

## Lake Spokane Talking Points

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### What are of the Water Quality Standards for the Spokane River and Lake Spokane

Washington’s surface water quality standards (Chapter 173-201A WAC) set limits on pollution in our lakes, rivers, and marine waters in order to protect beneficial uses such as swimming and fishing. They are the basis for assessing the quality of the state’s waters, and set numeric limits for surface water discharges.

Washington water quality standards regulate fresh water based on whether it is a riverine system or a lake. The standards define a “lake” based on if the detention time of the water as greater than 15 days, regardless of whether the lake is natural or is a reservoir formed by a human structure, such as a dam. Lake Spokane has a mean detention time of greater than 15 days, and is therefore treated as a lake under Washington’s water quality standards.

In recent changes to the water quality standards, new aquatic life sub-uses were established for better protection of salmonids. All lakes are generally protected for the designated use of “core summer salmonid habitat”. In addition, language was included for temperature and dissolved oxygen that set limits for lakes based on the natural background conditions.

Specifically, the following criteria apply to the Spokane River above and below the reservoir, and Lake Spokane.

<i>Portion of the River</i>	<i>Aquatic Life Uses</i>	<i>Dissolved Oxygen and Phosphorus Criteria</i>
Spokane River (from Nine Mile Bridge to the Idaho border)	Salmonid Rearing/Spawning	Dissolved oxygen shall exceed 8.0 mg/L. <sup>1</sup>
Lake Spokane (from Long Lake Dam to Nine Mile Bridge)	Core Summer Salmonid Habitat	No measurable (0.2 mg/L) decrease from natural conditions. Total phosphorus shall not exceed 25 µg/L during the period June 1 – October 31
Mouth to Long Lake Dam	Salmonid Rearing/Spawning	Dissolved oxygen shall not be less than 8.0 mg/L. <sup>1</sup>

1 If “natural conditions” are less than the criteria, the natural condition shall constitute the water quality criteria.

### How Washington and neighboring states handle reservoirs

Washington standards do not provide specific provisions on how to measure or implement criteria in lakes or reservoirs, which stratify. Therefore, any exceedance of the criteria in the water column is considered a violation of the standard unless otherwise specified.

Oregon and Idaho both have provisions for dealing with stratification of lakes and reservoirs. These states and Washington handle dissolved oxygen criteria in lakes and reservoirs in different ways:

<b>CRITERIA</b>	<b>Idaho</b>	<b>Oregon</b>	<b>Washington</b>
Lake/reservoir defined by stratification	Yes	Yes	No
Excludes some strata in meeting criteria	Yes	No	No
D.O. depends on Use designation	Yes	No	Yes
Specific about where criteria apply	Yes	No	No
Contains seasonal criteria for D.O.	Yes	No	No

Language from other states are attached at the end of this document.

### **What does it take to change uses in the state water quality standards?**

The Clean Water Act is explicit in defining when and how a designated use can be downgraded. A use downgrade with associated less stringent numeric criteria is possible only if the use cannot be attained. A designated use is considered attainable if:

- It is an existing use (an existing use is defined by the Federal Water Quality Standards regulation as those uses actually attained in the water body on or after November 28, 1975); or
- It can be attained with technology-based controls for point sources cost-effective and reasonable best management practices (BMPs) for non-point sources.

If a State or Tribe finds that a use is not attainable, the use can be changed or removed based on appropriate analysis and documentation (known as a Use Attainability Analysis or UAA) which is subject to EPA review and approval. Change of uses would need to go through the state Administrative Procedures Act and adopted into rule. Then, the adopted change would go to EPA for Clean Water Act approval as well as consultation under the Endangered Species Act. This would involve a biological opinion from the National Marine Fisheries Service and US Fish and Wildlife Service. If a use is removed or changed, an assessment of the highest attainable use must be done. For more information on UAAs in Washington State:

<http://www.ecy.wa.gov/programs/wq/swqs/uaa.html>

### **Developing a UAA for Lake Spokane**

In 2004, a draft UAA was developed by contractors for Spokane County. Unfortunately, the UAA fell far short of information that would be required to successfully complete a UAA for Lake Spokane. In its review, Ecology determined that the UAA was incomplete. The agency provided clear directives to enable the project to provide enough information to reach a successful conclusion. However, the process did not go forward. The following highlights the suggestions made by Ecology:

- Trout rearing is an existing and attainable use in the reservoir and must therefore be protected. It would be best protected if the reservoir had maximum attainable dissolved oxygen levels throughout the reservoir.
- Without a technical evaluation of how changes to the dam operations would affect the reservoir, the highest attainable use cannot be determined.
- The report contained no analysis of invertebrates in the hypolimnion or what the attainable use of invertebrates might be if pollution sources were reduced.
- An evaluation of the substantial and widespread social and economic effects is needed to argue that the change of use is based on cost.
- There was little to no coordination with Avista, the dam operator for Long Lake Dam.
- Water quality criteria are set based on biological risk not on cost of attainment.
- The impacts to Spokane Tribal water quality must be considered as they are just downstream of the Long Lake Dam. A change of use in this area or any other area does not change the Water Quality Standards of other regulatory agencies downstream.
- Downstream uses must be protected for their designated uses.

### **Can Site-Specific Criteria be developed for Lake Spokane?**

Site-specific criteria can be used to address any one or more of the following situations.

- The sensitivities of species at a site differ from those used to develop national water quality criteria.
- The physical/chemical characteristics of a site alter the bioavailability/toxicity of a pollutant.
- A State/Tribe wants to establish a criterion equal to “natural background” levels (the criteria cannot be changed to match the current levels unless those levels are the historic “natural condition” of the waterbody)

### **What aquatic life use is present in Lake Spokane?**

State Department of Fish and Wildlife staff have documented rainbow trout spawning and rearing activities in this waterbody.

### **How do variances work?**

A Variance is a temporary waiver from meeting water quality standards that must be re-evaluated periodically in order to be renewed. Variances are applicable to dischargers based on a discharger-specific evaluation, or to a waterbody based on a water body-specific evaluation.

The same factors used to determine if a use can be removed under a UAA can be used to grant a variance.

Federal guidance demands that variances be adopted into the state water quality standards regulation. Compliance levels must be determined individually for each source of pollution. Variances must be re-evaluated every five years.

**340-041-0061 OREGON RULE** fragments from the Oregon rule

**Other Implementation of Water Quality Criteria .....**

(15) Reservoirs or managed lakes are deemed in compliance with water quality criteria for temperature, pH, or dissolved oxygen (DO) if all of the following circumstances exist.

- (a) The water body has thermally stratified naturally or due to the presence of an impoundment.
- (b) The water body has three observable layers, defined as the epilimnion, metalimnion, and hypolimnion.
- (c) A layer exists in the reservoir or managed lake in which temperature, pH, and DO criteria are all met, and the layer is sufficient to support beneficial uses.
- (d) All practicable measures have been taken by the entities responsible for management of the reservoir or managed lake to maximize the layers meeting the temperature, pH, and DO criteria.
- (e) One of the following conditions is met:
  - (A) The streams or river segments immediately downstream of the water body meet applicable criteria for temperature, pH, and DO.
  - (B) All practicable measures have been taken to maximize downstream water quality potential and fish passage.
  - (C) If the applicable criteria are not met in the stream or river segment immediately upstream of the water body, then no further measurable downstream degradation of water quality has taken place due to stratification of the reservoir or managed lake.

**IDAHO** fragments from the Idaho rule

**IDAPA 58 TITLE 01 CHAPTER 02** 58.01.02 - WATER QUALITY STANDARDS

**100. SURFACE WATER USE DESIGNATIONS Aquatic Life Uses**

**02. Cold Water.** Waters designated for cold water aquatic life are not to vary from the following characteristics due to human activities: (3-15-02)

- a) Dissolved Oxygen Concentrations exceeding six (6) mg/l at all times. In lakes and reservoirs this standard does not apply to:
  - i. The bottom twenty percent (20%) of water depth in natural lakes and reservoirs where depths are thirty-five (35) meters or less.
  - ii. The bottom seven (7) meters of water depth in natural lakes and reservoirs where depths are greater than thirty-five (35) meters.
  - iii. Those waters of the hypolimnion in stratified lakes and reservoirs.

**Aquatic Life Uses 03. Seasonal Cold Water.** Between the summer solstice and autumn equinox, waters designated for seasonal cold water aquatic life are not to vary from the following characteristics due to human activities. For the period from autumn equinox to summer solstice the cold water criteria will apply: (3-15-02)

- a) Dissolved Oxygen Concentrations exceeding six (6) mg/l at all times. In lakes and reservoirs this standard does not apply to: (4-5-00)
  - i. Same three provisions

**04. Warm Water.** Waters designated for warm water aquatic life are not to vary from the following characteristics due to human activities: (3-30-07)

- b) Dissolved Oxygen Concentrations exceeding five (5) mg/l at all times. In lakes and reservoirs this standard does not apply to: (7-1-93)
  - ii. Same three provisions