

HUMAN HEALTH CRITERIA IN ALASKA WATER QUALITY STANDARDS

Fact Sheet

BACKGROUND

The Department of Environmental Conservation (DEC), Division of Water establishes water quality standards for state freshwater and marine waters that are protective of human and environmental health. Standards consist of designated uses (water uses that are protected, such as for drinking water), numeric criteria (values to protect the designated uses), and antidegradation provisions (to maintain water quality).

Human health criteria are numeric values in water quality standards for toxic substances (e.g., metals, pesticides). These values are established to allow Alaskans to consume fish and shellfish and to use state waters for drinking water supply over the course of a lifetime without adverse health effects. Several factors are used to develop human health criteria including human body weight, drinking water intake, bioaccumulation rates of pollutants in different aquatic species, and the amount and type of fish eaten on a daily basis (a.k.a. fish consumption rate). This rate is generally listed as grams ingested per day (g/day).

In 2000 EPA published a new methodology for developing human health criteria. It was recommended that states review all available data and consider developing criteria that reflect the actual fish consumption rates where they may differ from the national average. Alaska's human health criteria are based on fish consumption rates that are outdated and do not reflect the actual amount of fish most Alaskans consume.

DEC has identified potential revisions to the human health criteria as a high priority issue during the 2015-2017 Triennial Review cycle. The current focus of DEC is to develop an approach to identify and address the many issues related to the human health criteria methodology and the implementation issues that will need to be considered early in the process. Numerous other states have encountered significant implementation issues when updating human health criteria. DEC is closely monitoring the work of these states as DEC moves toward updating Alaska's human health criteria.

Why Is DEC interested in this issue?

- Water quality standards should be protective of human health
- Alaskans consume a lot of fish

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<http://www.dec.state.ak.us/water/wqsar/trireview/index.htm>



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- Revisions to the existing criteria need to be legally and scientifically defensible
- This is an important issue to many Alaskans

How do we come up with revised human health criteria?

Determination of human health criteria involves use of a comprehensive risk assessment approach that considers numerous factors including acceptable degree of risk, degree of toxicity, duration and volume (such as fish consumption rate) of exposure, and accuracy of data. Application of different variables present in the human health criteria formula will require technical and policy determinations to be made by decision makers. Existing water quality regulations do allow for fish consumption rates and other factors in the human health criteria formula to be adjusted higher or lower than the published criteria based on site specific information.

Key Points to Consider

- **The consumption of fish and shellfish from Alaskan waters is a safe and healthy practice.** Alaska has very good information on potential points of concern and addresses them through fish tissue monitoring and Fish Consumption Advisories issued by the Department of Health and Social Services (DHSS).
- Alaska's water quality standards are based on extensive research and considered to be very protective of human health. Alaska currently has tools available to adjust human health criteria and fish consumption rates to address local concerns.
- Taking the time to collect information, evaluate that information, hear from stakeholders, and determine what actions are most appropriate will lead to better results.

What is DEC doing now?

DEC recognizes the importance of this issue and the challenges that may accompany it. In an effort to be mindful in choosing an approach that is appropriate for Alaska, DEC is considering the following:

- a. Continue to monitor other states' methods for addressing human health criteria, and the successes or failures of those approaches in order to inform Alaska's long-term approach.
- b. Continue to monitor national and local research on human health criteria including fish consumption rates and other factors, and the relationship between those factors.
- c. Gather and assess information unique to Alaska to inform Alaska's human health criteria development.
- d. Based upon ongoing research and monitoring, assess current implementation tools and consider whether additional modifications to human health criteria are needed.