

Mercury in Fishes

Lake Clark, Kontrashibuna Lake, and Telaquana Lake



Why are we concerned about mercury?

Mercury is a neurotoxin - at high levels it can damage the developing brains of babies (including fetuses) and children.

The State of Alaska has developed 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 incorporate studies of dietary mercury effects on children, and include a safety factor, so they do not have to be viewed as strict dietary limits.

Should I worry about eating fish?

Overall, mercury levels in Alaska fish are low, so the **only** people who need to think about limiting the amount of fish they eat are **women who are or can become pregnant, nursing mothers, and children age 12 years and under**. Women and children can still get the benefits of eating fish by choosing to eat fish that are low in mercury, like Salmon and Humpback Whitefish.

Men, elders, and teenage boys may eat unlimited amounts of most Alaska fish, including Lake Trout.

Smaller, younger fish generally have lower mercury concentrations.

Lake Trout Average Total Mercury Concentrations

Lake Clark .38 mg/kg

Kontrashibuna .23 mg/kg

Telaquana Lake .12 mg/kg

Source: Open File Report 2014-1051
USGS, Department of the Interior
<http://pubs.usgs.gov/of/2014/1051/>

Other Fish Average Total Mercury Concentrations

Lake Clark

Northern Pike .17 mg/kg

Humpback Whitefish .06 mg/kg

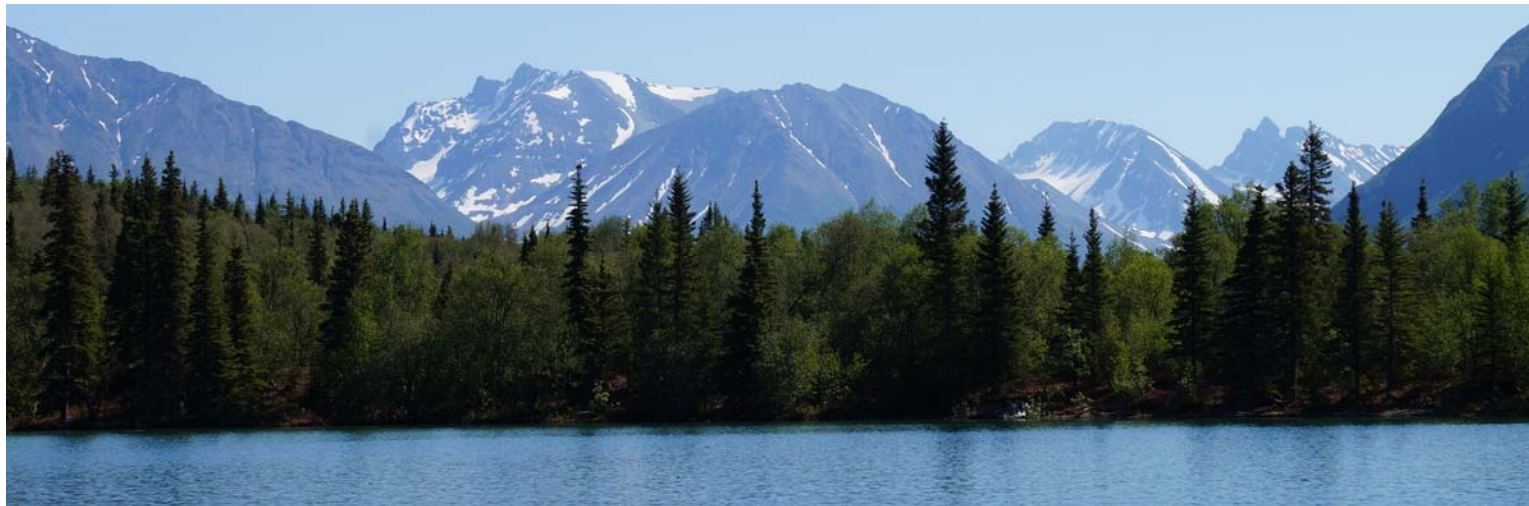
How much fish should women and children eat from lakes in Lake Clark National Park and Preserve?

Mercury concentration in fish (mg/kg)	Meals per month	Location, Fish, and Size Analyzed
0 - 0.15	Unlimited	Lake Clark: Humpback Whitefish & Arctic Grayling Telaquana Lake: Lake Trout
>0.15 - 0.32	up to 16	Lake Clark: Northern Pike 17-30 in Kontrashibuna Lake: Lake Trout 12 - 16 in
>0.40 - 0.64	up to 8	Lake Clark: Lake Trout 14 - 25 in

A meal size is one six-ounce portion of fish for adults, and one three-ounce portion for children age 12 years and under.

Three ounces of fish is about the size of the palm of your hand or a deck of cards.

http://www.epi.hss.state.ak.us/bulletins/docs/rr2007_04.pdf



*Fish are
an excellent source
of nutrition and
provide great
recreational and
subsistence
harvest
opportunities.*

Are our local fish safe to eat?

All five species of Alaska Salmon have very low contaminant levels and are safe to eat in unlimited quantities.

There is more of the toxic form of mercury – methylmercury – in fish that eat other fish and in older fish, like large Lake Trout. A recent study measured mercury in muscle from Lake Trout from Lake Trout caught in Lake Clark, Kontrashibuna Lake, and Telaquana Lake.

The average total mercury concentrations in Lake Trout in Lake Clark and Kontrashibuna Lake exceeded thresholds recommended by the State of Alaska for unlimited human consumption by women and children. The table on the opposite page shows state guidelines for how many meals per month of each type of fish are considered safe to eat. Comparing total mercury numbers to methylmercury health guidelines is a conservative approach.

Where does mercury in Alaska come from?

Natural sources such as wildfires, volcanoes, and local bedrock weathering add small amounts of mercury into the environment. Human-caused sources such as global air pollution from burning fuels, and mining runoff contribute about two-thirds of mercury into the global atmosphere.

Mercury in wetlands is transformed by bacteria into methylmercury, which accumulates in fish and animals and can be highly toxic. This is the form of mercury that scientists and health specialists are

Deciding What to Eat:

Subsistence or wild foods, including almost all fish, are better for you than store-bought foods. Fish are nutritious, with vitamins A, E, and C, iron, zinc, protein, and very important omega-3 fatty acids. These nutrients help keep your nervous system, your immune system, and your heart healthy, and are important for a healthy pregnancy.

Subsistence foods are low in sugar and saturated fats. Store-bought foods can have unhealthy amounts of sugars and fats, which can contribute to obesity, diabetes, and heart disease.

For more information on fish consumption guidelines, or the benefits of eating subsistence foods, contact:
<http://www.epi.alaska.gov/eh/fish/>

Environmental Public Health Program
Alaska Division of Public Health
3601 C Street, Suite 540
Anchorage, AK 99503.
907-269-8000

For more information on mercury in lake trout contact:

Dan Young
Lake Clark National Park and Preserve
1 Park Place
Port Alsworth, AK 99653

907-781-2113
Dan_Young@nps.gov