

## Improved Water Quality Benefits Local Communities

### Healthy Communities

- People, pets, and wildlife will have access to safer river water
- Tribal Nations will be able to safely resume ceremonies in the Klamath River

### Recreation Economy

- Increased opportunities for river recreation, such as fishing for steelhead

### Bolster Fish Populations

- Reduce fish disease by limiting habitat for fish parasites and reducing temperatures
- Expand habitat, increase likelihood of survival (temperatures, pH, dissolved oxygen improvements)

### Agriculture

- The KRRC project dams stored no water for agricultural irrigation, but improved water quality and more fish can generally benefit agriculture.

### Degrees matter.

#### Why is water temperature critical for fish habitat and health?

Temperature affects the timing of migration and spawning, egg incubation and hatching, feeding and growth rates, responses to predation, and susceptibility to disease.

# Klamath River Renewal Project Anticipated Water Quality Improvements



Algae in J.C. Boyle Reservoir (Photo: AECOM)



### We want to hear from you!

Do you have a question about KRRC's activities or how dam decommissioning and river restoration will impact your community? Would you like to share information with us?

Please email [info@klamathrenewal.org](mailto:info@klamathrenewal.org)

Sign up for our e-newsletter at [www.klamathrenewal.org/contact/](http://www.klamathrenewal.org/contact/)

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## How Does Dam Removal Improve Water Quality?

Extensive studies have concluded that removal of the Klamath River dams will improve dissolved oxygen, pH, temperature, and mitigate toxic algae and fish disease.

### Dam Removal Water Quality Benefits

#### Reduces water temperature

The sun warmed still reservoir waters. Warm water negatively impacted fish health.

**Dam removal eliminates three warm water reservoirs and provides fish with access to cold water habitat in the mainstem and tributaries above the dams.**



Salmon smolts (Photo: Karuk Tribe)

#### Eliminates toxic reservoir algae

Warm reservoir water created ideal growth conditions for blue-green algae (cyanobacteria). The algae blooms produced toxic microcystin in the reservoirs and downstream which was dangerous to humans and pets.

**Dam removal eliminates J.C. Boyle, Copco, and Iron Gate reservoirs which fostered algae growth.**



Algae and water quality sampling (Photo: Karuk Tribe)

#### Reduces alkalinity (pH)

Large algae blooms in the reservoirs increased alkalinity in the river.

**Dam removal helps restore optimal pH levels important to fish health and disease prevention.**



Iron Gate Reservoir (Photo: AECOM)

#### Increases dissolved oxygen

Seasonal warming in the reservoirs reduced the amount of oxygen in water released downstream.

**Dam removal increases dissolved oxygen in the river and creates healthier fish habitat.**



Iron Gate Reservoir (Photo: AECOM)

*Removing four dams from the Klamath River is a crucial piece of improving water quality for people and fish in the Klamath Basin. River communities, recreationalists, farmers and ranchers, commercial fishermen, and fish will directly benefit from the improved water quality conditions.*

*KRRC's work is part of a cooperative effort to re-establish the natural vitality of the Klamath River. On-going work on other water quality projects in the Basin is critical. Dam removal is an important first step to restoring the Klamath River.*



Big Springs Creek (Photo: Daniel Nylan)

Many factors – both natural and human introduced – impact water quality in the Klamath River. The Klamath Basin is an “upside down” river, where water starts out warmer at its headwaters and cools with tributary input as it moves downstream before reaching the Pacific Ocean. Water in an expansive Upper Klamath Lake averages only 8 feet deep, warmed by the hot, dry summers and is nutrient rich due to volcanic soils and farms along its tributaries.

KRRC's project will improve water quality in the Klamath River.