

SAN FRANCISCO BAY SEAFOOD CONSUMPTION STUDY

Information for People who Fish

APRIL 2001

Many anglers are concerned about the fish they catch from the San Francisco Bay. A 1994 study found high levels of mercury, polychlorinated biphenyls (a group of chemicals called PCBs) and pesticides in Bay fish. In 1998, the San Francisco Estuary Institute (SFEI) asked the California Department of Health Services (CDHS) to conduct The San Francisco Bay Seafood Consumption Study.

The goals of the study were to:

- gather information on San Francisco Bay anglers and their fish consumption habits
- identify anglers who are at risk due to their fish consumption habits
- gather information to help develop educational programs about safe fish consumption from the Bay

Q: Why think about the fish you eat?

A: Fish are an important part of a healthy diet. However, fish from the San Francisco Bay contain chemicals that may be harmful to your health if eaten often. Based on the 1994 study, the Office of Environmental Health Hazard Assessment (a California government agency) released a health advisory for the Bay. This advisory makes recommendations about how much fish one can safely eat from the San Francisco Bay.

Q: How much fish from the Bay is safe to eat?

A: The health advisory recommends that adults limit their consumption of San Francisco Bay fish to **no more than two meals a month**. Adults also should not eat striped bass over 35 inches in length because larger fish often have more chemicals and striped bass has more mercury than most fish. Women who are

pregnant, breastfeeding, or may become pregnant should not eat more than one meal a month. In addition, they should not eat any meals of striped bass over 27 inches, or shark over 24 inches. Children under the age of six should not eat more than one meal a month.

The advisory defines the size of a meal based on body weight, roughly one ounce of uncooked fish per 20 pounds of body weight. For example, a meal size for a person weighing 160 pounds is about 8 ounces, or half a pound. Therefore, an adult weighing 160 pounds can safely eat **two** half pound meals of fish a month, or a total of one pound a month. People who eat smaller portions of fish can safely eat more than two meals, as long as they don't eat more than the advisory recommends per month.

These limits apply to most fish caught in the San Francisco Bay, but do not include salmon, anchovies, herring, and smelt.

Q: How was the San Francisco Bay Seafood Consumption Study done?

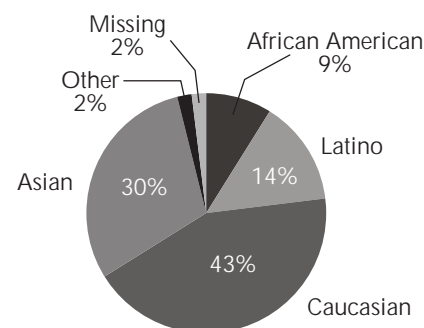
A: The San Francisco Bay Seafood Consumption Study is the largest consumption study ever conducted in the SF Bay. Over 1,300 San Francisco Bay anglers were interviewed over a 12 month period in 1998 and 1999. CDHS interviewed anglers on fishing piers and shorelines, as well as anglers fishing from private and party boats. Everyone over 18 years of age who was fishing was interviewed. The interview included questions about the angler's ethnicity, education, household income, the amount and type of fish consumed from the Bay, parts of the fish eaten, and awareness of the health advisory for SF Bay fish. Interview-

ers were able to speak English and at least one other language, including Spanish, Vietnamese, Cantonese, or Mandarin.

Q: Who is eating fish from the Bay?

A: Eighty-seven percent of anglers interviewed for the study ate fish from the Bay. As shown in Figure 1, Caucasians were the largest group of consumers of Bay fish, followed by Asians, Latinos, and African Americans. Many anglers reported that women of childbearing age (between 18 and 45 years of age) and young children in the household ate their catch as well.

Figure 1. Ethnicity of Consumers of Bay Fish



Q: How much fish are people eating from the Bay?

A: Interviewers asked anglers how much Bay fish they had eaten in the last four weeks. Among anglers who ate Bay fish, 80% had eaten one meal or less in the last four weeks, 10% ate two meals and another 10% ate more than two meals. African-Americans and Filipinos ate the most fish and Caucasians ate the least. Asians and people with lower incomes and education, however, were more likely to eat white croaker, a fish also called kingfish, which is more likely to contain chemicals. Asians were also more likely to eat the skin and other fatty parts of the fish where these chemicals build up.

Q: Who is eating more than is recommended?

A: Most anglers who had eaten fish did so within the advisory limits of one pound a month of advisory fish. However, one in ten ate more than what the advisory recommends. Anglers who ate more than the advisory recommends came from all ethnic groups and backgrounds. Asians and African Americans, however, were more likely to eat above the limit.

Q: What will happen if I eat too much fish from the Bay?

A: Eating large amounts of fish from the SF Bay will not make you sick right away. However, eating large amounts of Bay fish for many years may increase your risk of developing cancer or other health problems. Pregnant and breastfeeding women may pass these chemicals on to their developing babies. Mercury and PCBs may increase the chance of developmental problems in infants and children. To be safe, CDHS recommends that you and your family follow the guidelines in the health advisory.

Q: Are anglers aware of the advisory for SF Bay fish?

A: Sixty-one percent of anglers we interviewed were aware that there is a health advisory for the Bay. African-American and Caucasian anglers were more likely to be aware of the advisory than were Latinos and Asians. Awareness of the advisory also increased with both income and education.

Only 34% of the anglers were aware of one or more of the

recommendations in the health advisory, such as limiting how much fish they ate, or eating only the fillet (meat) of the fish.

Q: Are there better places to fish?

A: The health advisory applies to fish from all over the San Francisco Bay inside the Golden Gate Bridge, including San Pablo Bay. There are no health advisories for fish in the ocean (outside the Golden Gate Bridge). However, there are health advisories for other areas of California. The Department of Fish and Game's *California Sport Fishing Regulations* booklet contains a list of these advisories. They may also be found on the Internet at:

www.oehha.ca.gov/fish.html and
www.dfg.ca.gov/regs.html

Q: Are store bought fish safer to eat?

A: The federal Food and Drug Administration (FDA) is responsible for making sure that fish and other products in the store are safe. In general, the fish you buy in a store or restaurant is safe to eat. However, FDA recommends that women who are pregnant, planning to become pregnant, or nursing, and young children should **not** eat any shark, swordfish, king mackerel, and tilefish because they contain higher levels of mercury. FDA also advises women who are pregnant or planning to become pregnant to eat a variety of fish. These women can safely eat 12 ounces per week of cooked store bought fish per week.

More information about FDA's advice can be found by calling (888) SAFEFOOD, or on the Internet at www.cfsan.fda.gov.

Q: What does CDHS recommend?

A: CDHS, OEHHA and other health experts recommend that anglers follow the guidelines in the health advisory. Whenever possible, anglers should catch, prepare, and cook their fish using methods that reduce the level of chemical contaminants in fish. Safer methods include:

- Eat only the fillet.
- Throw away the guts, skin, and fatty parts of the fish. Many chemicals build up in these parts.
- Bake, broil, grill or steam fish so that the juices drain away. Throw away all the fat and cooking juices.
- Eat the types of fish that are not included in the advisory, such as salmon, smelt, anchovies, and herring.
- Eat a variety of fish, not just one type of fish.
- Fish in a variety of locations.

CDHS also recommends that educational efforts be directed towards anglers who eat more fish, or who prepare and cook their fish in ways that may increase their risk for health problems. Educational messages should be developed that are culturally appropriate, and should focus on consumption limits and safer ways of preparing and cooking fish. Signs informing people about the advisory should also be posted in areas where anglers fish.

FOR MORE INFORMATION

For information about the study, or about education and outreach to anglers, contact:

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