



February 10, 2012

Mr. Ken Salazar, Secretary  
U.S. Department of the Interior  
1849 C Street, NW  
Washington, DC 20240

**Subject:** Position Regarding the Proposed Klamath River Dam Removal

Dear Mr. Salazar

The Oregon Chapter of the American Fisheries Society (ORAFS) represents over 600 professional scientists and managers employed by the private sector, tribes, federal and state agencies, universities, and non-governmental organizations. Our mission is to improve the conservation and sustainability of Oregon fishery resources and their aquatic ecosystems for long-term public benefit. Because of that mission, we are commenting in support of the recent conservation and rehabilitation proposals for the Klamath River Basin.

### **Background**

Water and fisheries issues in the Klamath Basin have been the focus of often intense struggles between interest groups. After decades of conflict, a wide array of stakeholders signed two settlement agreements in 2010 relating to the possible removal of four Klamath River dams owned and operated by PacifiCorp. Under the Klamath Hydroelectric Settlement Agreement (KHSA) the J.C. Boyle, Copco 1, Copco 2, and Iron Gate dams would be removed. Improvements in fish passage at Keno and Link River dams, required independently by the Federal Power Act, would facilitate anadromous fish access to historically occupied habitats in the upper basin. Side-by-side with the KHSA is the Klamath Basin Restoration Agreement (KBRA) that addresses basin-wide environmental and resource management issues. The KBRA is the vehicle through which most of the management, rehabilitation, and enhancement actions not specifically associated with PacifiCorp-owned structures would occur. This includes amongst other items, miles of instream habitat rehabilitation, watershed and land management changes, floodplain reconnection, water releases to aid fish migration, increased reliability of irrigation water supplies for agriculture, and wetland rehabilitation.

### **AFS Parent Society Position on Dam Removal**

The AFS Parent Society's Policy Statement on Dam Removal (Policy #32) recognizes that while dams, and the reservoirs they create, can provide important benefits (economic and social) there may come a time when the cost-benefit of a dam needs to be reevaluated. Dam removal should be considered a viable alternative to mitigate adverse impacts of dams and dam operation. Policy 32 states in part that:

[Our Mission is to improve the conservation and sustainability of Oregon fishery resources and their aquatic ecosystems for long-term public benefit by advancing science, education and public discourse concerning fisheries and aquatic science and by promoting the development of fisheries professionals.](#)

“Decisions about dam removal should rely on the best available scientific information [and] give full, objective consideration to local costs and benefits and broader, regional considerations. AFS supports dam removal when it is determined that both:

- 1) The benefits of dam removal outweigh the costs associated with societal, cultural, environmental, economic, engineering, and technical issues; and
- 2) Dam removal is the best approach to restore fish habitat and the fish populations and fisheries they supported. Removal decisions should be selected with full stakeholder involvement.”

The policy statement goes on to identify eight recommendations that should be implemented when considering dam removal. In relation to the Klamath, most of the applicable recommendations have been implemented to one degree or another.

In the Klamath Basin, the decision that remains is related to the second point above: Is dam removal the best approach to restore fish habitat and populations? There are two alternatives pertinent to this discussion: 1) Relicense the Klamath Hydroelectric project and implement mandatory actions prescribed by the federal agencies under the Federal Power Act (FPA); 2) Implement the KBRA and KHSR.

**Alternative 1:** Prescriptions that would be required under this alternative include upstream and downstream fishways and a seasonal trap and haul at Keno Dam (USFWS and NMFS under Sect. 18 of FPA), and decreased frequency and magnitude of peaking, increased minimum flows, and decreased diversion around bypassed reaches (BLM, under Sect 4e of FPA). These prescriptions have been challenged by PacifiCorp, but held up by the courts and would be considered final. While this alternative would enable fish to pass the dams, it would deliver no rehabilitation actions outside of the Klamath Hydroelectric Project (KHP) (and only minimal actions within the KHP), no reintroduction program for anadromous salmonids, no nutrient reduction measures, no resolution to water management issues, no recovery actions for endangered suckers, no improvement in the thermal regime downstream of the KHP, and Microcystis problems in and below the KHP would persist.

**Alternative 2:** This alternative proposes an extensive, active reintroduction program for Chinook salmon, and an initially passive approach to steelhead reintroduction. Beyond the issue of reintroducing anadromous fish to the Upper Basin, the agreements deliver a variety of ecosystem and socioeconomic benefits that are not available under the other alternative. There is a retirement plan for existing water rights that is intended to return 30,000 acre-feet of water to the streams. In addition to securing adequate stream flows, establishing long-term riparian corridor management agreements is the most important element of the proposed rehabilitation measures. Other important elements include rehabilitating dry-land range to provide some replacement of grazing opportunities forgone in the riparian corridor. Other important actions are planned (e.g., dike removal), but transition to flow and management regimes that will restore and maintain the ecological integrity of the riparian corridors upstream of Upper Klamath Lake is paramount.

## **Possible Outcomes**

The possible outcomes of dam removal on the Klamath River are both short- and long-term. Short-term affects are generated largely by sediment flushing following dam removal. The sediment transport rates are relatively well modeled and the effects to fish are expected to be largely transitory in nature (DOI and CDFG 2011) although populations downstream of the dams may be significantly affected. The long-term affect of implementation of the two settlement agreements on different fish assemblages is varied and difficult to predict with any precision. Following are the general conclusions summarized from the four expert panel reports (Buchanan et al. 2011; Dunne et al. 2011; Goodman et al. 2011; and Close et al. 2011) and the Klamath Dam Removal Overview Report (DOI, NMFS, and USDA 2012).

- Pacific lamprey will have access to historically used habitat, but the rate of recolonization is unpredictable as is the long-term affect on resident lamprey populations
- Lost River sucker and short-nosed sucker will have better chances of avoiding extinction primarily through habitat improvements in Upper Klamath Lake.
- Redband trout will expand populations, especially in mainstem reaches downstream of Keno Dam where a trophy fishery already exists.
- Steelhead will be distributed throughout the basin in suitable habitat; their interactions with redband trout and the resulting implications on either population are unclear.
- Coho salmon will have improved access to tributary spawning habitat downstream of Keno Dam and likely less exposure to disease. A modest or substantial increase in populations upstream of Keno Dam is less certain, but probable.
- Chinook salmon will have improved access to mainstem spawning habitat downstream of Keno Dam and likely less exposure to pathogens causing disease. A modest or substantial increase in populations upstream of Keno Dam is less certain, but probable.

## **Uncertainty**

Uncertainty is an inherent part of natural ecosystems. With a project of this magnitude, predicting specific responses either in numbers of fish, when fish will be available for harvest, or the rate of water quality improvement, is virtually impossible. However, well designed and executed rehabilitation measures that relieve limiting factors are likely to improve fish populations and reduce some of this uncertainty over time (NRC 2004). Assuming the project proceeds and the dams are removed and the KBRA is fully implemented, it could take many years before the overall success of the project can be evaluated. Multiple generations of salmonids may be required to rebuild the upper river stocks. It will be necessary to be extremely patient during this period.

## **Conclusion**

The ORAFS supports the goals and conceptual approach to ecosystem rehabilitation, including dam removal, outlined in the agreements. These goals will only be realized if the conceptual approach is effectively implemented. We believe that the agreements are the best alternative for managing and

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rehabilitating the Klamath River system, but reserve judgment on the adequacy of programs that will be established to meet the fishery and ecosystem goals of the agreements.

Despite the uncertainties surrounding dam removal and overall long-term successes, ORAFS believes that the current situation is highly problematic and undesirable for fishes and fishers, and is likely to eventually lead to extinction of one or more fish populations; therefore, ORAFS strongly supports the proposed actions.

Sincerely yours,



Colleen Fagan, President

Cc:

Dave Ward, President - Western Division American Fisheries Society  
Mike Saiki, President - California Nevada Chapter of the American Fisheries Society  
Doug Bradley, President - AFS Water Quality Section  
Andrew E. Goodwin – AFS Fish Health Section  
Kyle Hartman – AFS Fish Habitat Section  
Palma Ingles – AFS Socioeconomics Section

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