

Advice for People who eat Salmon, Flatfish, and Rockfish from Puget Sound

Why is there a fish advisory for Puget Sound?

The Puget Sound Assessment and Monitoring Program investigated chemical contaminant levels in several Puget Sound fish (Chinook and coho salmon, English sole, and four species of rockfish).

The Washington State Department of Health evaluated the data and identified two contaminants that pose a potential health concern for people who eat certain species of Puget Sound fish:

- PCBs (Polychlorinated biphenyls)
- Mercury (Methylmercury)

We recommend that everyone, especially women who are or might become pregnant, nursing mothers and young children follow the consumption advice provided to reduce your exposure to these contaminants.

Removing fish from your diet will not eliminate your exposure to chemical contaminants, but will eliminate the many health benefits that you gain from eating fish. Other foods like beef, poultry, and pork have contaminants in them too.

What are PCBs and mercury and how do they affect health?

PCBs - PCBs are a group of chemicals that were once used widely in products such as coolants and lubricants for transformers. In 1977, PCBs were banned because of their potential to affect human health and their persistence in the environment. Children exposed to PCBs in the womb may have learning and behavior problems later in life. PCBs can also impact the immune system.

Mercury - Mercury occurs naturally in the environment. It also enters the environment from industrial air pollution and improper disposal of thermostats, electrical switches, and fluorescent bulbs. Mercury is linked to learning and behavior problems in kids. Like PCBs, exposure to mercury in the womb can cause learning and behavior problems later in life.

How do PCBs and mercury get into Puget Sound fish?

Mercury and PCBs enter waterbodies through rain or snow and are also directly released from industrial or natural sources. Once mercury and PCBs get into the water, they settle into the sediment. Bacteria in the sediment convert mercury into methylmercury, a more toxic form.

When fish eat smaller organisms these contaminants build up in the fish's muscle (fillet) and fat, and are added to any contaminants that were already there. The bigger and older a fish is, the more likely it is to have eaten lots of smaller, contaminated fish. People are exposed to mercury and PCBs when they eat fish.

What are the health benefits found in fish?

Fish are rich in nutrients, a low fat protein source, and have omega-3 fatty acids, which are not found naturally in our bodies. Omega-3's are essential during pregnancy for the healthy development of a child's brain, retina, and nerve tissue. They also help prevent heart disease and stroke by reducing blood pressure, inflammation, and blood clotting.

Eat fish, Be Smart, Choose Wisely.

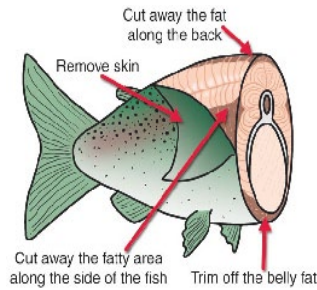


Consumption Advice for Salmon, Flatfish, and Rockfish from Puget Sound

Fish are nutritious and an important part of a healthy diet. The American Heart Association recommends eating fish at least two times per week. To gain the health benefits found in fish and minimize your exposure to chemical contaminants, follow the consumption guidance provided.

To further reduce your exposure to contaminants follow the preparation recommendations. These recommendations can reduce, by up to 50 percent, PCBs and other contaminants that collect in the fat of fish. Mercury is stored in the muscle of fish and cannot be reduced by cleaning this way.

Preparation Recommendations

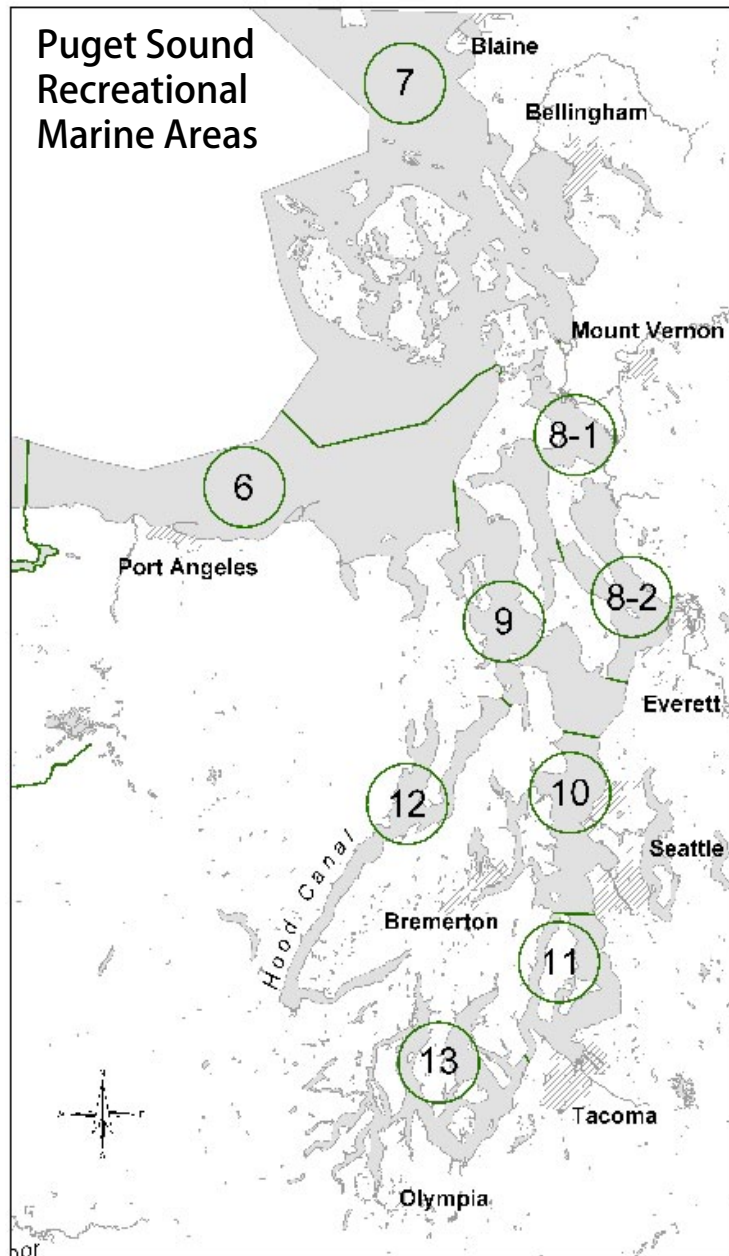


When cleaning fish, remove the skin, fat, and internal organs before cooking.

Grill, bake, or broil fish so that the fat drips off while cooking.

Consume younger, smaller fish (within legal limits).

Advice for anyone concerned about contaminants in fish, especially women who might become pregnant, women who are pregnant, nursing mothers, and young children.



Puget Sound Salmon



Salmon are a healthy choice when choosing fish from Puget Sound. Coho, chum, pink, and sockeye salmon consumption is unrestricted, which means you can eat 2 to 3 servings per week.

If you eat the amount recommended in a week, no other fish should be eaten that week. For example, if you eat 1 serving of Chinook salmon, no other fish should be eaten that week.

Resident Chinook (blackmouth) have higher levels of contaminants. Limit consumption to 2 servings per month. Most blackmouth remain in Puget Sound rather than migrate to the ocean, so they accumulate more contaminants.

Puget Sound Salmon*		All Puget Sound Marine Areas
Marine Area	Salmon Species	Consumption Advice
6 thru 13	Chinook	No more than 1 serving per week
6 thru 13	Chinook (Blackmouth)	No more than 2 servings per month
6 thru 13	Coho	Unrestricted**
6 thru 13	Chum, Pink, Sockeye***	Unrestricted

* High-end consumers (more than 2 servings per week) should follow DOH's fish preparation recommendations.
 ** Unrestricted means 2 to 3 servings per week.
 *** Chum, pink, and sockeye salmon were not sampled as part of PSAMP. Data from other sources show that these species tend to have low PCB levels.

English Sole & Other Flatfish



Puget Sound flatfish (English sole, starry flounder, and rock sole) are a healthy choice from many areas in Puget Sound. Urban embayments have the most restrictive advice.

Puget Sound English Sole & Other Flatfish*

Marine Area/ Location	Consumption Advice	Exceptions
6 East Juan de Fuca Strait	Unrestricted	None
7 San Juan Islands	Unrestricted	None
8.1 Deception Pass, Hope Island & Skagit Bay	Unrestricted	None
8.2 Port Susan/ Port Gardner	Unrestricted	Yes
Mukilteo Ferry Dock to City of Everett	No more than 2 servings per month	
9 Admiralty Inlet	Unrestricted	None
10 Seattle-Bremerton	Unrestricted	Yes
Duwamish Waterway	No consumption	
Elliott Bay	No more than 2 servings per month	
Eagle Harbor	No more than 1 serving per week	
Port Orchard Waterway	No more than 1 serving per week	
Sinclair Inlet	No more than 1 serving per month	
11 Tacoma- Vashon	Unrestricted	Yes
Inner Commencement Bay	No more than 2 servings per month	
Outer Commencement Bay	No more than 1 serving per week	
12 Hood Canal	Unrestricted	None
13 South Puget Sound (South of the Tacoma Narrows)	Unrestricted	None

* Recommendations for consuming other bottomfish such as lingcod, are not included in the above advice.
 ** Unrestricted means 2 to 3 servings per week.

How to Use the Following Tables

Fish consumption guidance is organized by Washington State Department of Fish and Wildlife's marine areas. Locate the "Recreational Marine Area" where you catch fish and follow the consumption advice for that area.

If you eat the amount recommended for one week, don't eat any other fish that week. Serving size information is on page 4.

For additional healthy seafood choices visit www.doh.wa.gov/fish.

Puget Sound Rockfish



Rockfish were evaluated for chemical contaminant levels in 2006. The 2006 health evaluation results for Puget Sound rockfish are available. See <http://www.doh.wa.gov/Portals/1/Documents/Pubs/334-104.pdf>

Rockfish retention is illegal and consuming rockfish from Marine Areas 6-13 is prohibited as of 2010. See <http://wdfw.wa.gov/fishing/regulations/> for further details.

Puget Sound Rockfish

Marine Area/ Location	Rockfish Species	Consumption Advice	Exceptions
6 thru 13 All Puget Sound Marine Areas	All Rockfish Species	No consumption due to conservation reasons	None

What is a serving?



For Adults For Children

A serving is about the size and thickness of your hand. Give children smaller servings.

What is a serving/meal size?

A fish serving size is 8 ounces uncooked fish for a 160 pound adult. If you weigh more or less than 160 pounds, add or subtract one ounce to your serving size for each 20-pound difference in body weight.

160 lbs. = 8 ounces uncooked fish

80 lbs. = 4 ounces uncooked fish

Give children smaller servings.

For more information:

Washington State Department of Health
Fish Consumption Advisories Program
Toll Free: 1.877.485.7316
Visit: www.doh.wa.gov/fish

Fishing Regulations in Puget Sound
Washington State Department of Fish & Wildlife
Ph: 360.902.2700
Visit: www.wdfw.wa.gov/fishing



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