

# Minnesota Smart Fish Guide

## Safer, Sustainable Fish Consumption for Healthier Children and a Healthier Environment



**The Smart Fish Guide is for moms, moms-to-be and children under age 15:** This information is based on Food and Drug Administration (FDA) national mercury data for commercial seafood, a 2004 study of PCBs in farmed and wild salmon<sup>1</sup>, as well as mercury and PCB data on Minnesota fish.<sup>2</sup> Contaminant levels in some fish vary by state, as do specific recommendations. Our advice also reflects concerns about the sustainability of some fisheries and fish farms.

**Why fish are a healthy choice:** Fish are an excellent source of protein, vitamin D and beneficial omega-3 fatty acids, which help prevent heart disease and promote mental health and healthy brain development in infants and children.<sup>3-7</sup> If you are pregnant, don't stop eating fish, just choose fish that are safe and sustainable.

**Pollutant risks:** Mercury, PCBs (polychlorinated biphenyls), dioxins, flame retardants and other toxic chemicals can build up in some fish and seafood, posing human health risks, especially for fetuses and children. Some big predatory fish have higher pollutant levels and some fatty fish species tend to be higher in PCBs and dioxins. Smarter fish consumption can reduce health risks.

**Sustainability:** When buying fish or seafood, consider the impact of fishing and fish farming on wild fish ecosystems.<sup>8,9</sup> In this publication, fish not labeled "farmed" are wild-caught.

### Problems with some fishing practices include:

- ▶ **Overfishing**, which depletes fish populations, endangering some species of fish.
- ▶ **Habitat destruction** from fishing gear such as bottom trawls.
- ▶ **Bycatch**, unintentional catch taken by fishers (e.g., sharks and sea turtles caught in the process of tuna fishing).

### Problems with large-scale fish farms can include:

- ▶ **Threats to wild fish and native species.** Non-native species can escape and compete with indigenous fish species. Sea mammals and birds are often harmed or even killed.
- ▶ **Pollution and disease.** Pesticides, antibiotics and other chemicals are routinely used to combat diseases and parasites among fish raised in crowded conditions. These practices can pollute the marine ecosystem and foster the spread of disease and parasites to wild fish.
- ▶ **Waste.** Some farmed fish are fed ground-up wild fish. For example, it takes about three pounds of smaller wild-caught fish to produce one pound of farmed salmon.<sup>10</sup>
- ▶ **Increased toxin levels.** The practice of feeding ground-up wild fish can cause some pollutants to accumulate in farmed fish at higher levels than in wild fish.<sup>1,11</sup>
- ▶ **Possible health risks from added colorants.** Colorants are added to farmed salmon to give them a pink color. Because of health concerns, the European Union recently reduced permissible levels of col-

orants in farmed salmon. The FDA requires colorant labeling of all farmed salmon sold in the U.S.

**What about canned tuna?:** Canned tuna is a popular, nutrient-rich food for women and children, but consumption should be limited to protect fetuses and children. Adding dressing and chopped vegetables to tuna salad makes a given amount of fish go farther. Women of childbearing age can safely eat 8 oz. of chunk light tuna per week (a small can, excluding water weight, contains about 5 oz. of fish). Generally children can safely eat half a can of chunk light tuna per week. To calculate specific portion sizes, go to [iatp.org/foodandhealth](http://iatp.org/foodandhealth).

**What about canned white (albacore) tuna?** Recent FDA testing suggests that on average canned "white" albacore tuna contains three times the mercury of chunk light tuna, made from smaller Skipjack tuna. At these levels, women of childbearing age should eat no more than one can of albacore tuna per month. Sources exist for smaller, troll-caught albacore, which may be somewhat less contaminated. For information, go to [albatuna.com](http://albatuna.com).

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**According to the Environmental Protection Agency, 16 percent of women of childbearing age have mercury in their bodies at levels that can harm the developing fetus.**

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**This exposure puts an estimated 630,000 newborns at risk for adverse health effects on their developing brains, mostly due to fish consumption by the mother.<sup>12</sup>**

**Getting rid of mercury in the environment:** In the long term, eating fewer contaminated fish isn't much of a solution. Each of us can work to reduce mercury pollution in the first place. What can we do?

### Change public policies:

- ▶ Require coal-fired power plants to adopt technologies that will limit mercury emissions by the maximum amount achievable.
- ▶ Require utilities to supply more electricity from cleaner power sources (e.g. wind).
- ▶ Phase out mercury use in products. Require that manufacturers "take-back" mercury-containing products.
- ▶ Phase out mercury in dental amalgams to reduce mercury waste from dental offices.

### Take personal actions:

- ▶ Urge elected officials to support the above policies.
- ▶ Buy wind power from your utility.
- ▶ Dispose of mercury thermometers, thermostats and fluorescent light bulbs as hazardous waste. See [moea.state.mn.us](http://moea.state.mn.us). Swap mercury thermometers for non-mercury ones.
- ▶ Ask for dental fillings without mercury.

**Why worry about toxins in fish?:** Anyone eating fish with mercury and PCBs faces potential health problems. However, fetuses and young children are at greatest risk. Exposure to these brain toxins early in life when the brain is still developing can lead to adverse effects on learning and behavior.<sup>13,14</sup> Because mercury and especially PCBs remain in the body, reflecting months or even years of past exposure, any woman capable of bearing children needs to pay attention to the fish she eats, even before becoming pregnant. During pregnancy these toxins travel easily through the placenta to the developing fetus. Mothers also pass these pollutants in breast milk to nursing babies. Since brain development continues into the teen years, children under 15 should also follow these guidelines.

### Keep in mind

- ▶ Guidelines assume an 8 oz. portion, which could consist of two 4 oz. servings.
- ▶ Children should eat smaller portions. While a woman can eat 8 oz. of cod per week, for example, a 40-pound child should eat just 2 oz.
- ▶ Consider total fish consumption. Eating 8 oz. from the "once-per-month" category means no other fish should be eaten for the month.

### Fish Tips

- ▶ Eat smaller fish—panfish (sunfish, crappie)—rather than predator fish like walleye or pike.
- ▶ Eat smaller portions of fish that may be contaminated. A three-ounce serving is about the size of a deck of cards.
- ▶ To reduce the level of PCBs and dioxins, broil, bake or grill fish so the fat drips away. Deep-frying and pan-frying are not recommended.
- ▶ Trim fat to reduce exposure to PCBs and dioxin. Because these toxins concentrate in fat, removing the fat will reduce contaminant levels. Trimming the fat will not get rid of mercury, because it gets into the flesh of the fish.

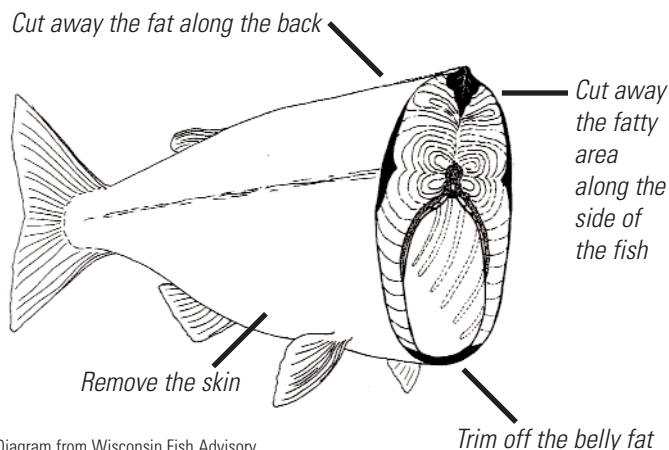


Diagram from Wisconsin Fish Advisory

### References

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4. Harvard Health Letter, February 1, 2003, The dish on fish, Harvard Health Publications.
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**For more specific information on safe consumption levels, especially for children, use our online fish consumption calculator at [iatp.org/foodandhealth](http://iatp.org/foodandhealth)**

### Fish Servings

**Bold** choices are more environmentally sustainable<sup>9</sup> according to the Monterey Bay Aquarium's Seafood Watch Program. For more information, see [mbayaq.org/cr/seafoodwatch.asp](http://mbayaq.org/cr/seafoodwatch.asp). Sustainability criteria are not available for freshwater fish.

The following serving categories are based on contaminant levels, using EPA guidelines for "safe" fish consumption.

#### ▶ Two to three 8 oz. servings per week

Anchovies, Clams, Farmed Catfish, Farmed Trout (Rainbow), Fish sticks, **Herring**, Flounder/Sole (**Pacific**, Atlantic), Mid-Atlantic Blue Crab, Salmon (**Wild Pacific, Wild Alaskan, Canned Alaskan**), **Sardines**

#### ▶ One 8 oz. serving per week

Sunfish, Crappie, Perch, Smelt, Lake Whitefish, Cod (**Pacific**, Atlantic), Crab (**Dungeness, Blue, Stone**, King, Imitation), Haddock, Hake (Pacific, Atlantic), Mahi Mahi (**hook and line caught**), Mussels (**wild-caught, farmed**, dredged), Oysters (**farmed, wild-caught**, dredged), **Pacific Pollock**, Pompano, Scallops (dredged, farmed), U.S.-farmed Tilapia, Canned Chunk Light Tuna

#### ▶ One 8 oz. serving per month

Bullheads, Northern Pike (under 30"), Sucker, Walleye (under 20"), Bluefish, Crab (Gulf Coast Blue), Grouper, Halibut\* (**Pacific**, Atlantic), Lobster, Atlantic Pollock, Rockfish, Salmon (farmed), Canned White Albacore Tuna, Tuna steaks (**hook and line caught**)

#### ▶ Remember: Do Not Eat

Freshwater Bass, Carp, Catfish, Muskie, Northern Pike (over 30"), Trout (Lake, Steelhead), Walleye (over 20"), King Mackerel, Orange Roughy, Shark, Red Snapper, Swordfish, Tilefish

\*Recommendation based on average mercury levels in both Atlantic and Pacific Halibut. Alaskan Halibut are lower in mercury, so could be consumed more frequently.

9. Monterey Bay Aquarium, Seafood Watch, [mbayaq.org/cr/seafoodwatch.asp](http://mbayaq.org/cr/seafoodwatch.asp).
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