Fish Consumption Advisory
Upper Columbia River (includes Lake Roosevelt)
Technical Summary July 2012

Overview

The U.S. Environmental Protection Agency (EPA) has identified the Trail Smelter operated by Teck Cominco (now called Teck) as the primary source of metals and other chemical contaminants in the Upper Columbia River. The Trail Smelter located in Canada 10 miles north of the U.S. border, has been in operation for more than a century.

In 2006, EPA entered into a settlement with Teck to conduct an investigation of the Upper Columbia River to identify contaminants in the river system and if they pose human health and ecological risks.

Fish Monitoring

As part of this ongoing investigation, 2,300 fish were collected from six sampling areas within a 150 mile stretch between the U.S. /Canada border and the Grand Coulee Dam.

The Washington Department of Health analyzed fish tissue from burbot, kokanee, lake whitefish, largescale sucker, longnose sucker, mountain whitefish, rainbow trout, smallmouth bass, and walleye to determine if the levels of metals, pesticides, fire retardants, and other organic chemicals pose human health risks. The fish tissue was evaluated and compared to data from previous studies.

Upper Columbia River Fish Consumption Advisory

Using this new information, the state health department is updating its exisiting fish consumption advisory for the Upper Columbia River.

Women who are or might become pregnant, nursing mothers, and young children are especially at risk and should follow the updated fish consumption advice for the Upper Columbia River on the back of this technical summary.

There is an existing statewide fish advisory for mercury that also affects theUpper Columbia River and is included in this advisory update.

Contaminants of Concern

Mercury is the main contaminant of concern in fish in the Upper Columbia River. Mercury is an element found in rocks and soil. It can be released into the environment from industrial air pollution and mining operations, and through improper disposal of products that contain mercury such as transformers, thermostats, electrical switches, and fluorescent bulbs.

Mercury Health Impacts Mercury can harm the central nervous (brain) and immune systems. If a baby or fetus is exposed to high levels of mercury the child may develop learning and behavioral difficulties. A developing fetus or growing child is more sensitive to mercury than an adult. If a person is exposed to high doses over time it can harm organs, including the kidneys and heart.

PCBs Polychlorinated Biphenyls (PCBs) were found at levels of concern in largescale sucker. PCBs consumed at high levels can impact men and women of all ages.

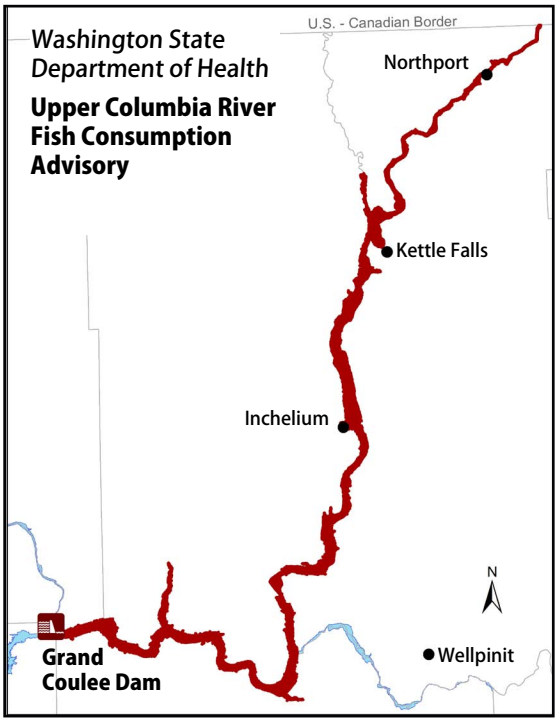
PCBs are a man-made group of chemicals once used widely in coolants and lubricants for transformers and in plastics. In 1977, PCBs were banned because they stay in the environment for a long time and can harm human and environmental health.

PCBs Health Impacts PCBs may cause a variety of health problems depending on the amount a person is exposed to. If a baby or fetus is exposed to high levels of PCBs while developing, the child may have learning and behavioral difficulties. PCBs may also impact the immune system and have effects on the reproductive system and thyroid hormones. EPA says PCBs probably cause cancer in people.

How do mercury and PCBs get into upper Columbia River fish?

Mercury and PCBs enter rivers, lakes, and streams through rain or snow and are also directly released from industrial (mercury, PCBs) or natural (mercury) 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 contaminated with methylmercury or PCBs, the 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.

Eat Fish, Be Smart, Choose Wisely.

The American Heart Association recommends eating fish at least two times a week as part of a healthy diet. To get the health benefits of eating fish, make smart choices and choose fish low in chemical contaminants.

Removing fish from your diet won't eliminate your exposure to contaminants. Other foods have chemical contaminants in them, too, but mercury and PCBs are mainly found in fish.

See the back of this technical summary for fish consumption recommendations.

Health Benefits of Fish

The American Heart Association recommends eating fish at least two times per week as part of a healthy diet.

- **Fish is nutritious.** Fish is low in saturated fat and a good source of protein, vitamins, minerals, and omega-3 fatty acids.
- **Fish is good for your heart.** Omega-3s found in fish help prevent heart disease and stroke by reducing blood pressure, inflammation, and blood clotting.
- **Fish is brain food.** Omega-3s may help relieve depression and may decrease the risk of Alzheimer's disease.
- Omega-3s during pregnancy may help with the healthy development of a child's brain, retina, and nerve tissue.

To get the health benefits of eating fish, choose fish low in contaminants. More healthy choices are on our website **www.doh.wa.gov/fish**.

Contact Information

Fish Advisory
Department of Health
Fish Advisories Program
Toll Free: 1-877-485-7316
http://www.doh.wa.gov/fish

Contaminant Study
US Environmental Protection Agency
Upper Columbia River Study
Toll Free: 1-800-424-4372
http://yosemite.epa.gov/R10/cleanup.nsf/sites/upperc

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Upper Columbia River Fish Consumption Advisory

Washington State Department of Health

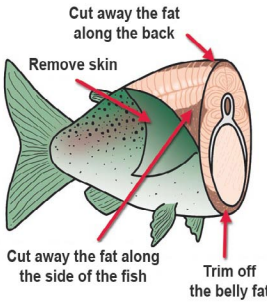
Certain types of fish from the Upper Columbia River and Lake Roosevelt contain toxic chemicals (mercury and PCBs) at levels that may harm your health, depending on how much you eat. If you eat fish from this area follow these recommendations. **This is very important for women who are or might become pregnant, nursing mothers, and young children because they are especially at risk for health problems these chemicals may cause.**

Healthy Choice		Meals Per Week*	
Kokanee		3	**Enjoy these fish.** Kokanee, lake whitefish, and rainbow trout are low in contaminants.
Lake Whitefish		2	
Rainbow Trout		2	
Limit		**Meals Per Week***	
Burbot		1	**Limit these fish.** You can safely eat 4 meals per month of any combination of burbot, longnose sucker, mountain whitefish, smallmouth bass, or walleye. If you eat the recommended amount, no other fish should be eaten that month.
Longnose Sucker		1	
Mountain Whitefish		1	
Smallmouth Bass		1	
Walleye		1	
Caution		**Meals Per Month***	
Largescale Sucker		2	Women of childbearing age and children: limit largescale sucker to 2 meals per month. Everyone else: 1 meal per week.
Largemouth Bass		2	
DO NOT EAT			
Northern Pikeminnow		**AVOID**	**Do not eat.**

* One meal is 8 ounces of uncooked fish for a 160 lb person. If you weigh more or less than 160 lbs, add or subtract 1 ounce for every 20 lbs of body weight.

Preparing Fish the Healthy Way

Fish are part of a healthy diet. You can make it even healthier if you follow these tips. Some chemicals build up in the fat of fish and can be reduced if you prepare and cook fish correctly. Mercury can't be reduced because it builds up in fish muscle (the fillet).



- 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.
- Eat younger and smaller fish (within legal limits).