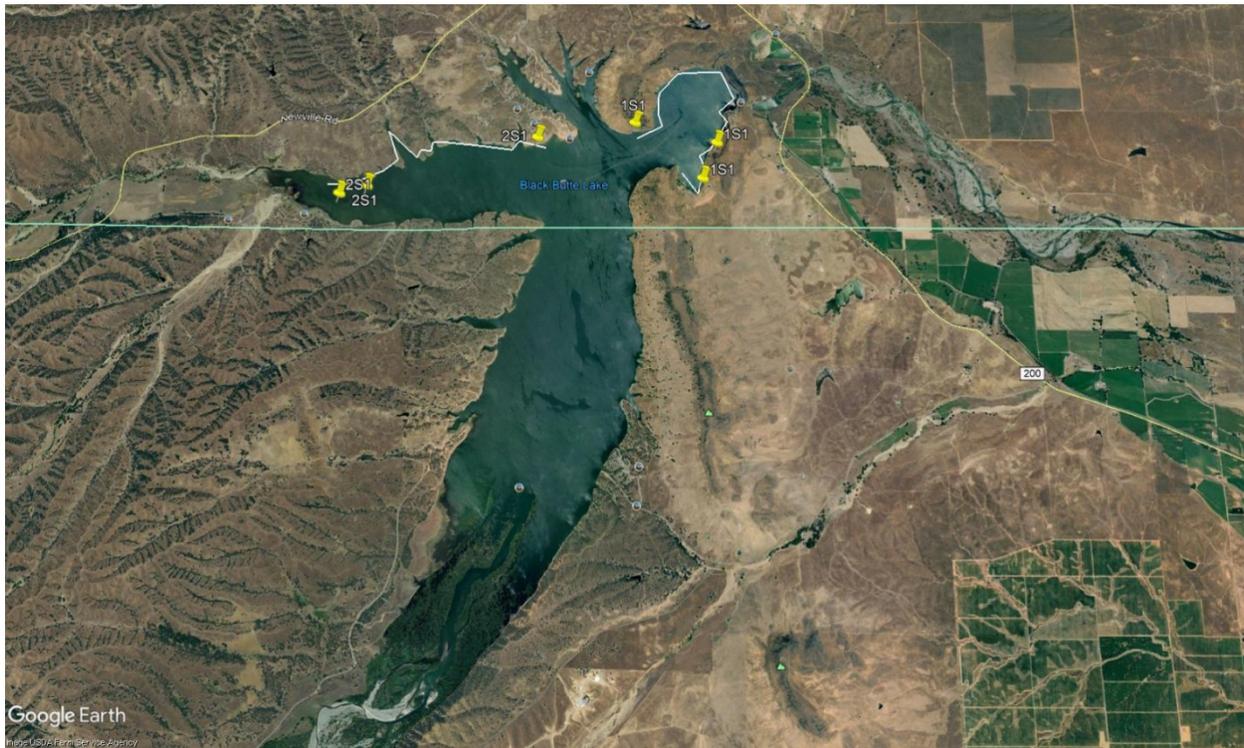
Prey Fish Caught: Spotted Bass, TL (mm)									
70	75	78	81	89	90	93	93	98	98

Prey Fish Caught: Bluegill, TL (mm)									
75	77	79	80	83	83	85	86	87	88

Comments: The sampling vessel was launched from the Pines private boat ramp. A second trip was required to collect the kokanee salmon. A sample of spotted bass, rainbow trout, kokanee salmon, bluegill and 2 prey species were collected.

Back to Table

2019 BOG Lakes, Black Butte Lake (504PBB125)



Latitude: 39.78042

Longitude: -122.36312

Collection Method: Electrofisher boat

Date (s) of Collection: July 16, 2019

Samplers: Scot Lucas and Chris Beebe

Location 1: Sport Caught: Largemouth Bass, TL (mm)						
210	244	250	252	305	306	307
315	325	337	344	352	359	360

Location 1: Prey Fish Caught: Largemouth Bass, TL (mm)									
39	44	46	46	47	50	53	53	54	55

Location 1: Prey Fish Caught: Common Carp, TL (mm)									
75	75	77	82	87	89	89	90	92	95

Location 1: Prey Fish Caught: Black Crappie, TL (mm)									
48	49	49	52	52	54	56	58	60	67

Location 2: Sport Caught: Largemouth Bass, TL (mm)						
218	232	255	272	309	309	310
315	324	325	325	327	367	370

Location 2: Prey Fish Caught: Largemouth Bass, TL (mm)									
44	44	45	46	47	52	52	52	58	77

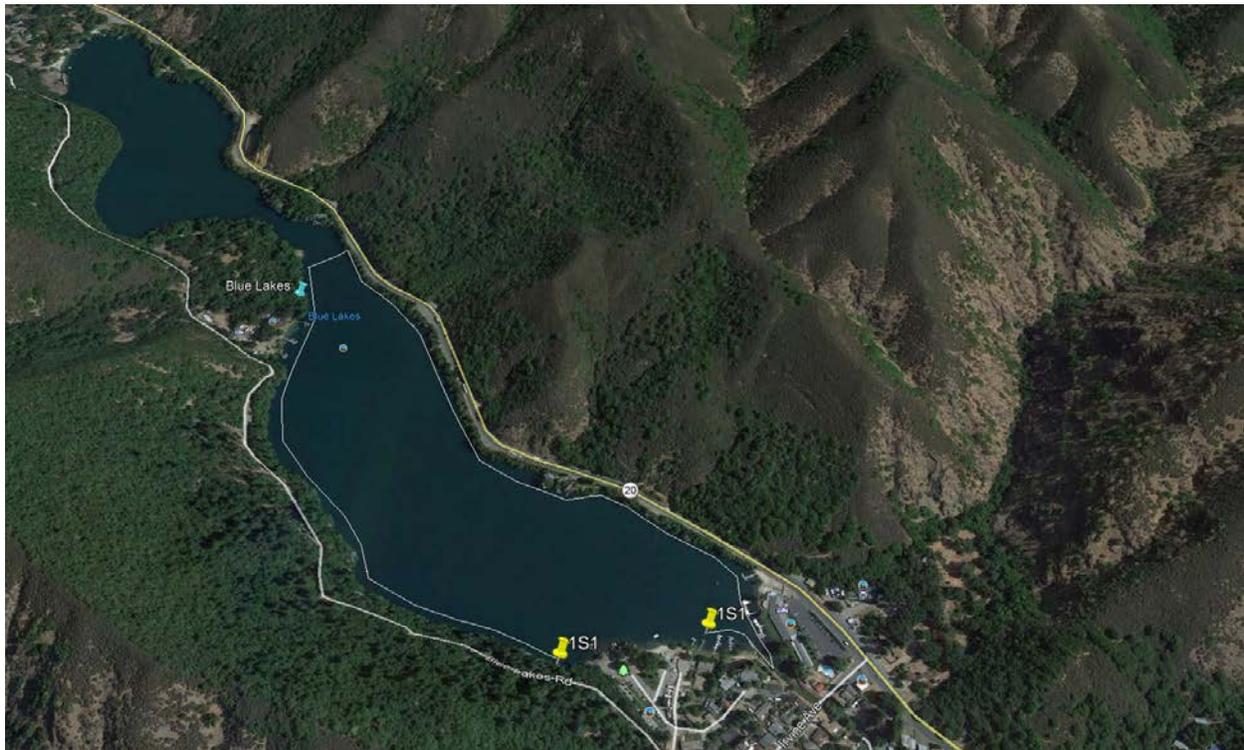
Location 2: Prey Fish Caught: Bluegill, TL (mm)									
65	71	73	75	79	84	87	89	89	95

Location 2: Prey Fish Caught: Common Carp, TL (mm)									
72	78	84	84	85	87	88	89	92	95

Comments: The rangers for this lake were notified the week prior of our intent to sample and the public ramp at the northeast corner of the lake was used to launch the boat. The larger sized bass were hard to come by, despite good habitat. No extra-large bass were seen. Two locations were sampled for bass and three prey species were collected at each location.

Back to Table

2019 BOG Lakes, Blue Lakes (513PBL097)



Latitude: 39.17499

Longitude: -123.01564

Collection Method: Electrofisher boat

Date (s) of Collection: August 5, 2019

Samplers: Gary Ichikawa and Jon Goetzl

Sport Caught: Largemouth Bass, TL (mm)						
222	225	282	290	320	325	330
355	365	378	388	400	415	435

Prey Fish Caught: Largemouth Bass, TL (mm)									
34	35	35	35	36	39	39	40	43	44

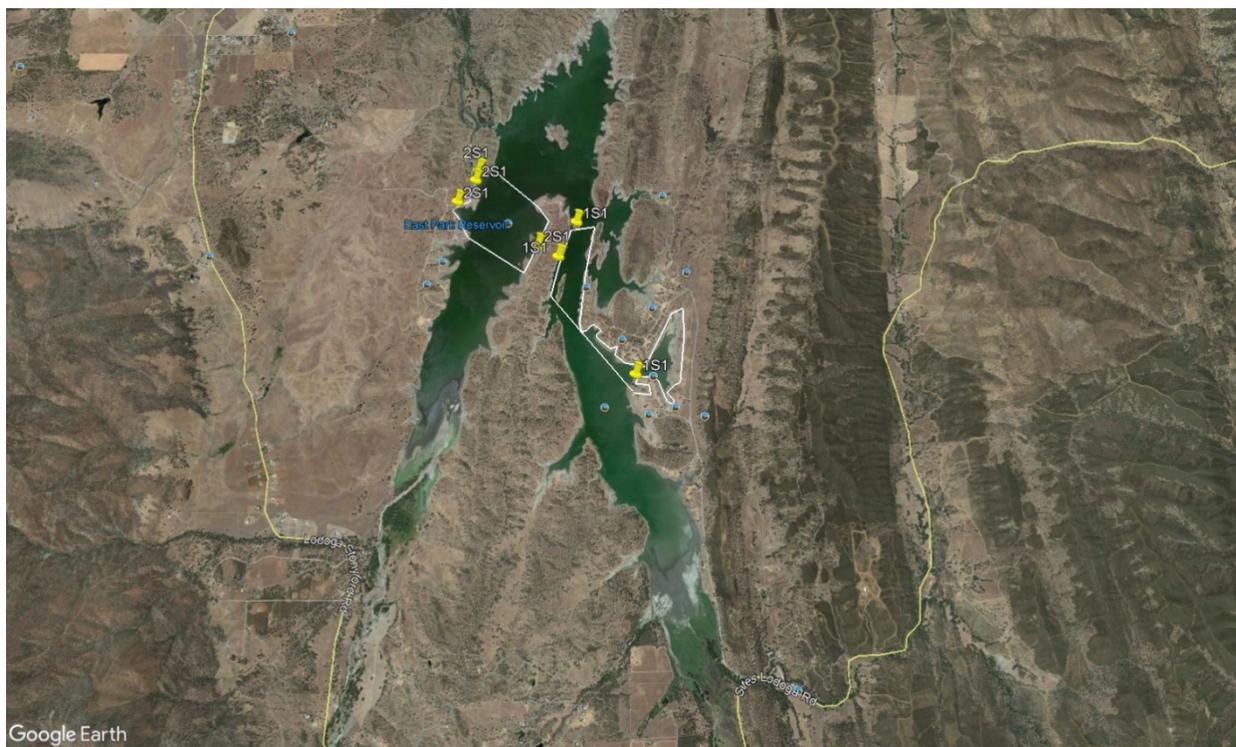
Prey Fish Caught: Bluegill, TL (mm)									
49	76	76	77	79	79	88	88	90	92

Prey Fish Caught: Green Sunfish, TL (mm)			
83	84	86	88

Comments: The sampling vessel was launched from the Pines Acres Resort private boat ramp. A sample of largemouth bass and 3 prey species were collected.

Back to Table

2019 BOG Lakes, East Park Reservoir (522PEP025)



Latitude: 39.32949

Longitude: -122.50654

Collection Method: Electrofisher boat

Date (s) of Collection: July 17, 2019

Samplers: Scot Lucas and Chris Beebe

Location 1: Sport Caught: Largemouth Bass, TL (mm)						
208	209	286	297	325	341	342
344	350	351	360	370	386	428

Location 1: Prey Fish Caught: Largemouth Bass, TL (mm)									
37	37	38	41	41	43	45	45	47	56

Location 1: Prey Fish Caught: Bluegill, TL (mm)									
62	64	67	72	75	76	79	80	87	96

Location 2: Sport Caught: Largemouth Bass, TL (mm)						
208	227	281	296	325	338	340
348	354	359	377	392	420	456

Location 2: Prey Fish Caught: Largemouth Bass, TL (mm)									
37	37	38	40	40	41	43	47	57	72

Location 2: Prey Fish Caught: Bluegill, TL (mm)									
56	65	66	72	73	76	76	79	80	83

Comments: Access to the lake was by shore launch through the camp ground off the east mid-section side of the lake. Largemouth bass and 2 species of prey fish were collected from two locations.

Back to Table

2019 BOG Lakes, Modesto Reservoir (535PMR063)



Latitude: 37.66293

Longitude: -120.65368

Collection Method: Electrofisher boat

Date (s) of Collection: September 4-5, 2019

Samplers: Scot Lucas and Autumn Bonnema

Location 1: Sport Caught: Largemouth Bass, TL (mm)						
200	237	238	246	252	253	256
262	269	277	282	306	313	390

Location 1: Sportfish Caught: Redear Sunfish, TL (mm)				
155	162	175	182	185

Location 1: Prey Fish Caught: Largemouth Bass, TL (mm)									
37	37	38	41	41	43	45	45	47	56

Location 1: Prey Fish Caught: Bluegill, TL (mm)									
62	64	67	72	75	76	79	80	87	96

Location 2: Sport Caught: Largemouth Bass, TL (mm)						
210	237	245	246	252	257	264
276	281	284	295	316	334	419

Location 2: Sportfish Caught: Redear Sunfish, TL (mm)				
134	149	166	175	178

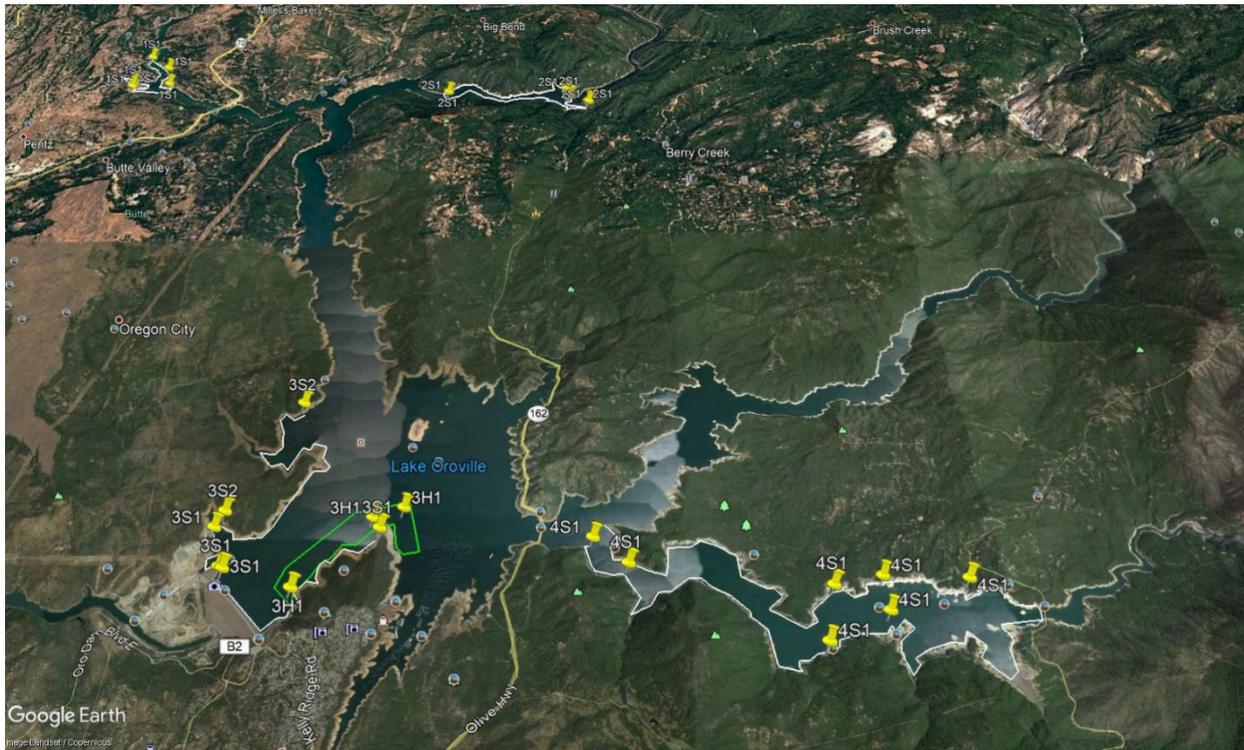
Location 2: Prey Fish Caught: Largemouth Bass, TL (mm)									
37	37	38	40	40	41	43	47	57	72

Location 2: Prey Fish Caught: Bluegill, TL (mm)									
56	65	66	72	73	76	76	79	80	83

Comments: Samplers accessed the lake from the public launch on the east side of the lake. Most of the fish were caught by drifting through the macrophyte dominated, offshore portions of the lake. Larger-sized bass (>400mm) were rare, but we were able to get 14 largemouth bass, five redear sunfish and two prey species from each location.

Back to Table

2019 BOG Lakes, Lake Oroville (518POV021)



Latitude: 39.55227

Longitude: -121.42538

Collection Method: Electrofisher boat

Date (s) of Collection: July 22-23 and August 26-27, 2019

Samplers: Gary Ichikawa, Scot Lucas, Chris Beebe and Jessica Heath

Location 1: Sport Caught: Spotted Bass, TL (mm)				
205	242	310	318	325
330	330	355	405	

Location 1: Sport Caught: Largemouth Bass, TL (mm)				
210	260	290	350	360

Location 1: Prey Fish Caught: Spotted Bass, TL (mm)									
36	37	37	41	42	42	47	47	47	50

Location 1: Prey Fish Caught: Bluegill, TL (mm)									
65	70	70	80	82	82	85	87	89	89

Location 2: Sport Caught: Spotted Bass, TL (mm)						
185	215	220	255	256	322	350
353	360	360	360	360	409	450

Location 2: Prey Fish Caught: Spotted Bass, TL (mm)									
40	45	48	50	56	57	85	94	97	99

Location 2: Prey Fish Caught: Bluegill, TL (mm)									
62	70	72	72	73	73	74	82	86	95

Location 3: Sport Caught: Spotted Bass, TL (mm)					
201	202	207	209	209	209
210	215	367	405	431	461

Location 3: Sport Caught: Chinook Salmon, TL (mm)				
384	384	387	401	405
411	414	420	440	542

Location 3: Sport Caught: Largemouth Bass, TL (mm)	
334	365

Location 3: Prey Fish Caught: Spotted Bass, TL (mm)									
57	58	64	64	76	79	84	90	92	97

Location 3: Prey Fish Caught: Bluegill, TL (mm)									
80	84	86	87	87	90	92	96	97	97

Location 4: Sport Caught: Spotted Bass, TL (mm)						
229	236	265	283	306	308	337
339	342	380	380	409	421	539

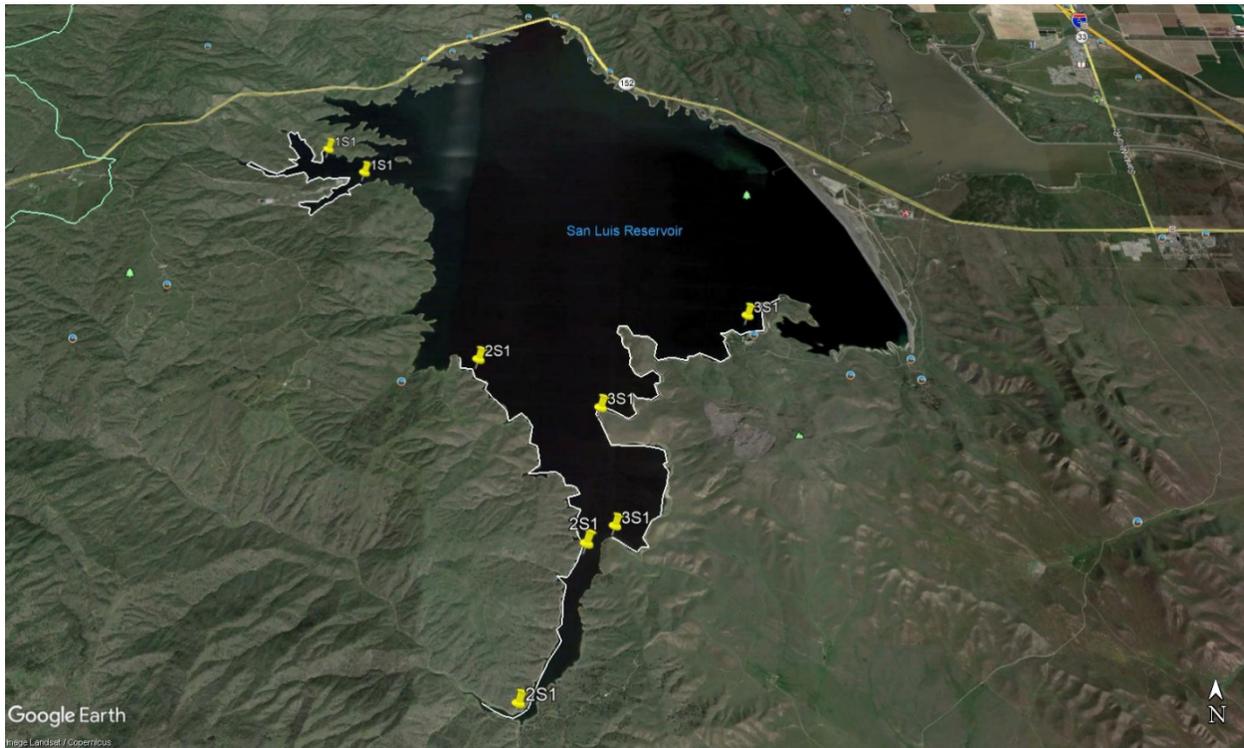
Location 4: Prey Fish Caught: Largemouth Bass, TL (mm)									
43	46	48	48	51	53	57	59	64	75

Location 4: Prey Fish Caught: Bluegill, TL (mm)									
75	75	77	81	85	85	86	86	86	96

Comments: Four locations were sampled over four total days in July and August with adult bass collected being a mix of spotted bass, predominantly, and largemouth bass, secondarily. A guided charter boat (Grant Mitchell) was also hired for part of one sampling day (August 27) to help catch salmonids. Kokanee were on the list of primary species to collect but the guide stated that those were not known to be caught there in recent years. The guide regularly catches Chinook salmon in this lake and samplers were able to collect 10 adult size fish by trolling in location 3. Two samples of bass and bluegill prey fish were collected from each location as well. Locations 1 and 2 were accessed using the public launch at the northeast end of the lake and location 3 was accessed at Bidwell Canyon and location 4 was accessed using the temporarily closed public ramp at the lake near the north part of the dam.

Back to Table

2019 BOG Lakes, San Luis Reservoir (542PLS200)



Latitude: 36.98561

Longitude: -121.12861

Collection Method: Electrofisher boat

Date (s) of Collection: August 20 and September 3, 2019

Samplers: Gary Ichikawa, Jon Goetzl, Scot Lucas and Autumn Bonnema

Location 1: Sport Caught: Largemouth Bass, TL (mm)						
200	237	238	246	252	253	256
262	269	277	282	306	313	390

Location 1: Sport Caught: Striped Bass, TL (mm)
500

Location 1: Prey Fish Caught: Mississippi silverside, TL (mm)									
57	60	60	62	62	62	64	69	72	72

Location 1: Prey Fish Caught: Sculpin, TL (mm)									
50	52	55	60	63	64	65	77	88	90

Location 1: Prey Fish Caught: Tule Perch, TL (mm)									
75	79	80	80	80	82	83	85	86	92

Location 2: Sport Caught: Largemouth Bass, TL (mm)						
233	240	261	286	310	311	313
325	330	331	332	371	378	381

Location 2: Sport Caught: Striped Bass, TL (mm)				
448	451	461	476	497

Location 2: Sport Caught: Common Carp, TL (mm)				
578	597	641	645	663

Location 2: Prey Fish Caught: Largemouth Bass, TL (mm)									
50	53	57	58	65	65	65	88	94	95

Location 2: Prey Fish Caught: Mississippi silverside, TL (mm)									
52	61	70	70	73	75	75	75	76	80

Location 2: Prey Fish Caught: Sculpin, TL (mm)									
36	37	37	40	41	46	47	48	48	56

Location 3: Sport Caught: Largemouth Bass, TL (mm)						
210	218	229	293	305	323	329
335	336	339	375	385	390	420

Location 3: Sport Caught: Striped Bass, TL (mm)				
441	449	458	461	560

Location 3: Sport Caught: Common Carp, TL (mm)				
579	592	620	643	695

Location 3: Prey Fish Caught: Golden Shiner, TL (mm)									
57	58	59	62	63	65	68	70	74	87

Location 3: Prey Fish Caught: Sculpin, TL (mm)									
31	33	37	38	42	45	48	52	53	57

Location 3: Prey Fish Caught: Striped Bass, TL (mm)									
69	72	78	86	87	88	91	93	98	99

Comments: Four locations were scheduled for sampling at San Luis Reservoir. A combination of often windy conditions, boat problems, low water levels and inability to gain access from the lake staff rangers resulted in only 3 of the 4 locations being sampled. Lake managers and staff are (understandably) wary of the threat and spread of invasive species in this area and our team went out of our way to decontaminate, keep the boat dry and have the boat inspected prior to coming down. However, multiple times samplers were turned away and not granted access and it did not seem like the staff there showed much consistency in their invasive species policy and access requirements. In every attempt, prior to travelling to the site, reservoir staff was contacted and arrangements were made in advance so they would know we were coming.

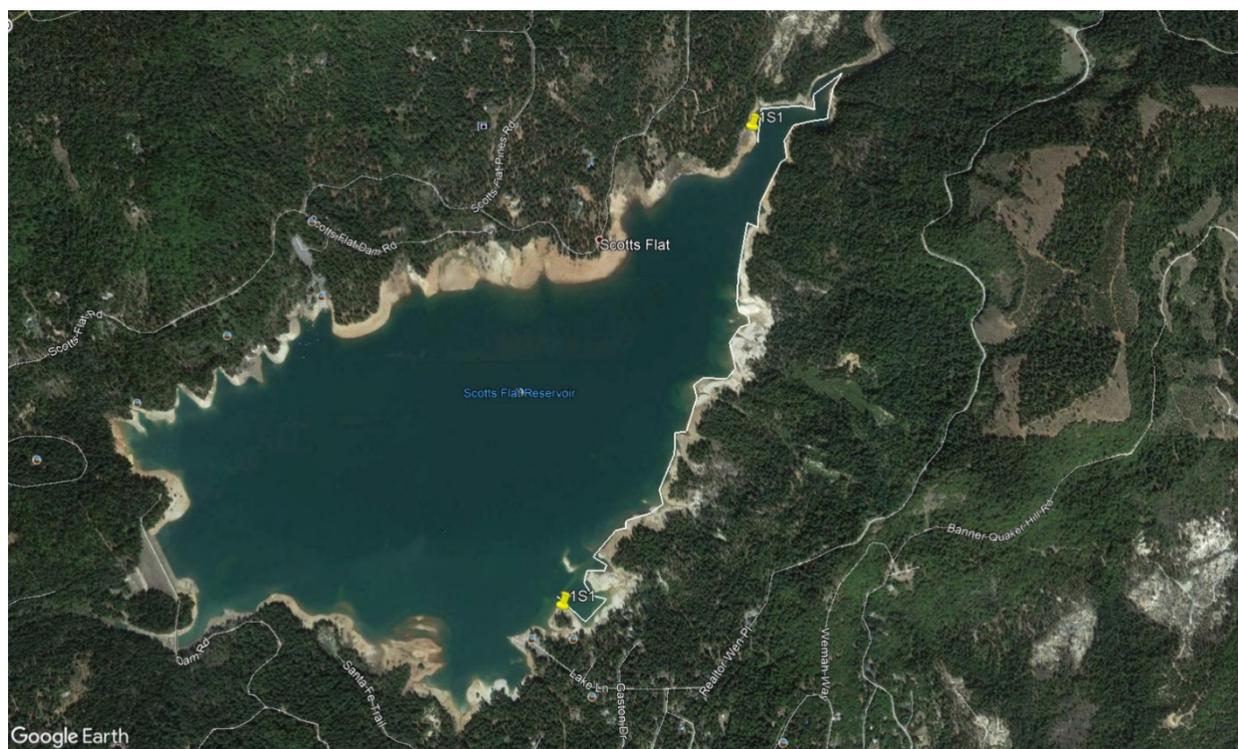
Location 1 was accessed from the Dinosaur Point public ramp at the northwest end of the lake and locations 2 and 3 were accessed from the Basalt public ramp near the dam.

Fourteen adult largemouth bass were collected at all 3 locations. Carp were opportunistically collected at locations 2 and 3, in lieu of catfish, which were not found at any location. Striped bass were also more common at locations 2 and 3, where we were able to collect 5 each at both locations. One striped bass was collected at location 1.

Three prey species were collected at each location including: sculpin, shiner, striped bass, largemouth bass, silverside and perch.

Back to Table

2019 BOG Lakes, Scotts Flat Reservoir (517PSF049)



Latitude: 39.27666

Longitude: -120.91536

Collection Method: Electrofisher boat

Date (s) of Collection: June 11, 2019

Samplers: Scot Lucas and April Guimaraes

Sport Caught: Largemouth Bass, TL (mm)						
185	191	256	263	351	371	373
375	385	390	400	423	440	482

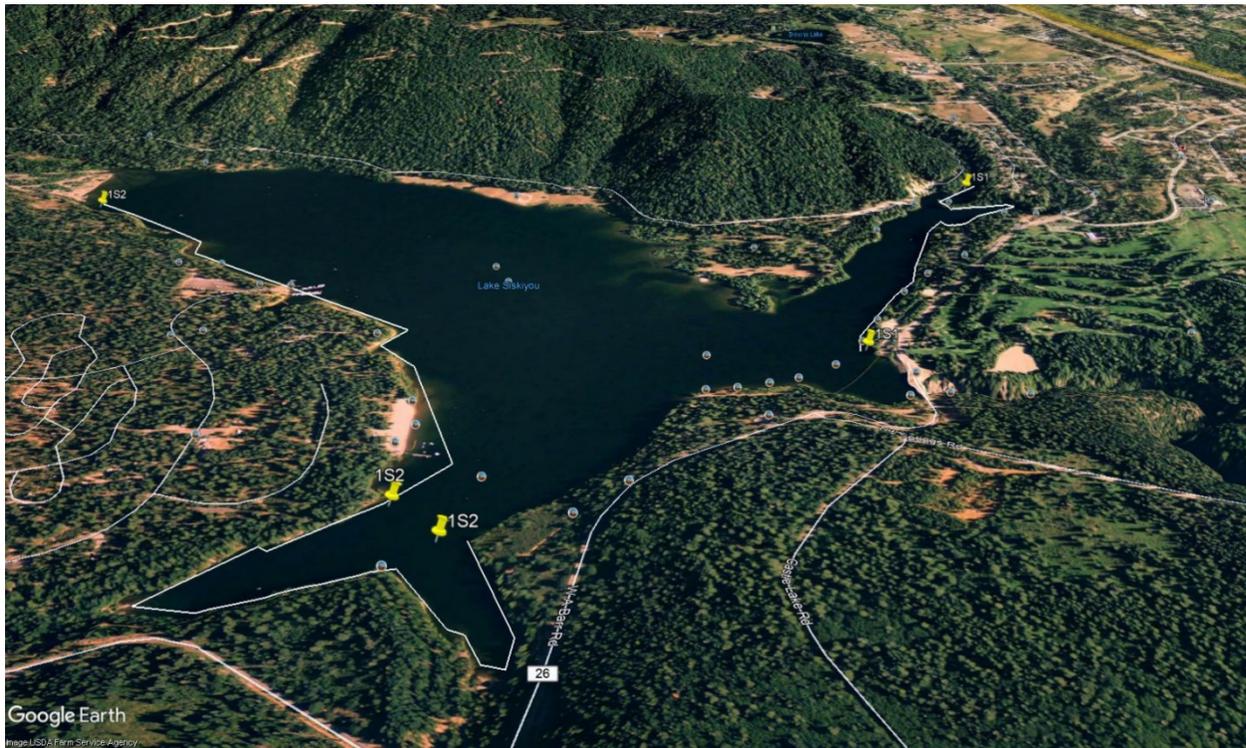
Prey Fish Caught: Largemouth Bass, TL (mm)									
51	52	52	56	56	58	72	73	76	86

Prey Fish Caught: Bluegill, TL (mm)									
35	41	41	41	47	51	56	68	73	85

Comments: Scotts Flat was accessed by the boat ramp on the southeast side of the reservoir by permission from the private gated community management. The reservoir also contains smallmouth bass, in lesser numbers, along with rainbow trout.

Back to Table

2019 BOG Lakes, Siskiyou Lake (525PSL186)



Latitude: 41.28005

Longitude: -122.33839

Collection Method: Electrofisher boat

Date (s) of Collection: October 9, 2019

Samplers: Gary Ichikawa and Scot Lucas

Sport Caught: Spotted Bass, TL (mm)					
218	264	280	290	321	380

Sportfish Caught: Rainbow Trout, TL (mm)				
405	438	460	460	472
480	497	546	565	566

Sport Caught: Brown Trout, TL (mm)
500

Prey Fish Caught: Spotted Bass, TL (mm)									
64	66	69	71	71	78	80	85	86	90

Prey Fish Caught: Green Sunfish, TL (mm)						
48	60	66	71	74	88	89

Comments: Samplers accessed Siskiyou from the public launch on the west side of the lake. More of a trout lake than a bass lake, 10 rainbow trout and 1 brown trout were collected at the northeast arm, at the main inlet source. Only spotted bass were seen and six were collected. Cold weather and water and very windy on this pristine lake; bass may have been deep or simply not as common as previously sampled in 2008.

Back to Table

2019 BOG Lakes, Slab Creek Reservoir (514SLABCR)



Latitude: 38.7875

Longitude: -120.6758

Collection Method: Electrofisher boat

Date (s) of Collection: June 24, 2019

Samplers: Gary Ichikawa and Scot Lucas

Sport Caught: Sacramento Pikeminnow , TL (mm)					
285	288	300	339	350	351
362	376	395	460	473	499

Sport Caught: Sacramento Sucker, TL (mm)				
305	346	361	361	367
367	377	401	420	498

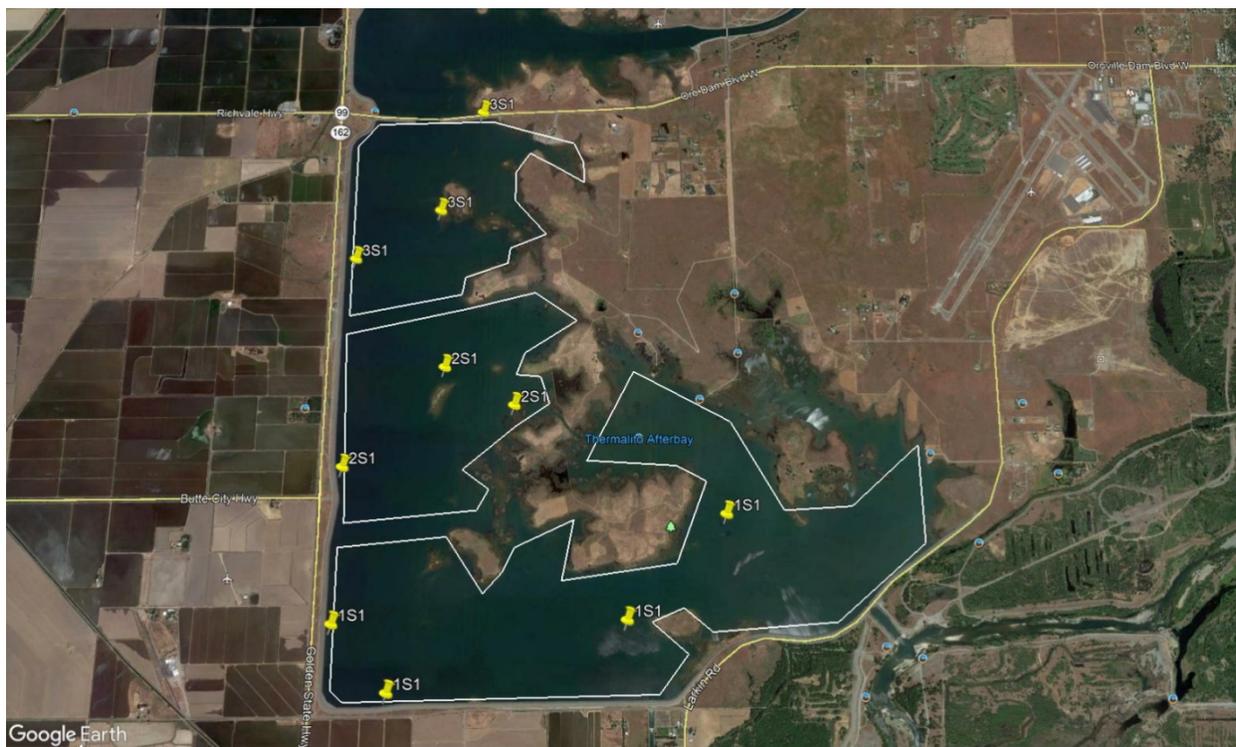
Prey Fish Caught: Sacramento Pikeminnow, TL (mm)									
34	34	35	38	40	40	43	46	47	52

Comments: Slab Creek Reservoir is a Sacramento Municipal Utility District (SMUD) lake and not open to the public. Access was granted by contacting SMUD staff who opened the gate and guided us through to the access road. The access road, on the west side near the dam, was very steep on the side with an elevated drop-off on the side facing the dam and also narrow with little place to turn around to launch the boat at the gravel/dirt ramp runway. By unhooking the

boat, the truck and boat were turned around separately, and then reattached for launching. No bass or carp were seen. Samples of pike minnow and sucker were collected, including pike minnow prey; the only prey species seen.

Back to Table

2019 BOG Lakes, Thermalito Afterbay (515TT0326)



Latitude: 39.45655

Longitude: -121.65809

Collection Method: Electrofisher boat

Date (s) of Collection: October 8, 2019

Samplers: Gary Ichikawa and Scot Lucas

Location 1: Sport Caught: Largemouth Bass, TL (mm)			
268	280	284	311
374	394	430	451

Location 1: Sport Caught: Spotted Bass, TL (mm)			
195	203	207	222

Location 1: Prey Fish Caught: Largemouth Bass, TL (mm)									
44	47	49	53	53	55	62	64	74	75

Location 1: Prey Fish Caught: Bluegill, TL (mm)									
54	55	57	65	68	70	82	84	84	87

Location 2: Sport Caught: Largemouth Bass, TL (mm)	
338	360

Location 2: Sport Caught: Spotted Bass, TL (mm)	
230	261

Location 2: Prey Fish Caught: Largemouth Bass, TL (mm)									
52	58	61	68	68	69	72	77	82	88

Location 2: Prey Fish Caught: Bluegill, TL (mm)									
41	47	47	54	67	68	85	85	89	98

Location 3: Sport Caught: Largemouth Bass, TL (mm)	
223	

Location 3: Prey Fish Caught: Largemouth Bass, TL (mm)									
50	54	55	59	66	68	70	71	75	80

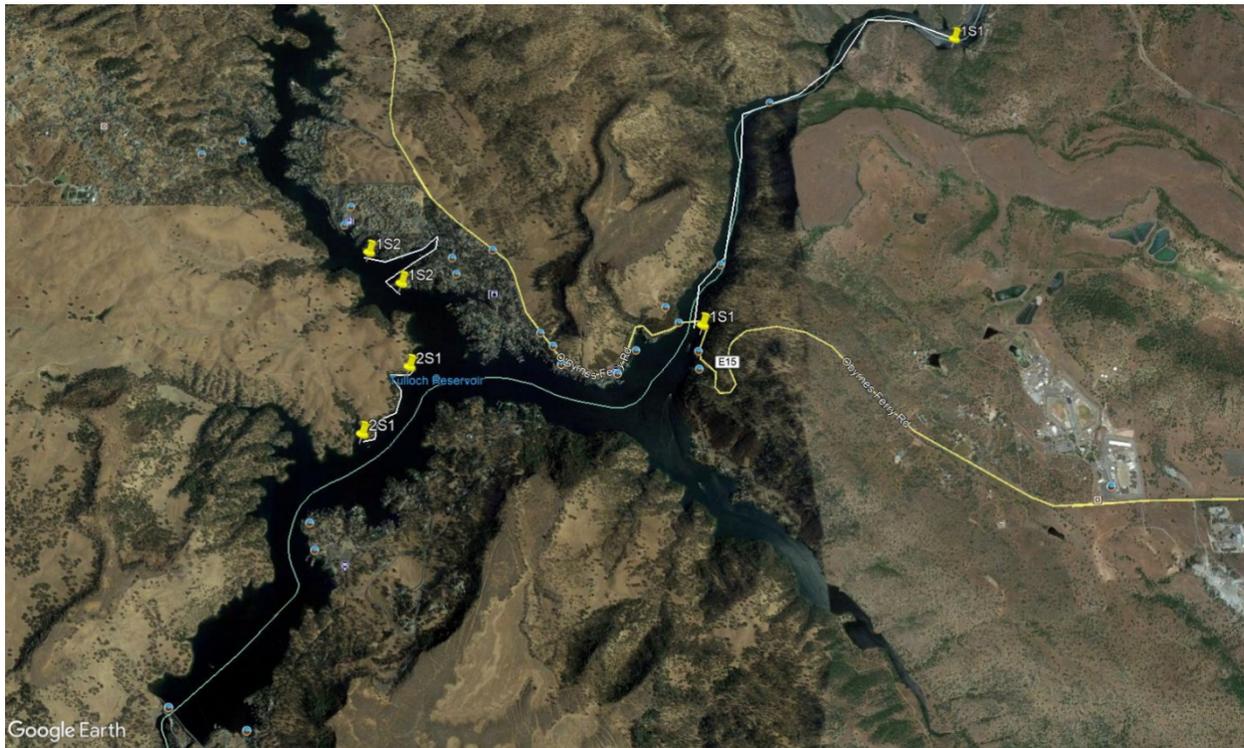
Location 3: Prey Fish Caught: Bluegill, TL (mm)									
39	44	52	53	54	65	65	89	90	93

Comments: The sampling vessel was launched from the public ramp off Oroville Dam Boulevard (Highway 162). The afterbay water level was higher than normal due to water releases from Lake Oroville. There were many picnic tables underwater.

Thermalito appears at first to have good habitat for bass but much of the lake margins are shallow (< 1.0 m) and absolutely full of macrophytes: a combination that made it difficult to motor through and likely affected the overall bass population. A mix of largemouth and spotted bass occur in the lake, albeit in smaller numbers than expected, due to the shallow, plant-choked water. Largemouth bass and bluegill prey were collected at all 3 locations along with the 17 combined location total of adult/subadult size bass.

Back to Table

2019 BOG Lakes, Tulloch Reservoir (534PTR111)



Latitude: 37.89444

Longitude: -120.57212

Collection Method: Electrofisher boat

Date (s) of Collection: September 30, 2019

Samplers: Gary Ichikawa and Jon Goetzl

Location 1: Sport Caught: Largemouth Bass, TL (mm)						
222	228	380	391	395	398	400
407	410	425	426	442	443	460

Location 1: Sportfish Caught: Bluegill, TL (mm)				
132	152	162	163	167

Location 1: Prey Fish Caught: Largemouth Bass, TL (mm)								
67	71	74	74	75	76	77	78	80

Location 1: Prey Fish Caught: Bluegill, TL (mm)									
75	83	88	89	89	89	94	95	99	99

Location 2: Sport Caught: Largemouth Bass, TL (mm)			
355	380	382	416
465	485	620	642

Location 2: Sportfish Caught: Bluegill, TL (mm)				
132	132	138	160	170

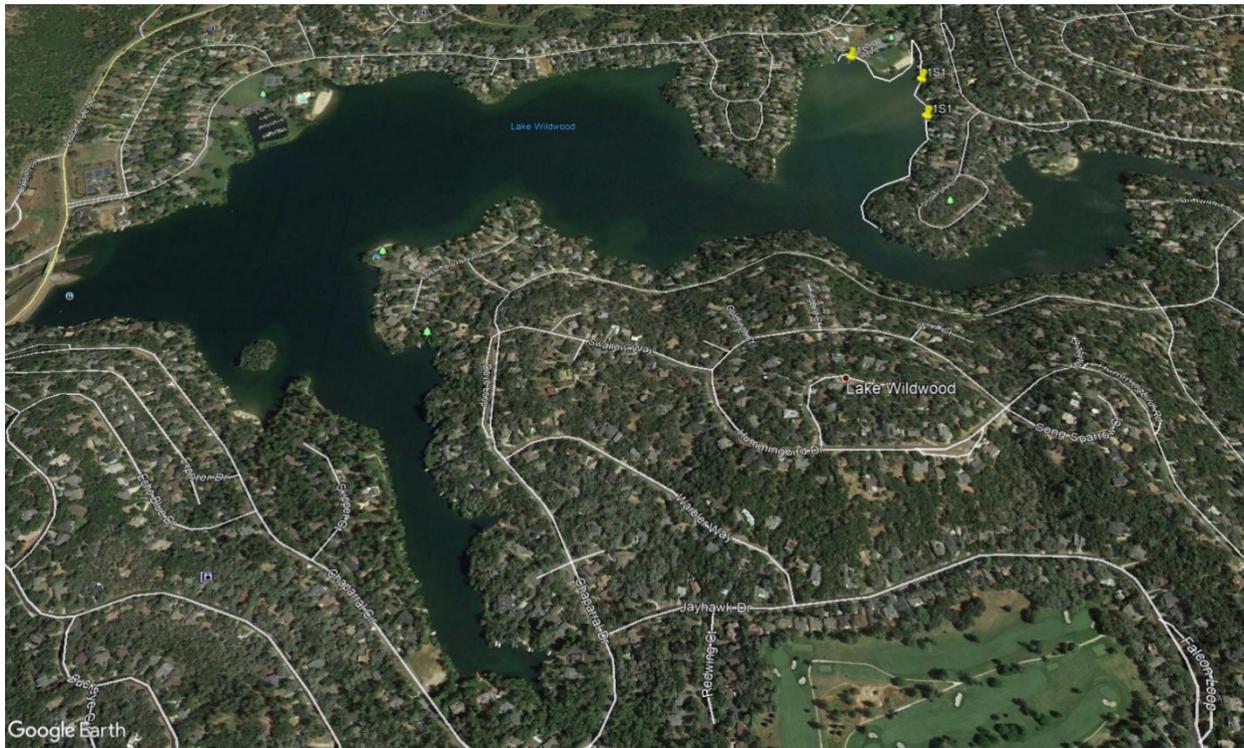
Location 2: Prey Fish Caught: Spotted Bass, TL (mm)									
58	61	64	65	67	72	77	77	78	94

Location 2: Prey Fish Caught: Bluegill, TL (mm)									
35	36	38	40	42	48	49	77	79	88

Comments: The sampling vessel was launched from Lake Tulloch Resort private boat ramp. Windy conditions made fish collections challenging. Largemouth bass, bluegill and two samples of prey species were collected at two locations.

Back to Table

2019 BOG Lakes, Wildwood Lake (517WILDWL)



Latitude: 39.2394

Longitude: -121.2103

Collection Method: Electrofisher boat

Date (s) of Collection: June 12, 2019

Samplers: Scot Lucas and April Guimaraes

Sport Caught: Largemouth Bass, TL (mm)						
214	225	293	302	340	346	347
356	360	377	383	421	448	470

Sport Caught: Common Carp, TL (mm)				
286	315	323	329	330
338	351	355	386	390

Prey Fish Caught: Largemouth Bass, TL (mm)									
38	39	45	47	50	51	52	52	52	58

Prey Fish Caught: Bluegill, TL (mm)									
42	43	54	60	63	70	74	75	94	99

Prey Fish Caught: Golden Shiner, TL (mm)									
32	34	35	35	36	36	37	37	38	39

Comments: Access to this private community lake was granted by the lake manager, using the community boat ramp. The lake was loaded with largemouth bass across all size ranges and small carp, mostly in the 300mm-400 mm TL range.

Back to Table

2019 BOG Lakes, William Pond (Arden Pond) (519WILMPD)



Latitude: 38.5839

Longitude: -121.3339

Collection Method: Electrofisher boat

Date (s) of Collection: June 25, 2019

Samplers: Gary Ichikawa and Scot Lucas

Sport Caught: Largemouth Bass, TL (mm)						
210	241	275	291	315	332	346
363	367	382	395	450	462	477

Sport Caught: Sacramento Sucker, TL (mm)				
401	470	483	485	486
491	492	500	502	531

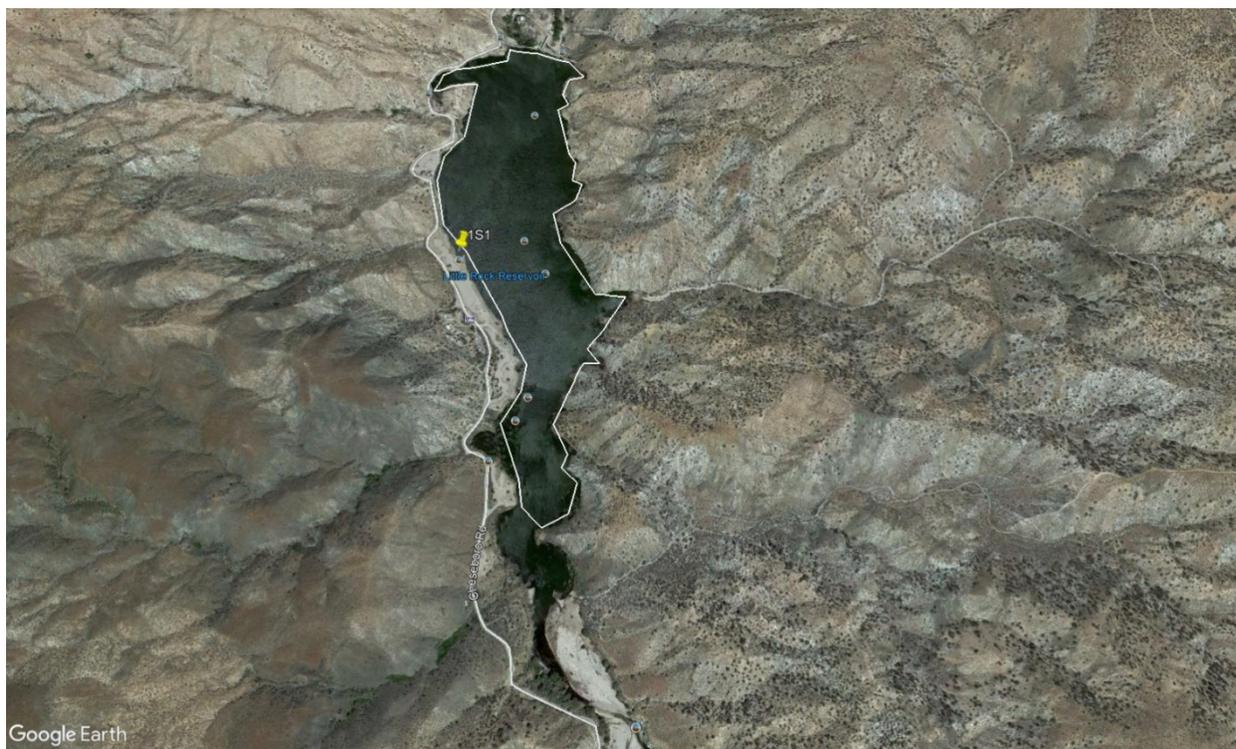
Prey Fish Caught: Sacramento Sucker, TL (mm)									
60	62	76	80	81	85	92	95	98	99

Prey Fish Caught: Sacramento Pikeminnow, TL (mm)									
40	50	54	56	62	65	68	70	75	88

Comments: Access to the pond, a small offshoot adjacent the American River, was granted by Sacramento Parks rangers. Samplers launched the boat from shore in the north corner of the pond using portable ramps and 4 x 4. Sacramento sucker were collected, along with largemouth bass, as carp were not prevalent. Three species of prey were collected as well. Shallow water and pervasive aquatic plant life limited efforts to sample certain parts of the pond.

Back to Table

2019 BOG Lakes, Little Rock Reservoir (626PLR135)



Latitude: 34.47903

Longitude: -118.02288

Collection Method: Electrofisher boat

Date (s) of Collection: May 21, 2019

Samplers: Gary Ichikawa and Jon Goetzl

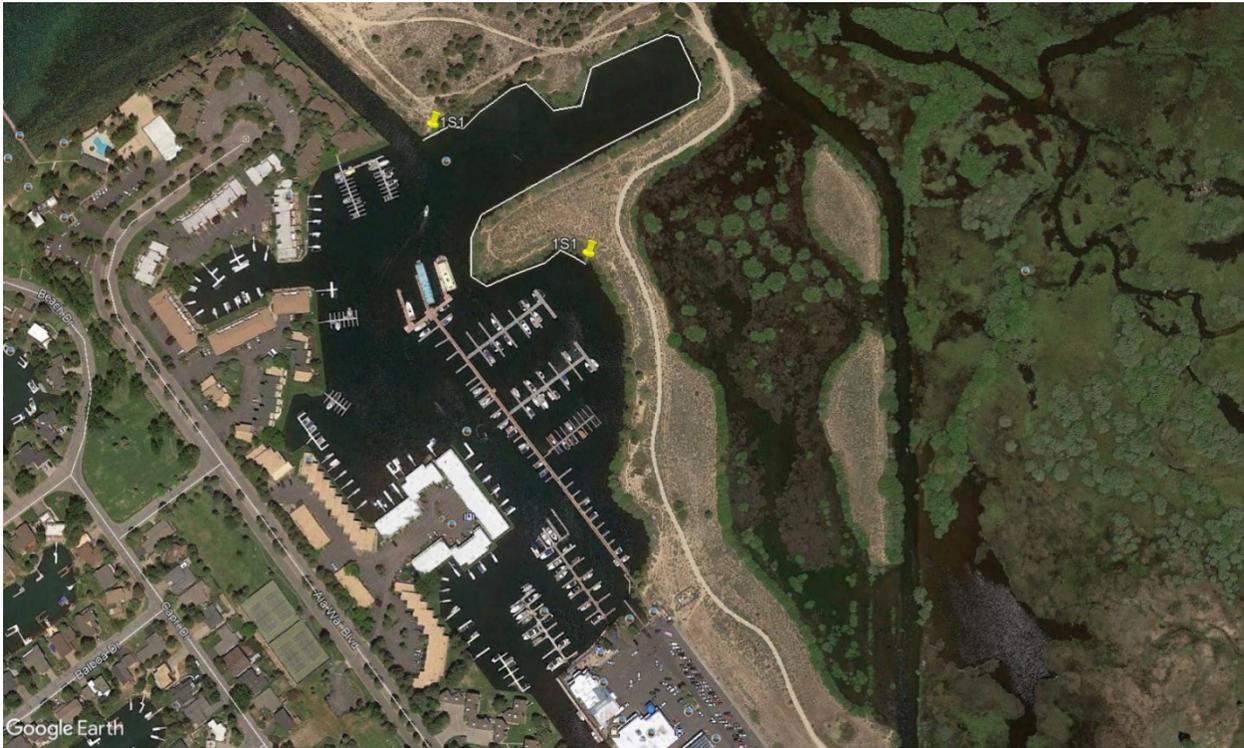
Sport Caught: Largemouth Bass, TL (mm)						
183	195	200	304	320	332	335
340	340	342	360	452	478	495

Prey Fish Caught: Bluegill, TL (mm)	
45	46

Comments: Samplers launched the boat from the public launch at the west mid-section of the lake. This lake has been closed for at least 5 years and not planted with fish for at least 8 years. Fourteen adult largemouth bass were collected along with just 2 prey size bluegill. Conditions were extremely windy.

Back to Table

2019 BOG Lakes, Lake Tahoe Keys (634LTKEYS)



Latitude: 38.93781 **Longitude:** -120.00306

Collection Method: Electrofisher boat

Date (s) of Collection: June 25, 2019

Samplers: Gary Ichikawa and Scot Lucas

Sport Caught: Largemouth Bass, TL (mm)						
204	218	258	275	307	321	328
340	341	347	359	420	431	483

Prey Fish Caught: Largemouth Bass, TL (mm)									
45	51	52	55	56	56	60	60	82	95

Prey Fish Caught: Bluegill, TL (mm)									
49	50	55	87	90	91	91	92	95	95

Comments: Sampling site was accessed at Tahoe Keys public boat ramp, following having the boat inspected for invasive species at a nearby facility. Adult largemouth bass were collected along with largemouth and bluegill prey. Other fish seen: pikeminnow, golden shiner, black crappie, goldfish, sucker, channel catfish.

Back to Table

2019 BOG Lakes, Wiest Lake (723PWT019)



Latitude: 33.04222

Longitude: -115.48944

Collection Method: Electrofisher boat

Date (s) of Collection: June 3, 2019

Samplers: Gary Ichikawa and Scot Lucas

Sport Caught: Largemouth Bass, TL (mm)						
219	237	251	303	331	342	346
362	383	391	404	416	468	485

Prey Fish Caught: Bluegill, TL (mm)									
56	57	58	60	60	62	65	68	68	98

Comments: Samplers used the public ramp for access. Adult largemouth bass were collected, but juvenile largemouth bass were not seen, despite sampling the perimeter of the entire lake. By-catch included grass carp and gizzard shad, among others, which are not commonly encountered.

Back to Table

2019 BOG Lakes, Lake Hemet (802PHM003)



Latitude: 33.66695

Longitude: -116.69406

Collection Method: Electrofisher boat

Date (s) of Collection: October 29, 2019

Samplers: Gary Ichikawa and Scot Lucas

Sport Caught: Largemouth Bass, TL (mm)						
207	211	216	227	252	252	265
275	291	337	453	463	513	550

Sportfish Caught: Rainbow Trout, TL (mm)			
244	298	330	359

Prey Fish Caught: Largemouth Bass, TL (mm)									
76	78	85	86	88	88	89	90	91	91

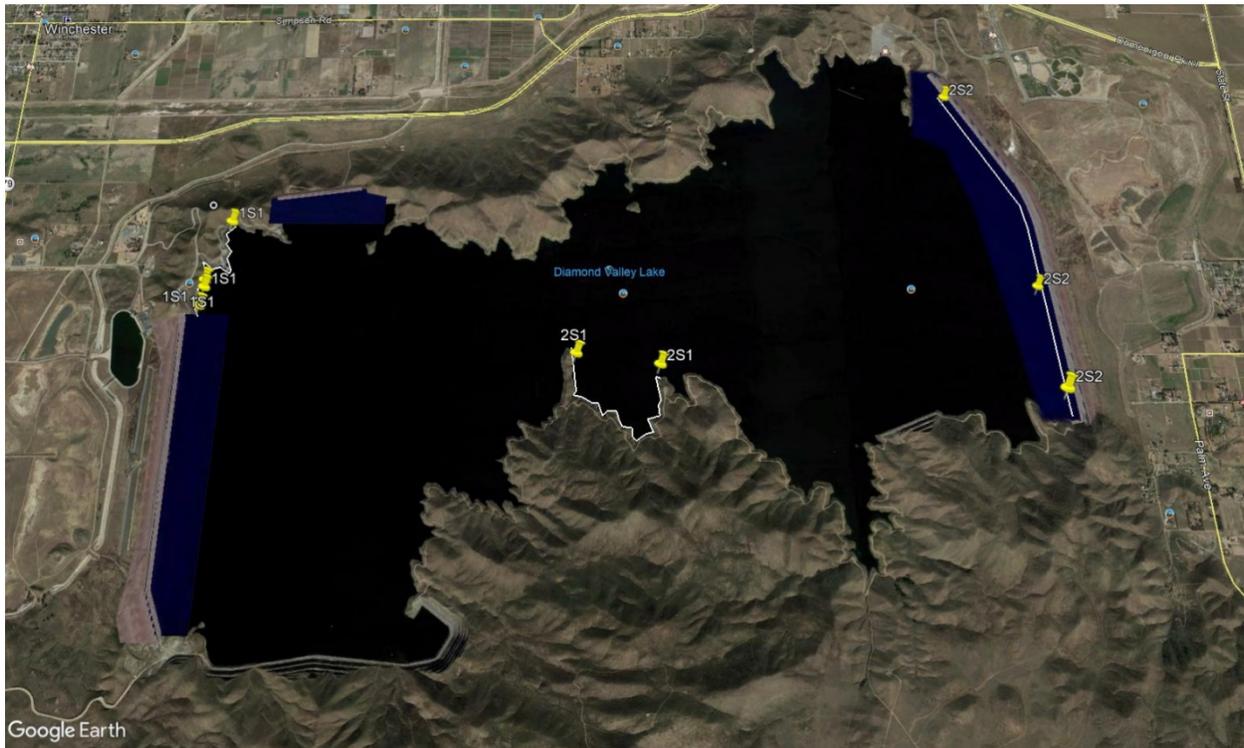
Prey Fish Caught: Bluegill, TL (mm)									
39	41	42	44	45	45	45	47	52	92

Prey Fish Caught: Green Sunfish, TL (mm)									
37	37	38	39	40	48	48	50	55	95

Comments: Samplers launched at the east end of the lake at the public ramp, where all three prey species were collected in the small cove surrounding the ramp. Adult largemouth bass and rainbow trout were collected on the other side of the lake, where habitat was more suitable. The majority of the lake contained a noticeable algal bloom.

Back to Table

2019 BOG Lakes, Diamond Valley Lake (902DMDVLK)



Latitude: 33.68326

Longitude: -117.0029

Collection Method: Electrofisher boat

Date (s) of Collection: October 30, 2019

Samplers: Gary Ichikawa and Scot Lucas

Location 1: Sport Caught: Largemouth Bass, TL (mm)						
208	231	255	285	296	350	352
410	454	476	518	548	561	595

Location 1: Sport Caught: Striped Bass, TL (mm)	
229	245

Location 1: Sport Caught: Flathead Catfish, TL (mm)				
330	458	635	641	737

Location 1: Prey Fish Caught: Largemouth Bass, TL (mm)									
57	64	73	78	81	93	96	98	98	99

Location 1: Prey Fish Caught: Bluegill, TL (mm)									
46	48	51	52	54	55	57	60	61	67

Location 1: Prey Fish Caught: Green Sunfish, TL (mm)									
60	71	74	75	76	78	78	83	85	91

Location 2: Sport Caught: Largemouth Bass, TL (mm)						
215	228	279	285	321	336	345
371	390	425	430	449	466	486

Location 2: Sport Caught: Striped Bass, TL (mm)				
203	214	214	219	222
225	230	232	240	

Location 2: Sport Caught: Flathead Catfish, TL (mm)				
402	451	545	553	657

Location 2: Prey Fish Caught: Largemouth Bass, TL (mm)									
78	81	85	86	90	91	91	91	92	96

Location 2: Prey Fish Caught: Bluegill, TL (mm)									
79	83	88	89	90	94	95	96	97	98

Location 2: Prey Fish Caught: Green Sunfish, TL (mm)									
70	71	79	80	85	89	89	96	97	97

Comments: Samplers accessed the lake from the public ramp at the northeast corner near the eastern dam. Largemouth bass, catfish and striped bass were collected at both locations, along with 3 prey species at each. Bass throughout this lake trended toward the extra-large size of the range.

Back to Table

2019 BOG Lakes, Loveland Reservoir (909TL0063)



Latitude: 32.78654

Longitude: -116.76817

Collection Method: Electrofisher boat

Date (s) of Collection: May 6, 2019

Samplers: Gary Ichikawa and Jon Goetzl

Sport Caught: Largemouth Bass, TL (mm)						
238	240	260	272	307	320	340
350	350	360	380	407	420	425

Sport Caught: Common Carp, TL (mm)			
480	510	525	525
528	530	535	540

Sport Caught: Channel Catfish, TL (mm)
480

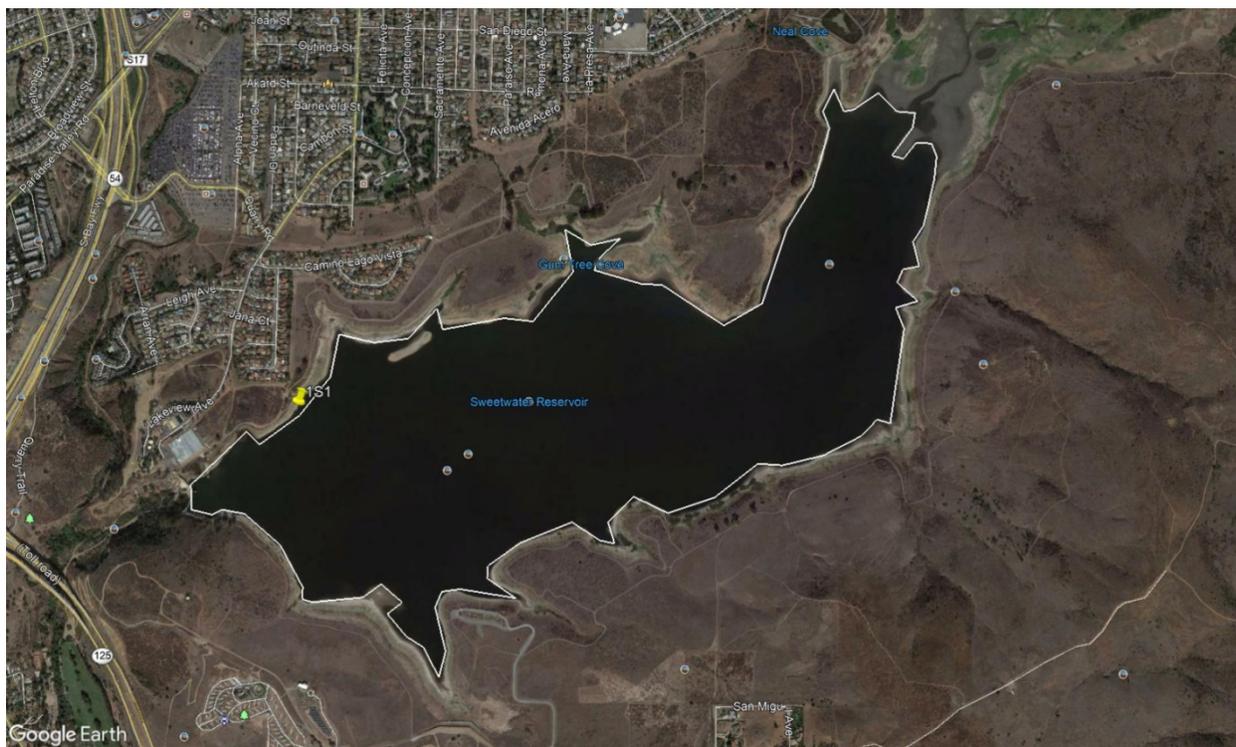
Prey Fish Caught: Bluegill, TL (mm)									
47	49	50	50	68	68	75	76	78	91

Prey Fish Caught: Threadfin Shad, TL (mm)									
60	62	64	66	68	68	70	71	78	81

Comments: Access was granted by the Sweetwater Authority. Several weeks notice was needed to get permission to access the lake. A release form was also needed and a gate unlocked to access a dirt ramp. The sampling vessel had to be backed down a narrow dirt road to the lake. Rain and wind made sampling challenging. A sample of largemouth bass, carp, a catfish and 2 prey species were collected.

Back to Table

2019 BOG Lakes, Sweetwater Reservoir (909PSW046)



Latitude: 32.69617

Longitude: -116.98657

Collection Method: Electrofisher boat

Date (s) of Collection: May 7, 2019

Samplers: Gary Ichikawa and Jon Goetzl

Sport Caught: Largemouth Bass, TL (mm)						
232	242	260	306	325	332	338
344	365	372	382	425	440	484

Sport Caught: Common Carp, TL (mm)				
490	540	558	590	600
610	622	625	632	685

Prey Fish Caught: Bluegill, TL (mm)									
61	64	64	68	77	80	83	88	95	95

Prey Fish Caught: Threadfin Shad, TL (mm)									
65	66	67	70	70	71	77	80	84	89

Comments: Similarly to Loveland Reservoir, access was granted by the Sweetwater Authority. Several weeks notice was needed to get permission to access the lake. A release form was also needed and a gate unlocked to access a dirt ramp. The sampling vessel had to be backed down a short steep dirt ramp. A 4 X 4 was necessary to launch/retrieve the sampling vessel. Wind

made sampling challenging. A sample of largemouth bass, carp and 2 prey species were collected.

Back to Table

1.6 Summary

A total of 42 of the 46 identified lakes were sampled (Table 2). Lindero Lake, along with Marsh Creek and Mountain Meadow Reservoirs were not sampled due to lack of target species, low water and/or inaccessibility. Crystal Lake was inaccessible by boat due to road closure but the attempt was made to collect fish using a portable electroshocking raft and also with hook-and-line gear, though no fish were caught. These water bodies will be sampled in future efforts if there is adequate water and restocking.

Almaden Reservoir, Guadalupe Reservoir, Harbor Lake, Black Butte Reservoir and Lake Nacimiento were added since the previously mentioned lakes were not sampled.

Appendix1. List of Priority Bass Lakes

<u>Year</u>	<u>Panel</u>	<u>RegBoard</u>	<u>StationNam</u>	<u>Latitude</u>	<u>Longitude</u>	<u>County</u>
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
Yr1	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
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	Sac, 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