

State of California  
Regional Water Quality Control Board  
San Diego Region

EXECUTIVE OFFICER SUMMARY REPORT  
March 15, 2017

ITEM: 10

SUBJECT: Information Item: Findings of the San Diego Bay Fish Consumption Study (*Tom Alo*)

PURPOSE: To provide information to the San Diego Water Board and the public on the data and findings of the San Diego Bay Fish Consumption Study conducted by the Southern California Coastal Water Research Project (SCCWRP).

RECOMMENDATION: This is an information item only; no action will be taken by the Board at today's meeting.

KEY ISSUES: The study identifies the key demographic and economic groups consuming fish from San Diego Bay and identifies their consumption rates.

San Diego Bay-specific consumption rates will reduce some of the uncertainty associated with Human Health Risk Assessments for people consuming fish caught in the bay.

Human health risk assessments are used by staff to evaluate compliance with sediment quality objectives, and to establish sediment cleanup goals and TMDL numeric targets for pollutants that bioaccumulate from sediment into fish consumed by anglers and their families.

PRACTICAL VISION: Consistent with the mission of the Monitoring and Assessment chapter of the Practical Vision, the goals of this study are to provide essential information necessary to (1) assess risk to people eating fish caught from San Diego Bay, and (2) inform the development of cleanup goals for contaminated sediment and numeric targets for TMDLs to protect human health.

DISCUSSION: SAN DIEGO BAY FISH CONSUMPTION STUDY

Fish consumption is a key beneficial use of the waters of San Diego Bay, however, the bay is posted with warning

signs to limit consumption of certain commonly-caught fish species. The sediment quality objective for human health states that pollutants shall not be present in sediments at levels that will bioaccumulate in aquatic life to levels that are harmful to human health in bays and estuaries of California. Staff assesses compliance with this objective on a case-by-case basis, based in part on an assessment of risk to human health from consuming fish caught in the bay. If sediment quality does not support the fish consumption beneficial use, human health risk assessments also inform the development of sediment cleanup goals, and numeric targets for TMDLs to achieve levels of pollutants in fish tissue acceptable for consumption.

A principal purpose of the San Diego Bay Fish Consumption Study is to provide information on the consumption rates of fish across demographic and economic groups in order to reduce the uncertainty in future human health risk assessments (HHRAs). Previous fish consumption studies were conducted in San Diego Bay; however, these studies had significant data gaps. Therefore, staff had to rely on, and was criticized for using, fish consumption rates derived from studies outside of the region. In addition, the findings of this study will provide information for improving outreach and education to different segments of the fishing population and for guiding contaminant studies to monitor fish that people consume.

The Southern California Coastal Water Research Project (SCCWRP) began surveying anglers in May 2015, and concluded the surveys in April 2016. SCCWRP designed the study to answer the following questions:

1. What are the consumption rates for anglers in San Diego Bay and how does that relate to advisory recommendations?
2. How do socio-economic differences relate to differences in consumption rates?
3. How do consumption rates vary by time of year?

The Fish Consumption Study was jointly funded by the San Diego Water Board, San Diego Unified Port District, and City of San Diego.

A Technical Advisory Group for this study convened in August 2014 to provide guidance and technical support

throughout the study. The members of this committee include participants from a wide variety of organizations, ranging from regulators, resource agencies, environmental groups, industrial dischargers, and citizen angler representatives.

### BACKGROUND

San Diego Bay is one of the five largest ports in California (Supporting Document 1). With 34 miles of waterfront, it is a major receiving water body for the San Diego Bay Watershed, which has over one million residents, consists of over 442 square miles, and is a major naval, commercial, and recreational center. The potential for contamination from many sources exist and numerous urban and industrial discharges contribute pollutants to the bay. San Diego Bay is on the Clean Water Act Section 303(d) list for impairment of fish tissue by polychlorinated biphenyls. Mercury levels in fish tissue are also a concern.

The report titled “Health Advisory and Guidelines for Eating Fish from San Diego Bay (San Diego County)” recommends consumption rates for fish caught within the bay for men and particularly for the population of main concern, women of childbearing age and children (Supporting Documents 2 and 3). In this report, the Office of Environmental Health Hazard Assessment (OEHHA) and Cal-EPA used the chemical concentrations in fish tissue to determine how much consumers can eat within acceptable exposure levels.

Previous fish consumption surveys of San Diego Bay all had limited sample size and/or were limited to certain areas such as piers. Given the data gaps in these studies, knowledge of the current fishing and consumption habits of anglers fishing in San Diego Bay was lacking, as well as knowledge of the associated health risks. Nationwide, there is increasing analytical evidence and growing public concern that fish and shellfish caught and consumed by anglers may contain chemical contaminants that pose health risks. To quantify these risks, contaminant levels in fish, consumption patterns, and preparation techniques of the fishing population must be understood.

The San Diego Bay Bioaccumulation Studies<sup>1</sup> have begun to

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<sup>1</sup> Conducted by SCCWRP and funded by the San Diego Water Board, San Diego Unified Port District, and City of San Diego.

characterize levels of contaminants in sediment, water, and tissue known to pose health risks in bay fish, but information that describes the consumption patterns of bay anglers has been more limited and mostly focused on select populations.

LEGAL CONCERNS: None.

SUPPORTING DOCUMENTS:

1. Figure 1 – Map of San Diego Bay
2. Figure 2 – OEHHA Fish Consumption Advisory Guidelines for San Diego Bay, Women  $\leq$  45 years old and Children  $<$  18 years old
3. Figure 3 – OEHHA Fish Consumption Advisory Guidelines for San Diego Bay, Women  $>$  45 years old and Men

PUBLIC NOTICE: This item was publicly noticed in the Meeting Notice and Agenda for the March 8, 2017 meeting.