

**CIRCULATING COPY**  
**Sea Grant Depository**

# Contaminants In Fish

**LOAN COPY ONLY**

Natural and man-made chemical contaminants enter the aquatic environment through industrial waste and water run-off. Microscopic plants in the water absorb the chemicals. Small animals eat the contaminated plants, and fish eat the small animals. Large, flesh-eating fish contain larger amounts of contaminants than plant-eating fish because the contaminants are concentrated at each step in the food chain. Fish can also accumulate contaminants by contact with polluted water.

The California Department of Health Services determines if a public health hazard exists in eating sport-caught fish from certain locations in California. This determination results from laboratory testing programs. Over the past several years the Department of Health Services issued the following health advisories for sport fishermen.

## **Santa Monica Bay, Palos Verdes Peninsula, Los Angeles - Long Beach harbor areas (Southern California)**

Because of elevated DDT and PCB levels:

- No one should eat white croaker (tom cod, kingfish) from this area.
- No one should eat the liver of any species of fish from this area.
- Women who are pregnant or may ever become pregnant and nursing mothers should eat no more than 4 ounces of one local sport fish per month (not to include any white croaker).
- Children age 15 and under should eat no more than 4 ounces of one local sport fish per month (not to include any white croaker).
- Others who eat sport fish from this area should consume no more than 2 pounds of fish per month (not to include any white croaker).
- No one should eat any species of fish caught in areas immediately around White Point Outfall (near Palos Verdes Peninsula), Gerold Desmond Bridge (in Long Beach Harbor), and Cabrillo Pier (in Los Angeles Harbor).

Remove skin and fatty tissue from fish before cooking and cook by baking or broiling on a rack to reduce DDT and PCB levels in the edible portions.

## **Contaminants Which Can Be Found In Some Fish**

**Chlordane and DDT** (dichlorodiphenyldichloroethane) are chemical insecticides. Since the U.S. government banned these chemicals, levels of chlordane and DDT in the environment are declining slowly.

**Dioxin** is a minor by-product of paper and pulp mills.

**Mercury** There are natural and industrial sources of mercury. Trace amounts of mercury are in air, water, soil, plants, and animals. Some aquatic microorganisms convert metallic mercury into a more toxic organic mercury.

**PCBs** (polychlorinated biphenyls) are a group of chemicals. Companies used PCBs in electrical transformers, flame retardants, lubricants, plastics, and paints. Since the U.S. government banned PCBs, levels in the environment are declining slowly.

**Selenium** is a natural element in the soil. Selenium enters water through run-off.

## **Clear Lake (Lake County)**

Because of elevated mercury levels, women who are pregnant or may soon become pregnant, nursing mothers, and children under age 6 should not eat fish from Clear Lake, Lake County. Adults should eat no more than the amount indicated below. Children 6-15 years of age should eat no more than one-half the amount indicated.

Largemouth bass over 15 inches:	1	pound per month
or largemouth bass under 15 inches:	2	pounds per month
or channel catfish over 24 inches:	1	pound per month
or channel catfish under 24 inches:	3	pounds per month
or crappie over 12 inches:	1	pound per month
or crappie under 12 inches:	3	pounds per month
or all white catfish:	3	pounds per month
or all brown bullhead:	6	pounds per month
or all Sacramento blackfish:	6	pounds per month
or all hitch:	10	pounds per month



University of California Cooperative Extension  
**Sea Grant Extension Program Publication**

### Salton Sea (Imperial and Riverside Counties)

Because of elevated selenium levels, no one should eat more than 4 ounces of croaker, orangemouth corvina, sargo, and tilapia taken from the Salton Sea in any two-week period. Women who are pregnant or who may soon become pregnant, nursing mothers, and children age 15 and under should not eat fish from this area.

The Imperial County Health Department warns people to avoid physical contact with the waters of the New River and to avoid eating any fish of any variety from the New River.

### San Francisco Bay Delta region

Because of elevated mercury levels, no one should eat more than four meals per month of any striped bass from the San Francisco Bay Delta region. Women who are pregnant or may soon become pregnant, nursing mothers, and children under age 6 should not eat fish from the area.

Because of possible infestation by parasitic organisms, no fish of any kind from the Bay-Delta region should be eaten raw. Thorough cooking destroys such parasites.

### Lake Nacimiento (San Luis Obispo County)

Because of elevated mercury levels, no one should eat more than four meals per month of largemouth bass from Lake Nacimiento, San Luis Obispo County. No women who are pregnant or may soon become pregnant, nursing mothers, and children under age 6 should eat largemouth bass from the area.

### Harbor Park Lake (Los Angeles County)

Because of elevated chlordane and DDT levels, no one should eat goldfish or carp from Harbor Park Lake, Los Angeles County.

### Sacramento River (between Keswick Dam and Red Bluff)

Because of elevated levels of dioxin, no one should eat resident trout, squawfish, sucker and bottomfish, such as carp or catfish, from the Sacramento River between Keswick Dam and Red Bluff. This warning does not apply to migratory fish such as salmon and steelhead and is based on laboratory data provided by the Environmental Protection Agency (EPA).

### Grassland area (Merced County)

Because of elevated selenium levels, no one should eat more than 4 ounces of fish from the Grassland area, Merced County, in any two-week period. Women who are pregnant or may soon become pregnant, nursing mothers, and children age 15 and under should not eat fish from this area.

Because of elevated selenium levels, no one should eat fish taken from the Kesterson National Wildlife Refuge, Grassland area, Merced County.

### Lake Berryessa (Napa County)

Because of elevated mercury levels, woman who are pregnant or may soon become pregnant, nursing mothers, and children under age 6 should not eat fish from Lake Berryessa, Napa County. Adults should eat no more than the amount indicated below. Children 6-15 years of age should eat no more than one-half the amount indicated.

Largemouth bass over 15 inches:	1	pound per month
or largemouth bass under 15 inches:	2	pounds per month
or all smallmouth bass:	1	pound per month
or all channel catfish:	3	pounds per month
or all white catfish:	2	pounds per month
or all rainbow trout:	10	pounds per month

### Lake Herman (Solano County)

Because of elevated mercury levels, women who are pregnant or may soon become pregnant, nursing mothers, and children under age 6 should not eat fish from Lake Herman, Solano County. Adults should eat no more than 1 pound per month of largemouth bass, and children 6-15 years of age should eat no more than 8 ounces per month of largemouth bass.

Guadalupe Reservoir, Calero Reservoir, Almaden Reservoir, Guadalupe River, Guadalupe Creek, Alamitos Creek, and the associated percolation ponds along the river and creeks (Santa Clara County)

Because of elevated mercury levels in fish, no one should consume any fish taken from these locations.

The author is Robert J. Price, Ph.D., Extension Seafood Technology Specialist, Department of Food Science & Technology, University of California, Davis, California 95616-8598

#### Health Advisories for Sport Fishermen

California Department of Health Services health advisories for sport fishermen are published annually in the California Sport Fishing Regulations. Copies of California Sport Fishing Regulations are available in sporting goods stores. Health advisories in this leaflet are based on information from the 1990 California Sport Fishing Regulations.

UCSGEP 90-14

This work is sponsored in part by NOAA, National Sea Grant College Program, Department of Commerce, under grant number NA86AA-D-SG138, project number A/E-1, through the California Sea Grant College Program, and in part by the California State Resources Agency. The U.S. Government may reproduce and distribute reprints for governmental purposes.

In accordance with applicable State and Federal laws and University policy, the University of California does not discriminate in any of its policies, procedures or practices on the basis of race, religion, color, national origin, sex, marital status, sexual orientation, age, veteran status, medical condition, or handicap. Inquiries regarding this policy to the Affirmative Action Director, University of California, Agriculture and Natural Resources, 300 Lakeside Drive, 9th Floor, Oakland, CA 94612-3680. (415) 957-0087.

University of California, the United States Department of Agriculture, and the United States Department of the Interior.

