



RMP

REGIONAL MONITORING
PROGRAM FOR WATER QUALITY
IN SAN FRANCISCO BAY

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Bay RMP Sport Fish Strategy Team Meeting Summary April 19th, 2017

Attendance

- Jan O'Hara (Water Board)
- Luisa Valiela, (USEPA)
- Bryan Freuh (City of San Jose)
- Ryan Mayfield (City of San Jose)
- Susan Klasing (OEHHA)
- Laurie Tomey (OEHHA)
- Wes Smith (OEHHA)
- Mike Elliot (AXYS-SGS)
- John Toll (Windward Environmental)
- Andy Jahn
- Jennifer Sun (SFEI)
- Jay Davis (SFEI)

1. Review of Agenda

2. Sport Fish Discussion

- Sardines
 - Currently not regulated, and need/want more data to be able to issue advisories. Ideally will need at least 15 more samples (composites) to confirm high concentrations observed in the past (i.e. ~40 ppb PCB from about 10 years ago), as observed concentrations have been highly variable by a factor of 5 or more
 - Bay-wide or location-specific advisory -- depends on how clearly the data can show differences between locations. Communicating location-specific advisories is more difficult, so there would need to be a high degree of evidence to do this rather than simply a Bay-wide advisory
 - Future sampling / tasks
 - CDFW creel census - identify where people are catching sardines and what size. Currently there is no minimum or edible size established, although monitoring has typically looked at adults/post-juveniles
 - May want to collect samples / composites from multiple schools
 - Review 2003 data to look at variation in concentrations by size/location/lipid content
- Herring - DFW conducts studies in December and January that may present potential sampling options
- Sturgeon
 - May have more site fidelity in South Bay than we think -- attracted to an abundant food web created by wetland restoration and effluent
 - Test
- Trend analyses in future reports
 - General linear model with lipid as a co-factor (see small fish mercury manuscript methods)

3. Updates on Related Efforts

PCB PMU monitoring

- Shiner surfperch proposed to be included in 2019 monitoring. OEHHA does not have a strong interest in this unless the data are likely to show a change in concentrations over time
- Anchovy (pelagic) and silversides/topsmelth (epibenthic) will also be analyzed for microplastic
 - Recommendation was made to analyze the entire digestive tract, not just stomachs

4. Planning Future Sampling - Updates on Stakeholder and Regulatory Needs

OEHHA

Species to include for next advisory update -- 10-15 species on the list currently

- Pacific Herring, Sardines, Anchovy (herring and anchovy are undersized) -- currently listed as “do not consume.” More data / a larger sample number would be needed to reverse this.
 - Margy Gassel -- consult with him to provide information about how many sites and total samples needed to updated advisories. Consider whether all three species need to be assessed separately, or whether they can be considered substitutes for each other.
 - Consider minimum edible size in monitoring design. Herring and anchovy were high in Hg and PCBs in the 90 mm range, and we expect larger fish to have more contamination. Prior data is from a sub-minimum size range.
 - Herring -- definitely on the wish list; ideal to collect samples EARLIER than 2019, from a commercial boat
 - Sardines
 - Need 15 more composites for sardines (currently have 2 composites of 10)
 - The sample from 2003 was from the San Francisco Waterfront; future samples should be collected from other locations, even though sardines don't have great site fidelity
 - Need to determine the volume and locations of sardine consumption
 - CDFW creel surveys
 - Regional Board's Environmental Justice study -- there may be populations focusing on sardines in certain regions that are not included in the creel surveys
 - RecFIN (Pacific Coast Recreational Fisheries Information Network) data
 - Be careful about interpreting San Francisco Bay Waterfront fish -- they are a single tidal cycle away from the Golden Gate, and we could potentially be seeing fish coming in from the ocean
- Rockfish spp
- Flatfish spp (or Bat Rays)
 - Bat Rays -- recently issued for Elkhorn Slough. People do eat these; don't eat much flounder
 - Diamond turbot & starry flounder are high in Hg and PCBs, but not enough data is available yet to issue an advisory (1 - 2 servings/week advisories). Not an urgent priority. Flounder have decreased in the Bay overall
 - Sample sources
 - San Francisco Bay study
 - Marine Science Institute (Redwood City) catch flatfish like turbot between San Mateo and Dumbarton (usually catch and release)

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- Keep the core samples currently collected -- the current design has already been cut back to a minimum
- Small fish Hg at the mouth of the Guadalupe River are needed, but not a high priority. Samples could be available from Jim Hobbs (UC Davis)

EPA

- Ok with the current design, with emphasis on TMDL related monitoring

CITY OF SAN JOSE

- Interested in continuing Artesian Slough sampling

5. Consideration of Sampling Prior to 2019

- Longfin smelt
- Higher flow in 2017 could have increased methylation in previously dry vegetated areas -- potential for related monitoring
- Herring -- collect samples from the commercial fishery, no permit will be required

6. Sampling in 2019

- Surfperches -- may not be necessary to continue sampling different surfperch species. They are combined in the current advisor as people can't differentiate between species well, and it's unlikely that the advisory will change
- Carp -- OEHHA routinely issues advisories about carp and would like to continue monitoring them; however carp were very hard to collect and they are not a high contaminant fish, so they may not be a high priority
- Report averages for the Artesian Slough separately
- Obtain feedback / review of sampling locations with Jim Hobbs or other fish biologist.
- Ask Jim Hobbs if he currently already does isotope analyses on sturgeon he samples

ACTION ITEMS

Future Sampling Needs

- Send the current sampling plan matrix (SFEI)
- OEHHA will respond with answers to the following questions:
 - What species / analyte combinations are a lower priority and could potentially be dropped off the list?
 - What additional species do you need monitored, and for what specific numbers, locations, sizes, and contaminants? What is the timeline for monitoring each species (i.e. prior to 2019 ideal, or moderate priority only)?
 - Are there any species for which you need omega-3 data, and which compounds do you use?
- Sardines (SFEI)
 - Research historical RMP sardine data -- Were sardines in the 2014 composite collected at the same location/time/likely from the same school? Compare sizes and lipid percent of the sardines from 2003 and 2014 (although OEHHA may not use the 2003 data from the San Francisco Waterfront)

- Research where sardines are being consumed. Resources include: creel surveys (CDFW), EJ report (Water Board), recFIN data, interview local wardens
- Herring
 - Research options for collecting and analyzing herring in 2017/2018 (SFEI)
 - CDFW does herring specific surveys in winter (December - January)
 - Prefer collecting from commercial boats -- make sure we get fish of the size that people eat. Look into collecting these in 2017/2018 for analysis (should not need permit)
- Flatfish (including Bat Rays)
 - Research potential sources of fish for sampling, potentially earlier than 2019 (SFEI)
 - San Francisco Bay study trawls (may need to amend their permit)
 - Marine Science Institute - have good data on catch location/numbers, but usually catch and release. To collect samples would likely require a separate permit.
 - Diamond turbot & starry flounder -- prefer getting more data for these (Hg and PCBs), but not a high priority
- Rockfish species (OEHHA to send a list)
- Small fish at the mouth of Guadalupe (Hg)
 - Moderate priority but not high. Is it too much to ask for Rusty to collect some extra while he is down there for microplastic?
- Follow up with Ryan Mayfield about City of San Jose interest in participating in the Artesian Slough project, and their own interest in species / analyte lists (SFEI)
- Prioritize collection of selenium samples in fall 2017 because of the wet year, or at least coordinate with USFWS to collect samples if possible (SFEI)

Report Updates (Jennifer Sun)

- Emphasize discussion of the comparison between striped bass and largemouth bass mercury levels
- Use generalized linear model with lipid content as a co-factor to look at linear trends (i.e. Ben's work on small fish Hg) → consider for publication
- Add carp PCBs concentration to Table 4
- Report striped bass Artesian Slough averages separately in Table 4
- Add more background in the introduction on WHY sampling was conducted in Artesian Slough

Strategy Team Coordination

- Set a tentative date (or notification) for a meeting in January / February 2018 to finalize the sampling plan (Jennifer Sun)
- Contact Jim Hobbs about participating in the next meeting (Ryan Mayfield, Jay Davis) - Done
- Obtain paper(s) on sturgeon telemetry and distribute (Ryan Mayfield, Jennifer Sun)

Other Key Notes

- Selenium - alternative study is to take multiple plugs in multiple locations
- Consider whether selenium monitoring should be included in the Status and Trends budget or the Selenium WG budget (esp. when doing South Bay synthesis)
- Historical herring and sardine data are from undersized fish. Need edible sizes from OEHHA. Sardines would be listed as do not consume, so updated data would inform that
- OEHHA gives advice on carp; likely does not need additional surfperch data
- Make sure that the entire GI tract is preserved for the small fish in the microplastic study to prevent loss of material and maximize the potential for detecting particles (Jennifer)