



**United States House of Representatives,
Natural Resource Committee, Subcommittee on Water, Fisheries, and
Wildlife
Hearing Regarding Benefits and Access: The Necessity for Multiple Use
of Water Resources**

Written Testimony of Amy Cordalis

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Subcommittee Chairman Cliff Bentz, Ranking Member Huffman, and members of the Subcommittee, thank you for the opportunity to testify today at the hearing on Benefits and Access: the Necessity for Multiple Use of Water Resources. My name is Amy Cordalis, and I am a Yurok Tribal member, legal counsel for the Yurok Tribe, and co-founder of the Ridges to Riffles Indigenous Conservation Group, a non-profit dedicated to the protection of tribal cultural natural resources. I submit this testimony on behalf of the Yurok Tribe and Ridges to Riffles Indigenous Conservation Group.

**I. USE AND ACCESS TO WATER SHOULD REFLECT THE RICH
DIVERSITY OF THIS COUNTRY BY ENSURING THAT EVERY
AMERICAN HAS EQUITABLE ACCESS TO WATER RESOURCES**

Across the Nation, there are powerful watersheds that support life on this planet. Iconic watersheds—like the Mississippi, Colorado, Columbia, and the Klamath—carry water and resources from mountain headwaters through forests, plains, deserts, and valleys to the Ocean as a part of this planet’s hydrologic cycle.

All life requires water. Accordingly, the United States has developed watersheds to maximize their benefit to the nation. Watersheds support multiple uses, such as providing water for domestic, industrial, commercial, municipal, tribal, fisheries and wildlife, agriculture, hydropower, and recreation. Over the last one hundred years, watersheds were vastly altered

through massive federal reclamation and hydropower projects. The buildup of western dams and irrigation projects changed the western landscape and allocated water to consumptive uses for large agricultural, industrial, and municipal needs. The legacy of that development has been the impairment of tribal rights, fisheries, and ecosystem health – but it does not have to be this way.

Multiple federal agencies – subject to complex, often conflicting statutory and regulatory directives – are responsible for managing these diverse watersheds. Climate change and drought further complicate matters by reducing the amount of water available and drastically changing hydrological patterns. Now, many major watersheds in the United States are sick and weak. Overworked and compromised by decades of habitat destruction, too-high water diversions, and pollution. Several west coast fisheries, including the Klamath River, have collapsed and many species are on the verge of extinction. Incredibly, every major river on the west coast has been in prolonged litigation for decades over collapsing fisheries impaired by historic development.

Our current western water conflicts, which are many, arise not from a lack of ingenuity or a failure of its water users to engage in solutions; rather, the conflicts are created by ecosystem collapse caused by inadequate instream flows, polluted water, degraded habitat, over allocation of water, aging infrastructure for reclamation and hydroelectric projects, and conflicting regulatory directives. Congress and federal agencies should support equitable access to water, incentivize ecosystem restoration, and champion regulatory and physical infrastructure modernization to be sure that the multiple beneficial uses of our water resources meet the needs of the public in the 21st century.

Further, use and access to water should reflect the rich diversity of the country by ensuring that every American has equitable access to water resources. This can be achieved by supporting laws and policies that equally value human interests (including Indigenous), business interests, and ecological interests in multiple-use waters. This can be accomplished by:

- 1) restoring ecological health of major watersheds;
- 2) empowering stakeholders – tribes, states, businesses, and NGOs – to co-manage water resources;
- 3) updating or removing aged and inefficient infrastructure;
- 4) engaging in better water use planning based on the best available science and law, for drought, tribal rights, and agriculture deliveries;
- 5) upholding the Nation’s duties to Indigenous peoples.

II. WATER USE AND INFRASTRUCTURE BASED ON 20TH-CENTURY ETHOS AND TECHNOLOGY

Much of the Country’s water resources were developed in the early 1900s. The development was based on laws, policies, and technologies of the era when little was known about ecosystem function or health. At that time, the nation was ending a war with Indigenous nations and the country was moving westward, developing an agrarian and extractive economy that incentivized inefficient water usage of few over wise use for many.

The nation prioritized the development of water resources to support energy and food production at any cost. Rivers were dammed without fish passage. Ecosystems were altered by wetland draining, flooding of other lands, and rerouting of waterways to construct federal reclamation projects. In most cases, water resources were developed without regard for ecological implications. Tribal treaty rights to water, fish, hunt, and gather were either terminated, removed, or flat-out ignored.

Today, we witness the implications of past water resource development. Many water-based ecosystems across the country are sick – polluted and weak. Some species, including salmon, are close to extinction and we have lost many species already. Tribal water rights remain unrecognized. Of the over 574 federally recognized Tribes, less than 45 have had their water rights quantified.¹ Moreover, these unquantified, and usually senior, tribal water rights remain ignored or contested, like the Yurok Tribe’s water rights on the Klamath and many tribes in the Colorado River Basin. Further, much of the hydropower and reclamation project infrastructure built in the 1900s has aged and is in poor condition and in need of significant investment to become efficient and consistent 21st-century technology. Power companies often refer to these projects as “legacy assets” that no longer bring value to the company and are burdens on company portfolios.

Making matters worse, the federal agencies involved in managing multiple-use waterways responsible for protecting farmers, tribes, and species seem to work at cross purposes failing to implement multiple statutory requirements. This results in poor natural resource management that further plunges water ecosystems and communities relying on water diversions into crisis.

Climate change and drought make water resources management even more difficult by reducing the reliability of modeling necessary to support water and species management. Climate change is also causing changes to hydrology patterns in ways that we cannot predict, making management of federal reclamation projects even more unreliable and risky.

III. ECOLOGICAL, ECONOMIC, AND CULTURAL CRISIS IN MANY WATERSHEDS – CLIMATE CHANGE EXACERBATES CRISIS: THE KLAMATH BASIN EXAMPLE

Unfortunately, there are few better examples in the Country of the challenges associated with multi-use water resources than my home waters, the Klamath River Basin in Southern Oregon and Northern California.

The Klamath River Basin is a mighty basin. Its headwaters are in southern Oregon which flow into Upper Klamath Lake, home to the Klamath Tribes, the Klamath Reclamation Project, and the Klamath National Bird and Wildlife Refuge. The waters then flow into the Klamath River and downstream through the Klamath Hydroelectric project, into California and through Karuk Tribe Country, the Yurok Reservation, and finally into the Pacific Ocean. The Klamath

¹ <https://crsreports.congress.gov/product/pdf/R/R44148>.

supports tribal nations, a federal irrigation project, wildlife refuges, a hydroelectric project, recreation, and commercial and offshore fisheries.

a. Klamath Basin Development

For millennia the Indigenous peoples of the Klamath Basin managed the natural resources of the Klamath Basin. The pillar of their management was balance: never take more than what was needed to support family and tribe, reflecting respect and honor for the ecosystem that provided life. Indeed, the people and the species of the Klamath Basin – including the now notorious endangered coho salmon and suckers – evolved and co-existed in the Basin together. The success of this approach is proved by the fact that the historical Klamath salmon runs were the 3rd largest in the continental United States.

This was disrupted by colonization in the mid 1800s and early 1900s. In 1855, the Yurok Reservation was created through Executive Order on the lower 45 miles, one mile on either side of the Klamath River, reserving for the Yurok people its inherent sovereignty, and aboriginal water, fishing, hunting, and gathering rights.² The Klamath Reclamation Project was authorized in 1905, setting in motion the draining of the Upper Klamath Basin wetlands and lower Klamath Lake to make over 200,000 acres available for agriculture, the removal of the river channel from the Upper Klamath Lake to the Klamath mainstem, and the construction of over a hundred miles of canals to carry Klamath water to agricultural fields.³ This work forever changed the ecosystem of upper Klamath lake by dramatically altering its natural state and disrupting critical ecological functions necessary to keep the ecosystem healthy.

While construction on the Klamath Reclamation project was still happening in the Upper Klamath Basin, construction on the Klamath Hydroelectric project began in 1912 and continued with the development of four dams by 1962. Built without salmon ladders, these dams block salmon from accessing over 400 miles of spawning habitat which has nearly annihilated the wild salmon stocks in the Klamath River. Making matters worse in 1955, Congress authorized the development of the Trinity River Diversion (“TRD”) to divert water from the Trinity River, one of the largest tributaries to the Klamath and one of the most important for salmon, into the Central Valley Project. In 1980, an Environmental Impact statement reported an 80% decline in chinook salmon and a 60% decline in steelhead populations since the construction of the TRD and reported that lack of instream flows as the primary cause.⁴

Through this, the federal government’s trust responsibility to the Indigenous peoples of the Klamath Basin, including the Yurok Tribe, remained to protect tribal homelands, fishing, and water rights. Yet, as for Yurok, the Tribe’s hard-fought-for federally reserved fishing and water rights have been ignored. The Tribal commercial fishery has been closed for almost 10 years and

² www.yuroktribe.org.

³ <https://www.usbr.gov/mp/kbao/aboutus/index.html>.

⁴Biological Opinion for the Trinity River Mainstem Fishery Restoration EIS and Its Effects on Southern Oregon/Northern California Coast Coho Salmon, Sacramento River Winter-run Chinook Salmon, Central Valley Spring-run Chinook Salmon, and Central Valley Steelhead, at 2. See, https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/exhibits/docs/PC_FFA&IGFR/part2/pcffa_109.pdf.

the subsistence fishery has been dismal due to nearly collapsed Klamath salmon stocks. The Tribe's water supply is not sufficient to support economic development, housing, or government services on the Reservation.

Today, the federal government working through the Department of Interior – the Bureau of Indian Affairs, the United States Fish and Wildlife Service, the Bureau of Reclamation – and the Department of Commerce – through NOAA fisheries – often works at cross purposes trying to appease the interests of these diverse groups rather than serving the public interest through policies that support ecosystem resiliency and equitable access and use of waters. There are dismal runs of fish and an insufficient water supply on the Yurok Reservation because the federal government manages the Basin to appease competing needs rather than following congressional direction established in the law of the Klamath River through Tribal treaties, the Endangered Species Act, the Reclamation Act and other sources. These important laws establish a priority in the Klamath Basin to satisfy tribal treaty rights and Endangered Species Act needs prior to other interests in the Basin. Yet, the Bureau of Reclamation (Bureau or Reclamation) continues to ignore the Yurok Tribe's water rights and fails to manage the Klamath project to ensure sufficient water for Endangered Species Act listed species.

b. 2002 Fish Kill and 2023 Temporary Operations Plan; the Federal Government at Cross Purposes

There is no harsher example of the risk created by federal agencies working at cross purposes than the 2002 Klamath River fish kill. In 2002, over 78,000 adult chinook salmon died on the Klamath River within the boundaries of the Yurok Reservation. This was the largest fish kill in American history. The fish kill was caused by the Bureau of Reclamation allocating water for agricultural deliveries that dropped river flows below 800 cubic acre feet per second at Iron Gate Dam. The result was some of the lowest flows the Klamath River has ever experienced at the same time a healthy run of adult chinook salmon returned to the river. The low flows reduced the habitat available for salmon causing overcrowding, increased water temperatures to almost lethal warm temperatures, and polluted water quality. This created river conditions that spread a fish disease called Ich, a fatal and extremely contagious fish disease that spread through the entire salmon run that year.

The fish kill was man-made; the Bureau of Reclamation diverted water to support agriculture, cut river flows, and the fish died as a direct result. It impacted tribal fisheries, ocean fisheries, and ocean species dependent on salmon. In 2004 west coast salmon fisheries were closed down due to the low levels of Klamath River stock which was the same class of fish killed in the 2002 fish kill. Further, southern Oregon orca whales are now listed on the Endangered Species Act due to population loss caused by insufficient food supplies, mostly salmon from the Klamath River. The Yurok Tribe hopes the salmon did not die in vain. Instead, may their deaths teach us that we must equally value the rights and needs of ecosystems with those of people and businesses on multipurpose waters.

This year, 2023, poses yet again a difficult water year in which there won't be enough water to meet conflicting needs of Endangered Species Listed species of coho salmon and sucker fish, and agricultural needs. The Bureau of Reclamation's mismanagement of the Klamath

Reclamation Project is exacerbating these problems. In 2022, Reclamation provided a second agricultural allocation and allowed illegal water diversions for agriculture through late summer, fall, and winter which drained the Upper Klamath Lake to low levels. In January the Bureau adopted a 2023 Temporary Operations Plans (TOP) which adopted a system wide priority of making an Upper Klamath Lake level of 4142.4 to improve sucker spawning habitat in the lake and the USFWS issued a new Sucker Biological Opinion that reinforced the lake level as a system priority.⁵ Because of the extra agricultural deliveries, there is not enough water in the lake now to meet 4142.4 while also allowing releases of water to the river to meet the minimum flows required by the NMFS Coho Biological Opinion (Coho BiOp).⁶ As a result, for the first time since 2005 when the 9th circuit in *Pacific Coast Federation of Fishermen's Associations v. U.S. Bureau of Reclamation*, 426 F.3d 1082 (9th Cir. 2005), declared Coho BiOp minimum flows in the Klamath essential to salmon survival, the Bureau cut river flows to 800-834 cfs, 16% below those required by the NMFS Coho BiOp.⁷ The Bureau is now in violation of the Coho BiOp because it is not maintaining minimum flows required by the BiOp, it has not consulted with NMFS on the impacts of dropping flows, and it will cause take of coho which is a violation of the Endangered Species Act. The results have been disastrous. Salmon redds have been stranded. As we move into March, both coho and chinook salmon fry will migrate downriver and there will be insufficient habitat which will cause high mortality.

The loss of this class of salmon impacts the overall health of the Klamath salmon stocks by reducing stock population and genetic diversity. Only 1-5% of the Klamath salmon stocks remain. Only once in the last eight years have the Klamath chinook salmon made the escapement goal and only 20 times out of the last 44 years.⁸ Taken together the future is grim for Klamath

⁵ <https://www.usbr.gov/mp/kbao/docs/klamath-project-january2023top01262023.pdf>;

<https://www.usbr.gov/mp/kbao/docs/20230113final-2023-klamathproject-biological-opinion-fws-wcover-signed.pdf>

⁶ <https://www.fisheries.noaa.gov/resource/document/biological-opinion-effects-proposed-klamath-project-operations-may-31-2013>

⁷ In more detail, going below the minimum flows violates the ESA in three ways. First, Reclamation has not completed consultation with the National Marine Fisheries Service ("NMFS") on going below the minimums, which have been treated by Reclamation and NMFS as inviolate ever since the Ninth Circuit held in 2005 that the minimum flows had to be met throughout the life of Klamath Project operations plans. Reclamation is, therefore, in violation of its duty to consult with NMFS before it takes actions that are likely to adversely affect SONCC Coho Salmon and Southern Resident Killer Whales by depleting their Chinook Salmon prey base. Second and related, Reclamation set into motion the conditions it now asserts necessitating going below the minimums when it increased agricultural water deliveries in the summer of 2022. Reclamation established the water allocation in the spring in keeping with the 2019 Biological Opinion and Interim Operations Plan, but then allocated an additional 57,000 AF to agriculture when water availability exceeded the spring forecasts. Just as the 2019 Biological Opinion never analyzed the effects of going below the minimums, so too it did not assess the effects of providing more water to agriculture than allocating in keeping with the parameters set out in the operations plan. The past two years have underscored how important it is to ensure adequate water is in Upper Klamath Lake at the end of the water year to ensure water availability to meet the needs of the endangered fish in both the lake and the river. Third, going below the minimums will cause the take of SONCC Coho Salmon in violation of ESA Section 9 by dewatering salmon redds, reducing spawning habitat availability, and reducing juvenile salmon habitat availability. If the flows continue to be below minimums into the spring, salmon fry and juveniles will experience reduced rearing habitat and the impacts of *C. shasta* infections to young salmon will be exacerbated. In order to avoid such take, Reclamation must not allocate more water to Ag after the water allocations are set in the spring and must not go below the minimum instream flows required to protect ESA-listed species.

⁸ <https://nrm.dfg.ca.gov/documents/ContextDocs.aspx?cat=KlamathTrinity>.

salmon stocks and the people, like the Yurok Tribe and the Commercial fishermen who depend on them.

Importantly, Yurok's senior water rights remain unrecognized, and no water is provided to protect Yurok's tribal trust resources. A grave miscarriage of justice provided that Yurok's water rights are some of the most senior in the Basin and include flows for fisheries purposes that would provide water to help restore Klamath salmon stocks and ecosystem resiliency.

2002 and 2023 illustrate the challenges of managing multi-purpose watersheds: ecological collapse, harm and failure to recognize tribal rights, conflicting species needs, over allocation of water resources, lack of water to support agriculture and wildlife refuges, and aging inefficient infrastructure. There are too many conflicting demands on too little water in the Klamath Basin. There will be no fish, birds, farmers, or Indians in the Basin if the status quo continues. The Klamath ecosystem will simply collapse.

c. The Future of the Klamath Basin

The future of the Klamath is investing in habitat restoration to make the ecosystem more resilient. Species will recover not by providing minimum lake levels or river flows as required by the Endangered Species Act but by improving water quality, restoring habitat, and attempting to restore the Basin closer to its original condition to enable natural ecosystem functions. Agriculture should be made sustainable. Power companies should be allowed to terminate legacy dams and assets. The recent investments in the Klamath Basin through President Biden's Bipartisan Infrastructure Law and Inflation Reduction Act funding will support critical restoration projects that will begin the process of healing the Klamath ecosystem.

As for the role of the federal government, the Klamath Basin would be better served by a recognition that water management is a bipartisan issue because every American, including those in the Klamath Basin, deserves equitable use of and access to water. The best approach is one that empowers local Indigenous people, farmers, power companies, recreation industries, and fishermen to co-manage the resources that impact their livelihood. Drought can be managed through planning. Tribal rights can be acknowledged through planning. Agriculture can be managed through planning. The federal government, including Congress and the Administration, should empower this process by investing and supporting locally driven solutions such as a management council that would allow tribes, farmers, NGOs, and the federal government to determine annual water allocations and regulatory compliance.

IV. RESTORE ECOLOGICAL RESILIENCE BY INVESTING IN WATERSHED RESTORATION AND LOCAL CO-MANAGEMENT AND SOLUTIONS

To maximize the public value by supporting multiple uses of water resources, the nation should support ecological resilience by investing in our waters with the goal of ensuring that every American has equitable access to water resources. This can be achieved by supporting laws and policies that equally value human (including Indigenous), business, and ecological interests on multiple use waters, empowering local stakeholders to co-manage water and investing in ecosystem restoration to build watershed resiliency.

Any recent success on the Klamath has come through this fundamental approach of equality in access and use of federal waters. Klamath dam removal represents a model for updating water resource infrastructure to restore ecosystems, improve equitable water use and access while advancing business interests.⁹ Klamath Dam removal is contemplated according to the terms of the Klamath Hydroelectric Settlement Agreement (KHSA). The KHSA is signed by California, Oregon, Karuk Tribe, Yurok Tribe, PacifiCorp, and several NGOs. Klamath dam removal is scheduled to be completed by December 2024. Four dams will be removed to restore volitional fish passage and allow salmon to return to over 400 miles of spawning habitat. Dam removal will provide several benefits to the entire ecosystem by improving the overall ecosystem's health and resiliency, allowing the river to heal and flow naturally. This will improve water quality, lower water temperatures, and reduce fish disease. This will improve conditions for all species on the river, not just salmon, and will restore important tribal trust resources.

Dam removal does not reduce or impact the amount of water available in the system for sucker fish, coho salmon, or agricultural needs. Importantly, PacifiCorp, owner of the Klamath hydroelectric project, chose to support dam removal based on the best interests of the corporation and their ratepayers because it was more affordable to remove dams than it was to install fish ladders as would have been required by the Federal Power Act. Finally, the Klamath dams generated a very small amount of energy. On the Klamath, dam removal worked because it equally served tribal, ecosystem, and business interests.

Some question removing dams while the country is moving toward renewable energy, arguing hydropower is a clean green energy source. However, no energy source is “clean or green” if it ignores tribal treaty rights, leads species to extinction and causes ecological collapse, which is sadly the case for many hydroelectric projects in the Country. Further, in many cases, a decision on whether to remove aging infrastructure or a legacy asset that no longer serves ratepayers and the public should be left to the power companies and local stakeholders. It should not be influenced by political party positions.

V. CONCLUSION

“Conservation means development as much as it means protection. I recognize the right and duty of this generation to develop and use the natural resources of our land; but I do not recognize the right to waste them, or to rob, by wasteful use, the generations that come after us”

Theodore Roosevelt, Osawatomie, Kansas, 1910

Our Nation developed some of the world’s most powerful multiple purpose water resources in the 20th century. Much of this development was supported by President Roosevelt, who believed equally in the development and protection of natural resources. As we enter the 21st century, the Nation should once again follow the leadership of President Roosevelt by

⁹ <https://klamathrenewal.org/>

encouraging protection, rather than unencumbered development, as the guiding principle of multiple uses of water resources management.