

Fisheries Restoration Planning in the Klamath Basin

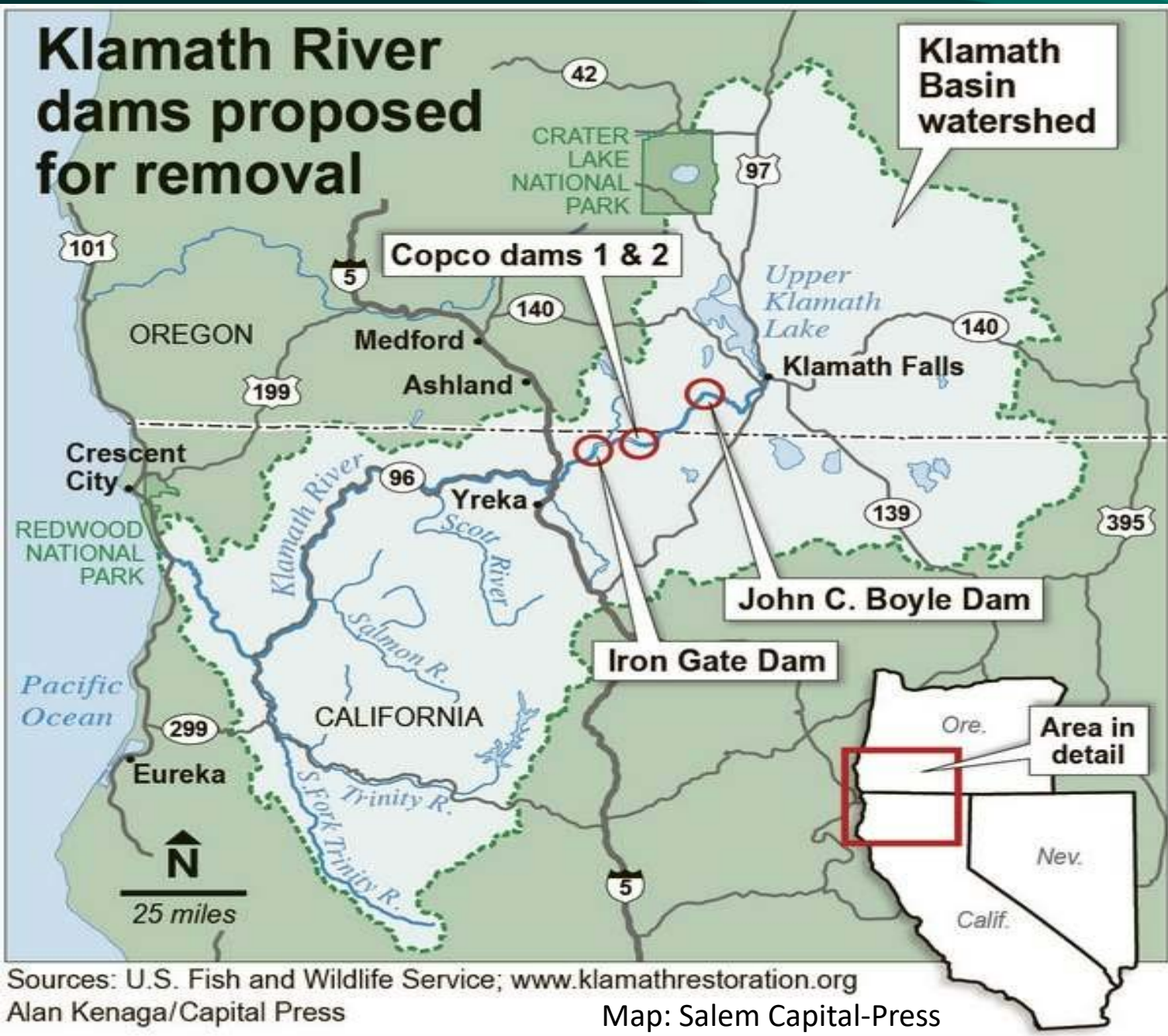
Chris Wheaton

PSMFC Annual Meeting, August 22, 2017





Klamath River dams proposed for removal



Sources: U.S. Fish and Wildlife Service; www.klamathrestoration.org

Alan Kenaga/Capital Press

Map: Salem Capital-Press

Brief and Subjective Klamath Historical Timeline

- **1905** Klamath Project authorized: “reclaim the sunbaked prairies and worthless swamps”
- **1908** Teddy Roosevelt creates nation’s first wildlife refuge for waterfowl – now called Lower Klamath National Wildlife Refuge
- **1918** The first dam in the Klamath Hydroelectric Project, Copco 1, becomes operational, ending salmon runs in the Upper Klamath Basin
- **1921** Link River Dam
- **1925** Copco 2 Dam
- **1928** Dwinell Dam constructed on the Shasta River, cutting off most spawning habitat to the largest Klamath Basin salmon run
- **1958** J.C. Boyle Dam completed
- **1962** Iron Gate Dam completed
- **1963** Lewiston Dam on the Trinity River completed
- **1965** Keno Dam constructed
- **1990-1992** Severe decline in Klamath River salmon runs nearly closes commercial ocean salmon fishery
- **1997** SONC Coho listed
- **2001** Irrigation cut off and headgate locks broken
- **2002** Large salmon die off in lower river
- **2016** KBRA/KHSA agreements expire pre-implementation



FIGURE 11. Fishing for salmon with drift gill nets at the mouth of the Klamath River. *Photograph by Hazeltine, 1913.*

The Klamath is often referenced as having been “The third most productive salmon system on the west coast” Photo courtesy CDFW Fish Bulletin #96

The Klamath River flows more than 250 miles from Upper Klamath Lake in Oregon to the Pacific Ocean near Klamath, California. The river drains an area of about 13,000 square miles.

Annual in-basin salmon catches in the early 20th century were 120,000 - 250,000 fish.

Chinook salmon and steelhead were historically present above Klamath Lake but have been unable to access this habitat since 1918. Chinook runs in the Klamath have been reduced by over 90 percent since the early twentieth century. Coho salmon are listed under ESA (Hamilton, et al 2016).

The basin is also home to other listed and/or culturally important species such as suckers, bull trout, lamprey, and sturgeon.

In 2000, the FERC relicensing process was initiated for PacifiCorp's 4-dam Klamath River project, whose FERC licenses were expiring in 2006. The Federal Power Act requires hydropower project owners to obtain a license from the FERC. That act authorizes NOAA to issue mandatory improvements for fish passage.

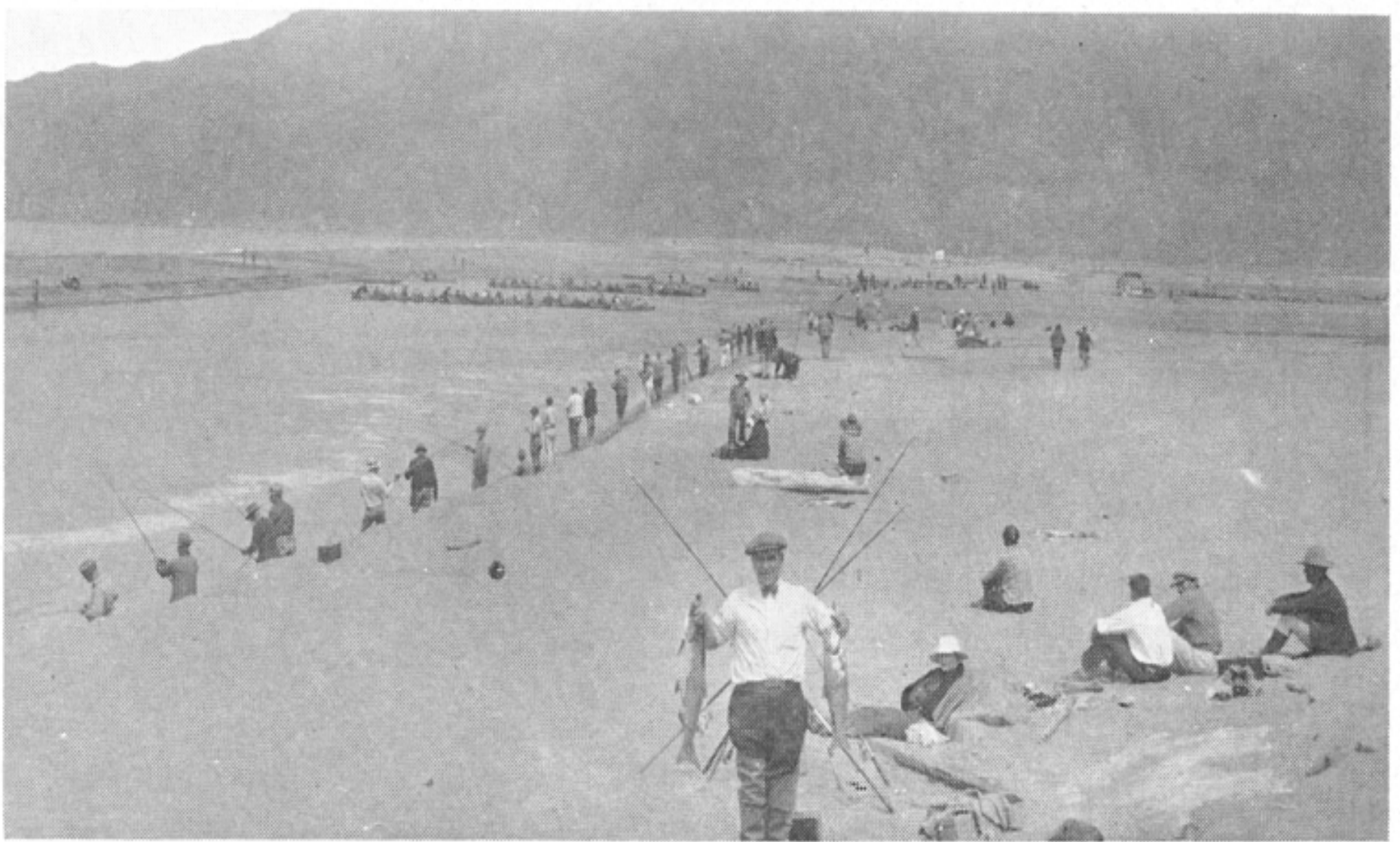


FIGURE 17. Sport casting for salmon and steelhead from shore and from skiffs at the mouth of the Klamath River. *Photograph by Martin of Eureka, August 31, 1932.*

Salmon populations may have been as high 1.1 million adult fish



The high costs of Klamath Hydroelectric Project relicensing are largely related to Federal Power Act (FPA) regulations, which are expected to require construction and operation of fish passage facilities at the dams and Clean Water Act (CWA) 401 Water Quality Certification to improve degraded water quality created by the reservoirs.

Several significant settlement agreements to address water, dam removal, and fish passage restoration have come close to enactment in the Klamath in recent years. The latest, the Klamath Hydroelectric Settlement Agreement (KHSA) met significant opposition in the House and failed to pass through the committee process.

The KHSA was amended in 2016 to provide for the transfer and decommissioning of 4 Klamath dams (Iron Gate, Copco No. 1, Copco No. 2, and J.C. Boyle) through the FERC process.

The FERC process has been held up by a lack of a quorum. Two new FERC Commissioners were just approved by Senate action August 3rd.



U.S. Army Corps of Engineers

The transfer of ownership of the four dams is proposed to go to the newly created private nonprofit Klamath River Renewal Corporation (KRRC), which was formed by the signatories of the dam removal agreement. At the same time, the Klamath River Renewal Corporation submitted an application to decommission the four dams by 2020.

PacifiCorp still owns and operates the dams. After FERC approves the license transfer from PacifiCorp to the KRRC, the KRRC will enter into an agreement with PacifiCorp to continue operating and maintaining the dams until they are decommissioned. PacifiCorp will pay all costs associated with the operations and assume all liabilities associated with those operations.

The project will cost about \$450 million to complete. PacifiCorp ratepayers in California and Oregon will contribute \$200 million and California will contribute the other \$250 million through the water bond passed by voters in 2014. The corporation must prove its legal, technical and financial capability to carry out the dam removal, including all permitting, including water quality permits from both Oregon and California.



A Yurok Tribe member searches for tagged hatchery fish in 2002, when water was diverted to farmers during a drought year. An estimated 30,000+ fish died, mostly chinook salmon. Bruce Ely/The Oregonian/2002



The Bureau of Reclamation's Link River Dam is located upstream of PacifiCorp's projects and controls storage and releases from Upper Klamath Lake, the largest freshwater lake in Oregon. Water releases fulfill the primary objectives of benefits to fish and wildlife, irrigation, and flood control.

The Keno Facility would be transferred from PacifiCorp, and Reclamation would operate the facility to maintain water levels upstream of Keno Dam to provide for agricultural diversion, canal maintenance and flood control

No impact to Dwinell Dam on the Shasta River, which cuts off most spawning habitat to what was probably the largest Klamath Basin salmon run.

Lewiston Dam on the Trinity River also not impacted by this process.



<https://watershed.ucdavis.edu>

The key negotiated outcomes of the KBRA included agreements that the Klamath, Karuk, and Yurok Indian tribes would not exercise water right claims that would conflict with water deliveries to Reclamation's Klamath Project water users, and for agricultural water users to not challenge reduced water deliveries. With the expiration of the KBRA, these agreements are no longer necessarily valid.

In 2013 Oregon approved most of the Klamath Tribes' claimed instream flow rights. The state generally upheld the instream flow values claimed by the Tribe. Hundreds of private ranches above Upper Klamath Lake source their irrigation and cattle water from the streams and rivers which flow into Upper Klamath Lake. Downstream, the Bureau of Reclamation diverts water from the Lake and the Klamath River to provide irrigation to the 210,000 acre federal Klamath Project. Reclamation diversions also are critical to maintaining water levels at several wildlife refuges straddling the California-Oregon border.

In 2014, the Upper Klamath Basin Comprehensive Agreement (UKBCA) was signed. This agreement is between the Klamath tribes, irrigators, Oregon, and federal agencies. The agreement increases water flow into Upper Klamath lake, adds riparian protections, and provides surety to irrigated agriculture. Long term funding for the program is dependent on Congress, and it could be terminated by the current administration.

Courtesy of the Bureau of Reclamation





Bottom Line;

There is not a political consensus for dam removal in Congress

The new Administration is just becoming engaged in this process

Dam removal is a regulatory option that FERC can use - the current owner of the 4 dams plans to transfer them to a public corporation that intends to remove them

Water issues (both quantity and quality) will continue to have a huge impact on restoration, with increased recognition of tribal water rights and fisheries needs causing pressure on the “status quo”

For planning purposes, we are presuming that fish passage, in some form, will be provided to the Upper Basin



Karuk fisheries workers haul a net full of king salmon out of the Klamath River. The Karuk Tribe stepped in to monitor the Ich outbreak (2002) as salmon migrated upriver off the Yurok Reservation. High Country News Terray Sylvester



"We can't restore our fishery without working with our neighbors in agriculture and they can't secure water for their farms without working with us."

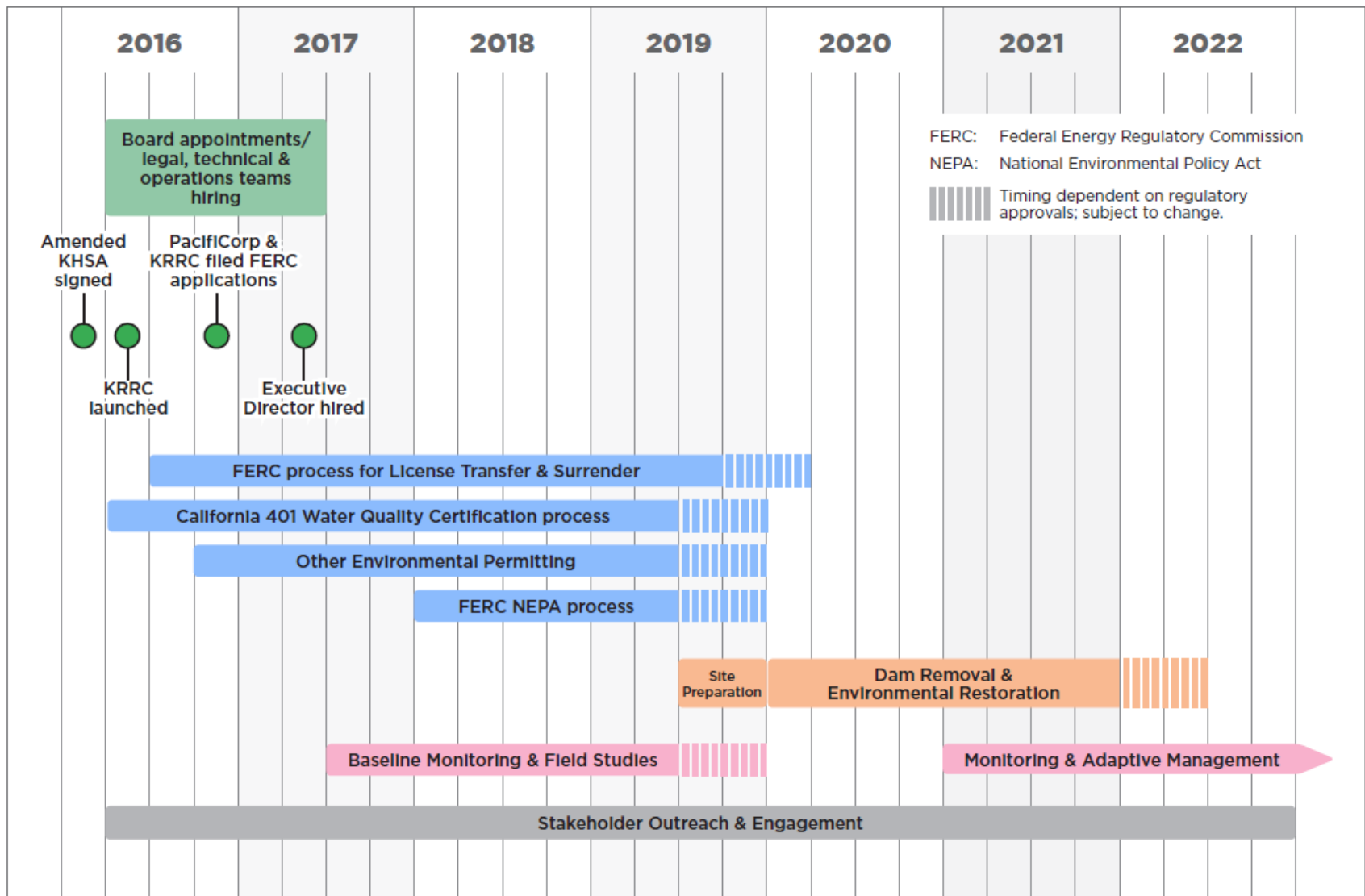
Karuk Chairman Russell "Buster" Attebery

"We'll just have to keep talking, that's all we're doing right now. This will be a challenging issue."

U.S. Bureau of Reclamation Acting Commissioner Alan Mikkelsen

"There is only one path forward, That's that everybody's got to get back together and try to see this thing through."

Scott Seus, third-generation farmer, Tulelake





After the Klamath Basin Restoration Agreement (KBRA) Expired;

- KBRA Fisheries Program included concepts for fisheries restoration and monitoring plans
- FWS/NMFS and others still needed a science plan to guide fisheries restoration and monitoring actions
- USFWS contracted with the PSMFC to oversee the development of the Plan. Working independent of dam removal process, but plan assumes that passage into upper basin is provided



Courtesy of the Bureau of Reclamation



Why an Integrated Fisheries Restoration and Monitoring Plan?

2008 National Research Council report:

- “Science...being done by bits and pieces.”
- “No overall independent coordination of science...”
- “Need for a ‘big picture’ perspective encompassing the entire basin and its many components.”
- A formal science plan...should support policy and decision making”
- “Agencies, researchers, decision makers, and stakeholders together [should] define basin-wide science needs and priorities.”





Iron Gate Dam. (Molly Peterson/KQED)

Integrated Fisheries Restoration & Monitoring Plan (IFRMP): **Four Phases**



Synthesis Report

Completed 8/15/17

<http://kbifrm.psmfc.org/>

Formal Goals & Objectives

(Task 1.2)

Target 9/30/2018

Framework for Implementing Plan

(Task 1.3)

Target 9/30/2019

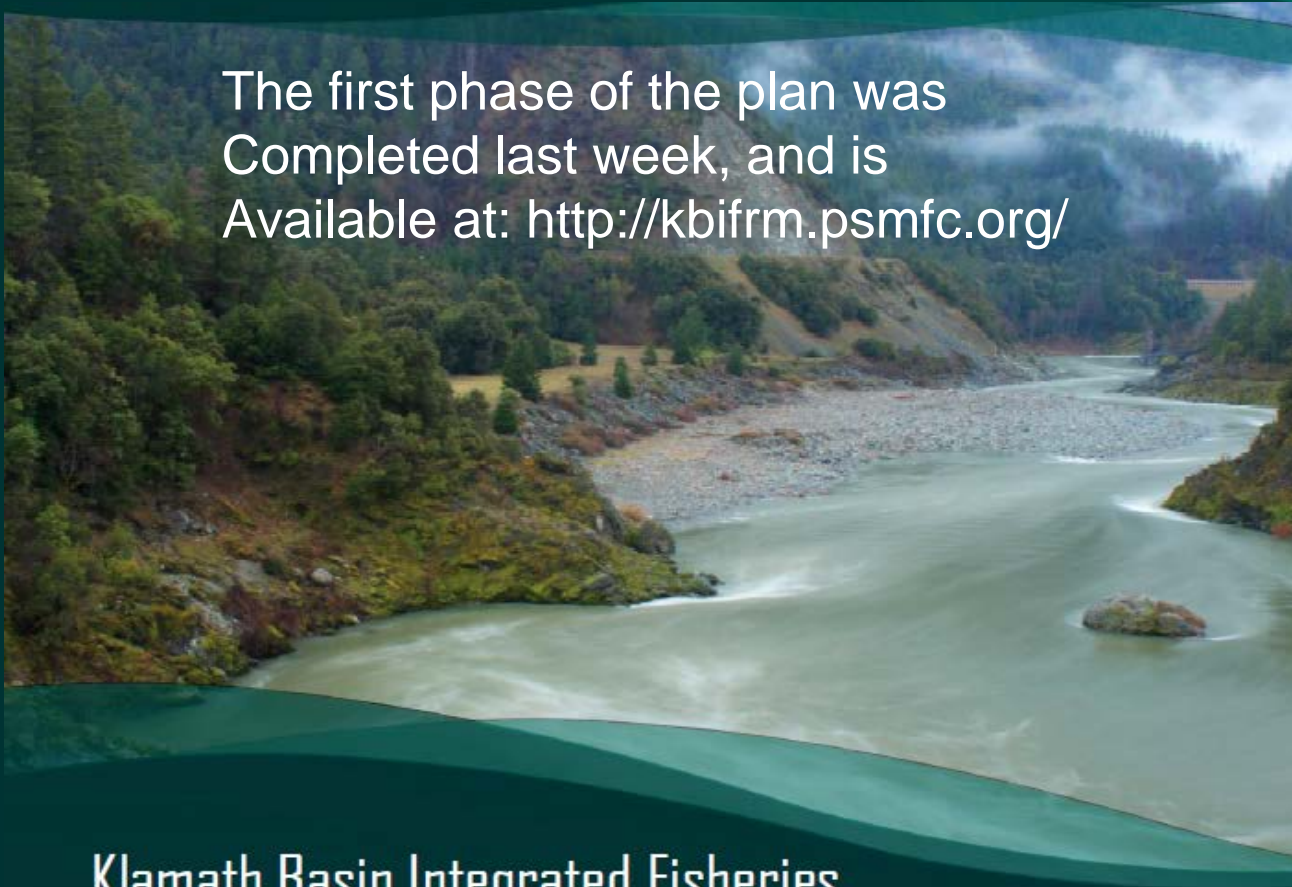
Peer & Public Reviews, Plan Finalization

(Task 2)

Target 9/30/2019



The first phase of the plan was
Completed last week, and is
Available at: <http://kbifrm.psmfc.org/>



Klamath Basin Integrated Fisheries Restoration and Monitoring Plan (IFRMP) Synthesis Report

FINAL REPORT

August 14 2017



PSMFC assisted USFWS and organized a trip to the Elwha River for Klamath fisheries biologists to discuss “lessons learned” from Elwha practitioners

Goals of Overall Monitoring & Restoration Plan



Collaboratively produce a science plan that will:

1. Identify what is needed to restore Klamath Basin fisheries;
2. Prioritize meaningful restoration actions & monitoring to help ensure these actions are meaningful;
3. Recommend how R&M activities will be prioritized so agencies & partners will know how best to direct funding to yield most effective results



Former Glines Canyon damsite; Elwha River, 2017



What the Plan **Isn't** ...

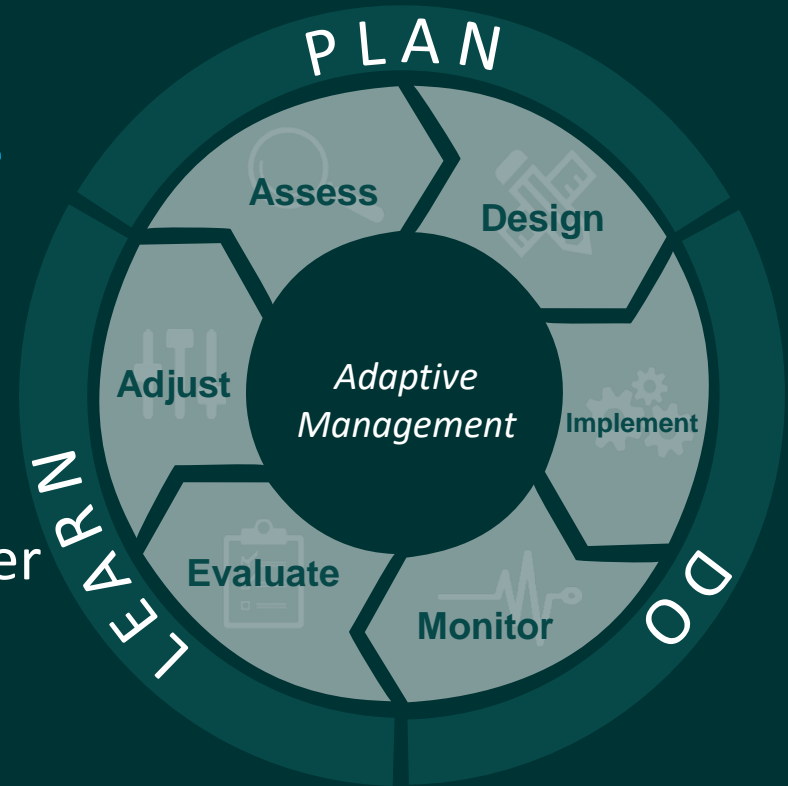
- A regulatory tool
- Part of a negotiated settlement process, i.e., it is not the KBRA, KHSA, UKBCA or the KPFA
- Replacing existing partnerships and/or activities already underway in the Basin
- A synthesis of diverse perspectives on values or policy positions
- A dam removal decision process





Primary Subcontractor: ESSA

- PSMFC contracted with ESSA for the first plan tasks
- ESSA founded 1979, roots in **Adaptive Management**. Blend **science**, **systems thinking** & **facilitation**
- ESSA & partners have advanced application of **Adaptive Management concepts** through 2300 projects in over 40 countries
 - E.g., Facilitated development of Trinity River Restoration Program's Integrated Assessment Plan (IAP), 2006-2009





The headwaters of Upper Klamath Lake,. (*Chrysten Lambert/Trout Unlimited*)



Thank You!

Contacts

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Further Information

Website