

New Safe Eating Guidelines for Bay Fish

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Overview

- Brief history of fish advisories
- Monitoring of chemicals in fish
- Results and evaluation
- New Safe Eating Guidelines
- Education, outreach, and risk reduction

Evolution of Fish Advisories

- 1971: First advisory for mercury in striped bass
- 1993: OEHHA re-evaluation of bay advisory
 - Updated striped bass advisory based on new data
 - Advisory for pesticides in Richmond Inner Harbor



Evolution Continues

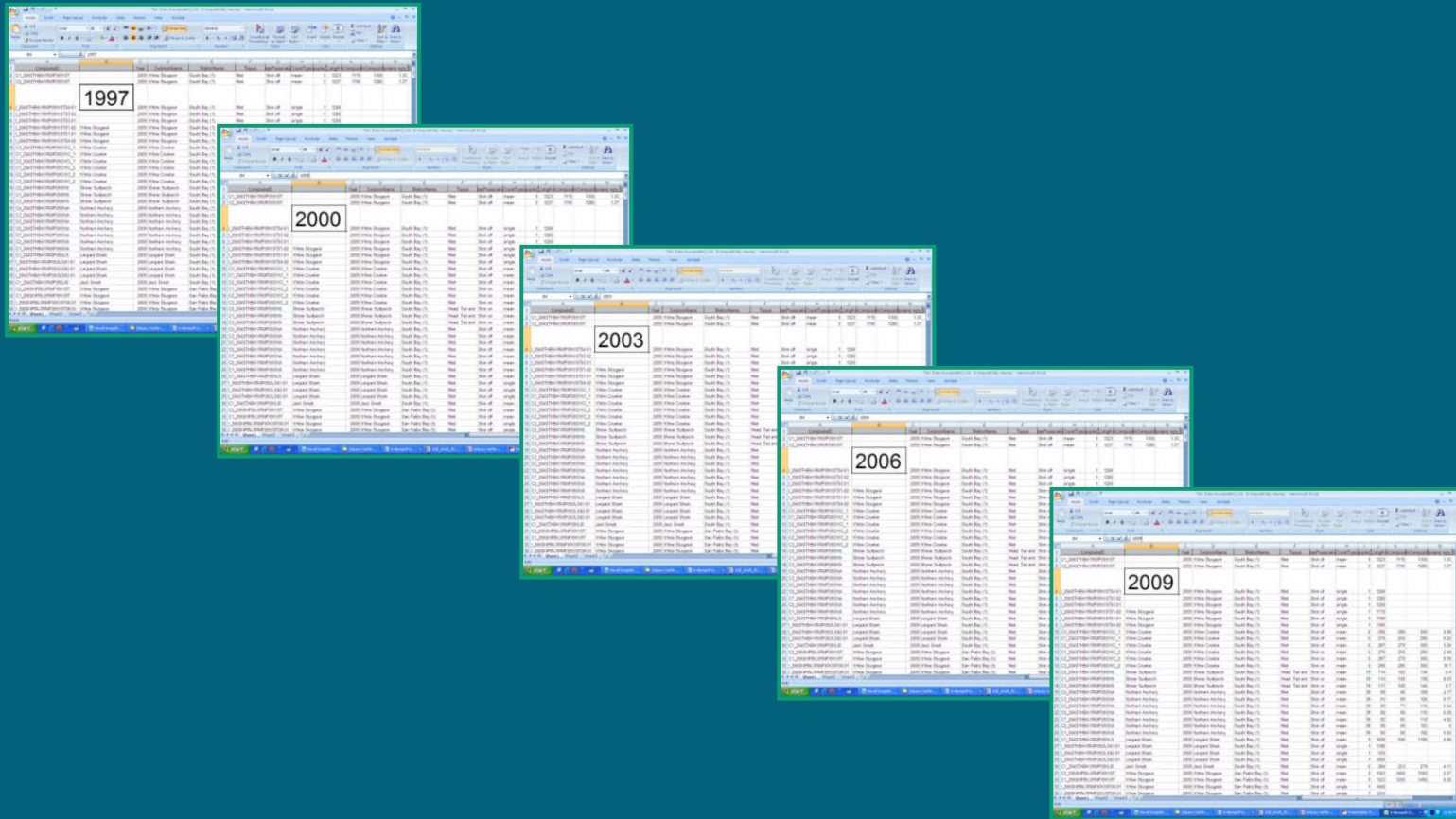
- 1994: Pilot study included other species and chemicals
 - Identified potential chemicals of concern
- OEHHA issued interim SF Bay advisory
 - General and sensitive populations

Ongoing Monitoring

- Fish subcommittee
- Sampling every three years
- Core species and chemicals
 - Modified per sampling year
 - Special studies



Monitoring Results



Evaluation of Results

- OEHHA's advisory protocol
 - Consistent across advisories
 - Requires data to pass quality control
 - Based on newest studies and methods in toxicology
 - Balances risks and benefits of fish consumption

Interpreting the Data

- Averaged concentrations bay wide
 - No consistent geographic patterns
- Advice based on mercury and PCBs
- Added data for anadromous species
- Mercury and length in striped bass
 - Did not support size-based advice

Average Mercury and PCBs

Common Name	Mercury	PCBs
Chinook (king) salmon	83	5
Jacksmelt	84	22
Brown rockfish	129	5
Red rock crab (muscle)	133	4
California halibut	329	18

Results in ppb

Average Mercury and PCBs

Common Name	Mercury	PCBs
Brown smoothhound shark	677	9
Leopard shark	951	14

Results in ppb

Average Mercury and PCBs

Common Name	Mercury	PCBs
White croaker	222	52
White sturgeon	312	76
Striped bass	419	40

White croaker – skin on	222	219
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Results in ppb

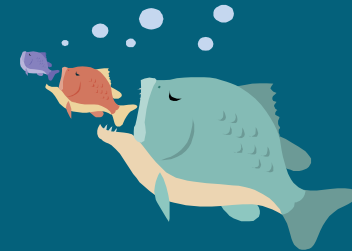
Average Mercury and PCBs

Common Name	Mercury	PCBs
Black perch	118	8
Barred surfperch	346	21
Rubberlip seaperch	349	9
Shiner perch	103	137
Walleye surfperch	155	59
All surfperch	112	131

Results in ppb

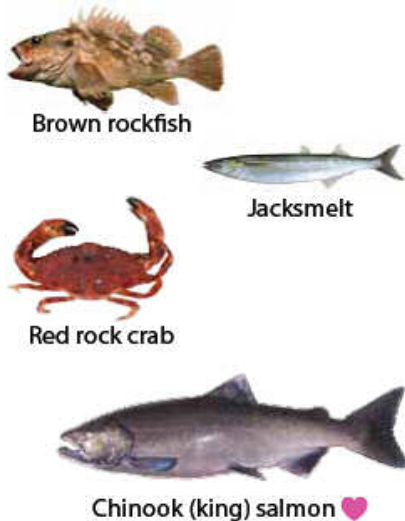
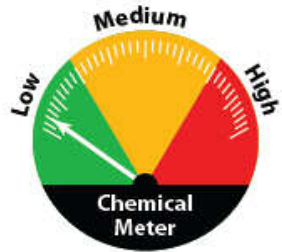
What is Different?

- More species evaluated
- Specific guidelines for species
- Identify safer fish and shellfish
- Messaging -- use pictures to convey
- Show fish high in omega-3 fatty acids

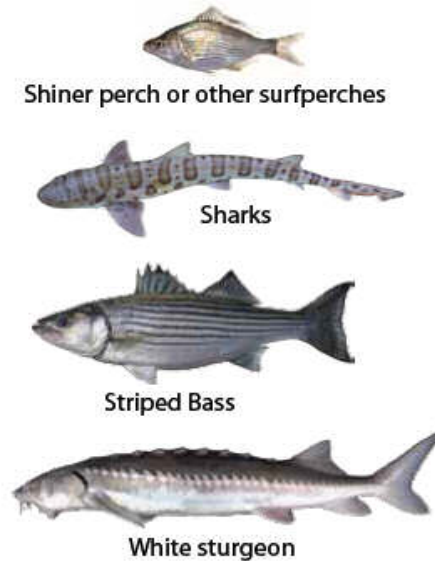
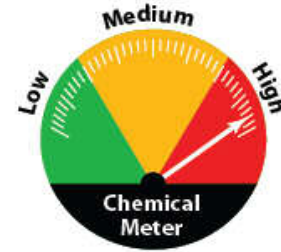
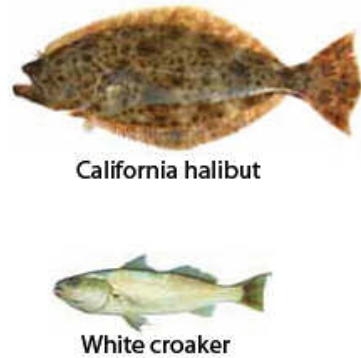
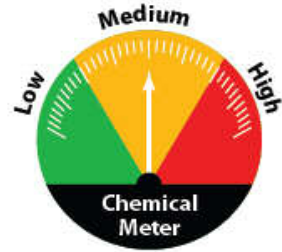


A guide to eating San Francisco Bay fish and shellfish

Women 18 - 45 and children 1 - 17



♥ = High in Omega-3s



What is a serving?



For Adults For Children

The recommended serving of fish is about the size and thickness of your hand. Give children smaller servings.

- **Eat only the skinless fillet.** PCBs are in the fat and skin of the fish.
- Cook thoroughly and allow the juices to drain away.
- For crab, eat only the meat.

♥ Why eat fish?

Eating fish is good for your health. Fish have Omega-3s that can reduce your risk for heart disease and improve how the brain develops in unborn babies and children.

What is the concern?

Some fish have high levels of PCBs and mercury. PCBs might cause cancer. Mercury can negatively affect how the brain develops in unborn babies and children. It is especially important for women who are pregnant or breastfeeding to follow these guidelines.

Safe to eat
2 servings per week

OR

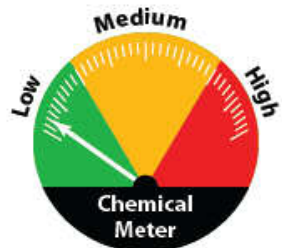
Safe to eat
1 serving per week

**Do not eat
AND**

Do not eat any fish from the
Lauritzen Channel in
Richmond Inner Harbor

A guide to eating San Francisco Bay fish and shellfish

Men over 17 and women over 45



Striped Bass

Jacksmelt



California halibut

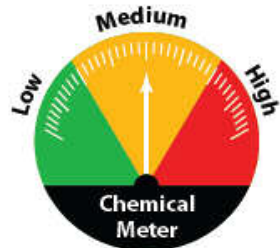


Brown rockfish

Red rock crab



Chinook (king) salmon ♥



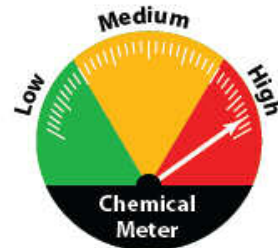
White croaker



Sharks



White sturgeon



Shiner perch or other surfperches

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Safe to eat
2 servings per week

OR

Safe to eat
1 serving per week

Brown rockfish OR red rock crab –
5 servings per week OR
Salmon – 7 servings per week

Do not eat
AND

Do not eat any fish from the
Lauritzen Channel in
Richmond Inner Harbor

Getting the Message Out

- San Francisco Bay Fish Project
 - Partnered with CA Department of Public Health
 - Raise public awareness and reduce exposure
 - Stakeholder Advisory Group (SAG)
- Community-based organizations (CBOs)
- New sign under development

Educational Outreach

- Grants to four CBOs
 - Kids for the Bay
 - CA Indian Environmental Alliance
 - Greenaction for Health and Environmental Justice
 - APA Family Support Services
- Variety of media and diverse communities

Summary

- Mercury and PCBs are chemicals of concern
 - DDTs, dieldrin, chlordane, selenium
below levels of concern
- You can eat some fish from the bay
- PBDEs not presently at level of concern



Summary

- Continue monitoring
 - Better advice for more species
 - Effect of management actions
 - Emerging contaminants
 - To inform managers and protect the public

Thank you

- Robert K. Brodberg, Ph.D., Susan A. Klasing, Ph.D., Lizette F. Cook, M.S.
- San Francisco Bay Regional Monitoring Program
- Surface Water Ambient Monitoring Program
- Moss Landing Marine Laboratories
- San Francisco Bay Regional Water Quality Control Board
- San Francisco Estuary Institute
- California Department of Public Health, Environmental Health Investigations Branch