Alaska Department of Health and Social Services
Division of Public Health - Section of Epidemiology

Fact Sheet: Mercury in Burbot (Lush) and Pike from the Middle Kuskokwim River Area – June 2, 2011

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 for women of child-bearing age and young children to eat in large amounts 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. Because they are still developing, young children and fetuses (unborn babies) are more sensitive to mercury than adults. 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, including the Alaska Department of Environmental Conservation, U.S. Fish and Wildlife Service, and the Bureau of Land Management have measured mercury in different marine and freshwater fish species in Alaska. The Alaska Division of Public Health has developed consumption guidelines for women and children on how much of each fish they can safely eat, based on the amount of mercury in a variety of fish species. These guidelines:

- Reflect what we have learned from other states and national agencies.
- Include what we know from studying mercury in food and the effects of mercury on children.
- Include a large margin of safety so you can be safe even if you do not follow the guidelines strictly.
- Recommend that ***women who are or can become pregnant (generally those aged 15 to 45 years), nursing mothers, and children aged 12 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).
- Are available at: www.epi.hss.state.ak.us/eh/fish/FishConsumptionGuidelines.pdf.

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 is done by a health care provider, and samples are sent to the Alaska State Public Health Laboratory. Results are sent back to the woman and her 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, from the Middle Kuskokwim River and nearby streams. Mercury concentrations increase toward the bottom of the table, so pike meat from the George River has the highest average concentration in this set of samples. Higher average mercury concentrations mean that fewer meals per month are recommended.

The following guidance is preliminary. It will be updated with final numbers and additional guidance for dried pike and pike of different sizes, when the testing is completed. For example, large pike (i.e., those longer than 2 feet) generally have higher mercury concentrations than small pike, even if they are from the same area.

Preliminary Consumption Guidelines for Women and Children Who Eat Pike and Burbot (Lush) from the Middle Kuskokwim River Area

Fish species, tissue, and location	Mercury concentration (average, mg/kg, wet weight)[1]	Recommended meals per month
Burbot liver from the Mid-Kuskokwim River	0–0.15	Unlimited
Burbot liver from the George River Pike meat from the Stony River Pike meat from the Mid-Kuskokwim River	0.15–0.32	up to 16
Burbot meat from the Mid-Kuskokwim River	0.32–0.40	up to 12
Pike meat from the Holitna River Burbot meat from the George River	0.40–0.64	up to 8
Pike meat from the George River	0.64–1.2	up to 4

[1] From State of Alaska guidelines, *Fish Consumption Advice for Alaskans: A Risk Management Strategy to Optimize Public Health*, available at: www.epi.hss.state.ak.us/bulletins/docs/rr2007_04.pdf.

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/.**