

Talking points for the public

Water Board Klamath Dams Water Quality Hearings, October 2008

The following are points you can pick and choose from. Remember, it is most useful if you speak from your own personal experience, even if your experience is not scientific or technical. Stories or experiences of how your life has been impacted by toxic algae, lack of fish, and poor water quality are very useful.

1. The Water Board must look at a full range of alternatives including dam removal. The Klamath Hydro Project will never meet water quality standards without dam removal.
2. The Water Board must review impacts of the entire Klamath Hydro Project, including Oregon dams and reservoirs. Changes in operations of Oregon dams could result in impacts to water quality or fisheries in California. Removal of J.C. Boyle should be included in the EIS range of alternatives.
3. The Water Board must consider and adopt all Tribal Clean Water Act standards, including those from the Hoopa Valley, Yurok, and Karuk Tribes.
4. The Water Board's EIR **must** examine the Klamath Hydro Projects' impacts to cultural and recreational uses of the river by people, as well as impacts to public health. These constitute significant **environmental justice issues**, which the FERC EIS did not adequately cover. Examples include but are not limited to:

The Klamath Hydro Project releases dangerous levels of **toxic algae** into the Klamath during late summer and fall, the height of river use for Tribal ceremonial purposes and by recreational businesses.

- *Microcystis aeruginosa* and associated toxin microcystin can have short-term effects including eye and skin irritation, fever, headache, pains in muscles and joints, weakness, visual disturbances, gastroenteritis, nausea, vomiting and muscle weakness. Short-term exposure to high doses causes death from liver hemorrhage or failure. Chronic (long-term) exposure to low-doses may promote the growth of liver, kidney and other tumors.
- Medicine men are forced by their ceremonies to bath in a river that is posted as dangerous due to toxic algae blooms. This constitutes an infringement on the Tribes' freedom to practice their culture and religion.
- Rafting and kayaking businesses use the river when the water is visibly neon green with toxic algae, and when toxic algae warning signs are posted on the river. Toxic algae threatens the health of recreational workers and their customers and could cause loss of revenue if customers begin choosing to recreate on rivers with better water quality.
- Traditional subsistence food sources (mussels) are contaminated by toxic algae. People either cannot eat them, or face potentially serious health effects if they do.
- Studies show the flesh of reservoir game fish (yellow perch) can be contaminated by microcystin at levels unsafe to eat.
- Water skiers, fishermen, and other reservoir recreationalists may contact water with concentrations of microcystin at 4000 times what the World Health Organization considers a moderate risk to human health.
- Children are at greatest risk of toxic algae poisoning due to their small body size and propensity to ingest water while swimming.
- Toxic algae scums may also contaminate basketry materials Native people process using their mouths.

The Klamath Hydro Project has contributed to a 90% reduction in salmon runs on the Klamath by blocking fish from 300 miles of habitat and causing poor water quality below the dams. Impacts include:

- There are no longer enough fish in the Klamath for Tribal subsistence. Tribal fishermen once relied upon an abundant spring Chinook run that is now practically gone.
- This fishery decline also impacts sport-fishing businesses. It is estimated that every sport-hooked Chinook brings \$200 to the local economy.

- Commercial fishermen face season closures when Klamath salmon runs are too low to support ocean harvest. This devastates coastal economies and forces taxpayers to pay for hundreds of millions of dollars in disaster relief.
- Dams also impact migration of trout and lamprey, a subsistence species for Tribal members.

The Klamath Hydro Project causes severe impacts to water quality below Iron Gate dam.

- It is common for kayakers, swimmers, and rafters to get ear infections or other sicknesses after recreational contact with the Klamath downstream of the Klamath Hydro Project. Public health impacts stemming from the Klamath Hydro Project are poorly understood and need to be better quantified and analyzed.
- Poor water quality and altered river morphology have reduced quantities of basketry material available for cultural practices.

5. Poor water quality and altered river morphology produced by the Klamath Hydro project contribute to fish diseases caused by *Ceratomyxa shasta* and *Parvicapsula minibicornis*. Current studies reveal that the “hotspot” of disease activity lies immediately below Iron Gate dam suggesting a connection between the dams and disease. Currently these diseases result in high rates of juvenile salmonid mortality- as high as 80% in some studies.

6. The Water Board should consider the thermal impacts of the dams. These slack-water reservoirs soak up sunlight and stay much warmer than a natural, free-flowing river ever would. Additionally, the reservoirs now absorb, dilute and heat up cold water tributary flows (such as Jenny Creek, which now empties uselessly into Iron Gate Reservoir) that would historically have contributed cold water to a free-flowing river. By increasing water temperatures the dams (1) create ideal conditions for the breeding of toxic algae; (2) Dissolved Oxygen (DO) levels are inversely proportion to water temperature (i.e., when water temperatures go up, DO levels go down); (3) massive algae blooms are encouraged by conditions in the reservoirs, and these algae blooms suck DO out of the water as well as decay into sources of ammonia, which is at unnaturally high levels in the reservoirs generally.

Background on the 401 permit & dam relicensing

In order for PacifiCorp to get a new license to operate the Klamath dams, the corporation must first get a Clean Water Permit from the California Water Quality Control Board.

In other words, PacifiCorp must convince the Water Board that they can operate the dams in a manner that complies with California’s water quality standards. These include limits on water temperature, dissolved oxygen, sediment, nutrients, and algae.

This entire process could take 18-24 months. In the end, the Water Board may approve PacifiCorp’s application but prescribe mitigation measures. This means that instead of removing dams, PacifiCorp could install mechanical devices on the dams to add oxygen to the water, draw cooler deeper water from reservoirs to discharge into the river, use robotic mixing devices to ‘stir’ the reservoirs to impair algae growth, or apply algicides. **Alternatively, the Water Board could decide that in order to meet California’s water quality standards, PacifiCorp must remove its Klamath dams.**

The initial round of meetings happening October 20th-29th are called scoping meetings. It is an opportunity for the public to tell the Board what factors (environmental justice, public health, etc.) should be considered as they process PacifiCorp’s application for a clean water permit. A consideration of the issues we bring to their attention should be reflected in the Board’s draft Environmental Impact Report that will be released next year.

The Water Board is especially interested in hearing about issues that were not covered when the Federal Energy Regulatory Commission did its Environmental Impact Statement on the Klamath Hydro project. The most important of these are issues relating to how public use of the river – by Tribes, recreational businesses, and others – has been negatively impacted by the Klamath Hydro Project.

Note: References for these talking points and more information on Klamath dams and the 401 permitting process may be found at <http://www.klamathriver.org>