

Recreational and Subsistence Fishing in Urban Lakes in the Los Angeles Region (Region 4)

Workplan

September 18, 2023

Background and Objectives

Fishing is an important activity in southern California coastal and freshwater habitats (Allen et al. 1996 and 2008, Steinberg and Moore 2017). A previous survey of anglers in Los Angeles County watersheds revealed that fishing for subsistence occurred mostly at urban lakes (Allen et al. 2008). However, there is currently no beneficial use designation of urban lakes for subsistence fishing (FISH) in Los Angeles County. To build on previous efforts and assess the need for beneficial use designation for subsistence fishing, the Southern California Coastal Water Research Project (SCCWRP) is conducting a study focusing on fishing activities in four urban lakes of Los Angeles County. The objectives are to (1) assess the extent of anglers fishing for consumption and the species collected, (2) characterize the demographics (including race, age, income) of the anglers surveyed, and (3) estimate the consumption rate of fish caught and compare to existing California Office of Environmental Health Hazard Assessment (OEHHA) health advisory guidelines. To do so, a three-step approach will be used:

- Site reconnaissance and site selection
- Development of census forms and interviews of fishers
- Analysis of survey data

Selection of Study Sites

In July and August 2023, SCCWRP staff carried out site reconnaissance for 15 lakes in Los Angeles County. At each site, a visual inspection was performed, and the following observations were documented:

- Number of fishers observed on shore
- Number of fishers observed on boats
- Estimated race and age
- Safety and accessibility (including parking entry fees)

For each site, available census track data and CalEnviroScreen data were collected including (1) population density, (2) demographics, (3) fish tissues pollutant concerns, and (4) presence of disadvantaged communities in the surrounding areas. Previous fish stocking dates and existing TMDLs were also documented. In collaboration with the Los Angeles Regional Water Quality Control Board (Los Angeles Regional Water Board), four lakes were identified within the Los Angeles River or Santa Monica Bay watersheds (**Figure 1**, Error! Not a valid bookmark self-reference.). A fifth lake (Hollenbeck Park Lake) will be used as an alternate site. Census track data, environmental pollution and fish pollution metrics collected are summarized in **Tables 2 and 3**.



Figure 1. Location of the lakes targeted for the survey visits.

Table 1. Characteristics of the lakes targeted for survey visits.

Waterbody	Latitude	Longitude	Watershed	Acres	City
Alondra Park Lake	33.8820	-118.3343	Santa Monica Bay	8.2	Unincorporated Los Angeles County near Lawndale
Magic Johnson Lake	33.9220	-118.2593	LA River	12.3	Los Angeles
Legg Lake (south)	34.0330	-118.0587	LA River	27.4	South El Monte
Peck Road Park Lake	34.0993	-118.0144	LA River	106.8	Arcadia
Hollenbeck Park Lake (alternate)	34.0399	-118.2182	LA River	4.5	Los Angeles

Table 2. Summary of CalEnviroScreen 4.0 scores and race/ethnicity distribution from California Office of Environmental Health Hazard Assessment, for the census tract surrounding each lake of interest.

Waterbody	CES score	Pollution Burden	Pop Char	Pop. density (people/sq mile)	Hispanic	White	African American	Native American	Asian American	Other/ Mult
Alondra Park Lake	73	78	61	4,744	37	31	2	0	29	2
Magic Johnson Lake	89	94	72	6,863	44	0	51	0	0	4
Legg Lake	92	100	60	1,312	71	9	1	0.3	19	0
Peck Road Park Lake	61	90	37	5,389	30	19	1	0.4	47	3
Hollenbeck Park Lake	99	99	85	18,142	91	4	2	0	2	1

CESscore = Percentile of the CalEnviroScreen score; PolBurd = Percentile of pollution burden score; PopChar = Percentile of population characteristics score (scores range from 0-100, with higher scores indicating more disturbed conditions).

Table 3. Fish tissue pollutants of concern and recent fish stocking information from California Department of Fish and Wildlife.

Waterbody Waterbody ID ¹	Fish tissue TMDLs	DFW fish planting date (last consulted 7/24/2023)
Alondra Park Lake ID 7422	None	05/07/2023 – 05/13/2023 (catfish); 04/09/2023 – 04/15/2023 (trout); 02/12/2023 – 02/18/2023 (trout)
Magic Johnson Lake ID 27438	-	Not listed. Sign at lake warns against eating fish caught here.
Legg Lake ID 7367	PCBs, DDTs	07/09/2023 – 07/15/2023 (catfish); 06/04/2023 – 06/10/2023 (catfish); 05/14/2023 – 05/20/2023 (catfish); 04/23/2023 – 04/29/2023 (trout); 04/16/2023 – 04/22/2023 (trout); 04/09/2023 – 04/15/2023 (trout)
Peck Road Park Lake ID 27439	DDTs, chlordane	Not listed. Sign at lake warns against eating fish caught here.
Hollenbeck Park Lake ² ID 27435	None	Not listed

¹ unique numeric waterbody ID used by California Department of Fish and Wildlife.

² Alternate Lake, appears as Hollenback in the California Integrated Report (Clean Water Act Section 303(d) List and 305(b) Report.

Survey of fishers

Census forms

Survey forms will be developed to collect the information in three parts.

The first form will be developed to record general visual observations for each site visit day. Date, names of interviewers), time of day, weather conditions including temperature, and estimated number of fishers will be recorded. Interviewers will also record anecdotal information from park employees, visitors, and other self-observations.

The second form will aim to record information for individual anglers. The first part of the form will document observations of the assessor. This will include estimated age and race, language, observed catch species and estimated numbers, fishing method will be recorded.

Anglers who voluntarily accept to be interviewed will answer three other sets of questions. The first set will focus on their fishing habits including frequency, catch species and number, other lakes visited for fishing. The second will focus on consumption habits including fish species eaten, amount/frequency and method to prepare the fish. To support fish identification, photos of the fish commonly found in these lakes will be shown to the fishers. If possible, pictures of their catch will be taken on the day of the interview. The third will cover personal details including number of people in the household, race/ethnicity, home zip code and income. This third set of questions will be optional and conducted based on willingness and demeanor of the fisher interviewed.

Survey of fishers

Multicultural teams will be assembled and trained to ensure that the necessary information is collected. Guidance documents will also be developed and provided to the teams to remind them of the appropriate conduct and protocols to follow. Surveys will be conducted with teams of two or three interviewers between January 2024 to October 2024. Each site will be visited a minimum of 10 times, weekdays and weekends. Schedule will be adjusted to coincide with fish planting schedule in these lakes. This approach will aim to survey ~500 or more fishers per site. Hollenbeck Lake will be visited if time and funding allows or if one of the four lakes prioritized becomes inaccessible. Survey data will be transcribed in electronic format within two weeks of conducting the interviews.

Analysis of survey data

Data summaries will be produced to describe fisher characteristics (e.g., ethnicity, age, income, household, etc.) and fish caught by lake and compare them among lakes.

Fish consumption rates will be calculated based on fisher's estimate of the amount consumed for a given species in meal using the USEPA method and standard meal size for estimating fish consumption. Fish consumption rates will be expressed as mean and median with variability expressed as standard deviation, 95% confidence interval and percentile. Data will be compared to species-specific consumption advisory guidelines developed by OEHHA. Fish consumption rates will also be summarized by ethnicity, fish species, and location to detect any trends in the data.

Reporting

A final report will be produced summarizing the accomplishments of the surveys including total number of anglers surveyed, percentage of anglers identified as fishing for subsistence. A comprehensive summary of the interviews and an assessment of fish consumption rate per lake will be provided. Fish consumption analyses site reconnaissance data collected for the lakes of interest, templates of materials used to conduct the surveys, a number of anglers surveyed.

Schedule of Activities

Activities	Deadline
Site selection	By 9/15/2023
Development of study workplan	By 9/15/2023
Development of survey forms	By 12/15/2023
Completion of fishers survey	By 9/30/24
Survey analyses	By 12/20/24
Reporting	Draft by 1/31/25
	Final report by 3/31/25