



Fact Sheet: Mercury in Burbot (Lush) and Pike in Alaska

Fish and other traditional foods are very nutritious and are usually an excellent choice for a healthy diet. However, some fish may not be safe to eat in large amounts for women of child-bearing age and children because they contain mercury.

Why are we concerned about mercury?

Mercury is a toxin that, at high levels, can damage the brain and other organs. Young children and fetuses (unborn babies) are more sensitive to mercury than adults because they are still developing. Mercury in the mother's body can pass to the fetus.

Where does mercury in Alaska come from?

- *Natural sources* – these include breakdown of local bedrock into streams; forest fires and volcanoes.
- *Human-caused sources* – these include global air pollution from burning fuels and garbage, and mining runoff.
- Mercury deposited in wetlands is transformed by bacteria into *methylmercury*, which accumulates (builds up) in fish and other animals up the food chain.

How do I find out how much and which Alaska fish are safe to eat?

Various agencies have measured mercury in different marine and freshwater fish species in Alaska. Based on the amount of mercury measured in a variety of fish species, the Alaska Division of Public Health has developed consumption guidelines to help determine how much of each fish women and children can safely eat. These guidelines:

- Reflect what we have learned from research and other states and national agencies.
- Include what we know from studying mercury in food and the effects of mercury on children.
- Recommend that **women who are or can become pregnant (generally those aged 15 to 45 years), nursing mothers, and children aged 18 years and under** adjust their Alaska fish consumption by choosing to eat fish that are low in mercury, like salmon. Men, elders, teenage boys, and women past child-bearing age can safely eat unlimited amounts of most Alaska fish, including pike and burbot (or lush, as it is often called).

Measuring mercury in people

Although mercury concentrations in fish can be used to help approximate mercury exposure in people who eat fish, Alaska has a program that tests for actual mercury levels in people through hair samples. ***If you are a woman of child-bearing age, you can get your hair tested and find out your own mercury levels – for free!*** Hair collection can be done by you or a health care provider, and samples are sent to the Alaska State Public Health Laboratory. Results are sent back to you and your health care provider

within 2 months. If you are one of the very few women in Alaska who has a high hair mercury level, the Alaska Division of Public Health and your health care provider will work with you to help reduce your mercury exposure.

Mercury in the Middle Kuskokwim River area

The Middle Kuskokwim River area is a historic mining district, and also has naturally high concentrations of mercury in bedrock and sediments. Mercury testing in fish from this area was done in 2010, and the Alaska Division of Public Health has used those results to answer the question, “How much pike and burbot from the Middle Kuskokwim River area can women and children safely eat?”

This table shows current recommendations for fresh (not dried) pike meat, burbot (lush) meat, and burbot liver. Mercury concentrations increase toward the bottom of the table, so pike meat from the lower and mid-Yukon River has the highest average concentration in this set of samples. Higher average mercury concentrations mean that fewer meals per month are recommended. In general, eat more of smaller fish and fish that has not been dried and eat less of larger fish and dried fish.

Region-specific Consumption Recommendations for Northern Pike

Watershed (including tributaries)	Mercury concentration (Average, mg/kg, wet weight)¹	Recommended Meals/month²
Northwest Alaska (including the Noatak, Kobuk, Selawik, and Buckland Rivers) <2 feet	0 – 0.2	Unrestricted
Northwest Alaska (including the Noatak, Kobuk, Selawik, and Buckland Rivers) >2 feet	>0.20-0.34	16
Lower Kuskokwim River (from Aniak downstream) – all lengths Upper Yukon River waters (from Beaver to the Black River) <2 feet	>0.34-0.46	12
Lower Yukon River (from Holy Cross downstream) <2 feet Mid-Yukon River (from Kaltag to Ruby) All lengths	>0.46-0.68	8
Lower Yukon River (from Holy Cross downstream) >2 feet Upper Yukon River waters (from Beaver to the Black River) >2 feet	>0.68-1.36	4

¹From State of Alaska guidelines, *Fish Consumption Advice for Alaskans: A Risk Management Strategy to Optimize Public Health*, available at:

<http://www.epi.alaska.gov/eh/fish/FishConsumptionAdvice2014.pdf>

²Calculations performed using a 6 ounce meal size, and Acceptable Daily Dose of 0.56 µg/kg BW/day established by the Alaska Scientific Advisory Committee for Fish Consumption. Calculations assume a single-species diet

For more information: Contact the Alaska Division of Public Health, 3601 C St., Suite 540, Anchorage, AK 99503, (907) 269-8000 or www.epi.hss.state.ak.us/eh/fish/.