

George Bradshaw
President
Larry Collins
Vice-President
Stephanie Muntz
Secretary
Chuck Cappotto
Treasurer

**PACIFIC COAST FEDERATION
of FISHERMEN'S ASSOCIATIONS**



Mike Conroy
Executive Director
Glen H. Spain
Northwest Regional Director
Vivian Helliwell
Watershed Conservation Director
In Memoriam:
Nathaniel S. Bingham
Harold C. Christensen
William F. "Zeke" Grader, Jr.

Please Respond to:

☐ **California Office**
P.O. Box 29370
San Francisco, CA 94129-0370
Tel: (415) 561-5080
Fax: (415) 561-5464

www.pcffa.org

Reply Email: fishlifr@aol.com

☒ **Northwest Office**
P.O. Box 11170
Eugene, OR 97440-3370
Tel: (541) 689-2000

March 8, 2022

**Congressional Testimony on
Klamath River Basin Conditions and Opportunities
to the
House Committee on Natural Resources,
Subcommittee on Water, Oceans and Wildlife**

**By Glen H. Spain, J.D., Northwest Regional Director,
Pacific Coast Federation of Fishermen's Associations (PCFFA)
and the Institute for Fisheries Resources (IFR)**

"[T]he Council recommends that the Federal Energy Regulatory Commission (FERC) order the decommissioning and removal of Iron Gate, Copco 1, Copco 2, and J. C. Boyle dams on the Klamath There is both a legal basis for the Council's recommendation and a strong rationale to justify it."

-- *Federal Pacific Fishery Management Council (PFMC) – April 24, 2006,
letter to FERC and similarly in several subsequent letters attached.*

"The four Klamath dams not only block access to over 420 stream-miles of excellent salmon habitat, but they also mess up water quality for salmon (and people!) in the available habitat, and they're responsible for the flourishing of the *C. shasta* parasite that fatally infects up to 95% of juvenile Klamath salmon more years than not. When Klamath salmon are scarce, as this year, ocean fishermen have to forego catching as many as 100 abundant Sacramento River salmon for each Klamath salmon they're not allowed to catch. The obsolete Klamath dams are an ongoing disaster for our industry and should come down!"

-- *David Bitts, professional commercial salmon fisherman, former PCFFA President and owner/operator of F/V Elmarue (Eureka, CA)*

Thank you for the opportunity to offer written testimony on this important issue on behalf the commercial salmon fishing fleet and its many coastal salmon-dependent businesses. I am the long-time Northwest Regional Director of the Pacific Coast Federation of Fishermen's Associations (PCFFA), which is the west coast's largest commercial fishing industry trade association representing the interests of west coast commercial fishing-dependent families and communities, and of its sister organization, the Institute for Fisheries Resources (IFR). Both PCFFA and IFR are signatories to the landmark 2010 Klamath Hydropower Settlement Agreement ("KHSA"), which is the Klamath dam removal settlement agreement to take down the four obsolete Klamath hydropower dams and unblock the Klamath River for salmon. Both organizations are also represented on the Board of Directors of the Klamath River Renewal Corporation (KRRC), which is the legal entity formed to actually remove the dams under the KHSA.

The coastal salmon-dependent family fishing operations, businesses and communities whose interests we represent have a clear economic interest in restoring the once-great and highly valuable Klamath salmon runs so they can once again support our jobs and communities. Many in our northern California and coastal Oregon fishing communities and ports are also PacifiCorp ratepayers and customers. All of them would benefit economically from the decommissioning and removal of the four small (and now obsolete) Klamath hydropower dams, and by the accompanying restoration of the Klamath's valuable (but now severely damaged) salmon runs.

Klamath River salmon runs were once the third largest in the continental U.S., historically providing returning adult salmon runs of on average 880,000 adult salmon each year. Today, however, with the over-industrialization of the Klamath River – *and especially the construction (starting in 1918 to 1964) of four small, aging hydropower dams that bisect the river and block key salmon runs* – the once abundant Klamath Chinook salmon typically only return at an average of about 15% of their historic numbers. Additionally, the Klamath spring-run Chinook component of these runs (which dominated in areas now blocked above the dams) are nearly extinct and likely candidates for federal ESA listing (and are already listed under the California ESA), while its coho salmon runs (both federally ESA and California ESA listed) have been pushed by decades of in-river habitat loss down to about 1-2% of their historic numbers. The distinctive and separate species referred to as pink salmon and chum salmon, which once also occurred in the Klamath River, have already long since been pushed to extinction.

In spite of written promises by the federal government to the Tribes going back to at least 1916, and in spite of Tribal Treaty obligations, the four Klamath hydropower dams in question (Iron Gate, Copco 1 & 2, and the J. C. Boyle) *were built with no fish passage for salmon*. This would be illegal under current environmental laws, as well as a direct violation of Tribal Treaty rights and other federal legal obligations for many of the Klamath basin's Tribes. It is for these reasons that various federal agencies have required the installation of fish passage through the dams as a condition for any relicensing.

Additional (currently unknown, but likely expensive) mitigation measures would also be necessary in any relicensing in order to meet Oregon and California Clean Water Act and California's Porter-Cologne Act water quality standards, to obtain Clean Water Act Sec. 401 water quality compliance certifications. In short – unless these dams are nearly totally retrofitted with fish passage and currently unknown equipment to meet modern water quality standards, they cannot be relicensed.

Ongoing Klamath Fisheries Disasters the Klamath Dams Create

Since construction finished on Copco 1 dam in 1918, the four Klamath dams have had major adverse impacts on the river and its once-thriving salmon runs, well as been highly destructive of water quality, in a variety of ways, including:

- Physically blocking about 420 stream-miles of once productive and fully occupied salmon and steelhead habitat now above the lowest dam (Iron Gate) (see maps --Attachment 1).
- By interrupting the natural recruitment of salmon spawning and rearing gravel at the dams, impoverishing salmon spawning and rearing gravel beds for up to 50 miles downriver of the lowest dam in the system (Iron Gate);
- Creating ideal conditions in the sun-warmed, nutrient filled, slack-water reservoirs above each dam for massive blooms of toxic blue-green algae, which produce powerful neurotoxins harmful to fish, wildlife and people. Toxic blue-green algae has been found in reservoirs above the dams at among the highest concentrations ever observed, and far above state and WHO health advisory maximum exposure levels. Toxic blue-green algae public health warnings must now be posted up and down the river every year (see Attachment 5).
- Drowning under warm-water reservoirs a number of what were once vitally important, salmon-supporting cold water springs whose inflow (especially in summer) provided important refuge areas for cold-water salmon to help them survive hot summers;
- Creating ideal environmental conditions downstream of the dams for the growth and spread of virulent fish parasites, including *Ceratanova shasta*. The *C. shasta* parasite is nearly always fatal to exposed juvenile salmon that must now migrate out to sea through several *C. shasta* “hot zones” below Iron Gate dam. *C. shasta* infection rates for juvenile Chinook salmon hit 81% in 2014, 91% in 2015 – and hit 95% for several weeks during the early summer of 2020 (see Attachment 2).
- Massive and unprecedented adult fish kills such as what occurred in 2002, in which an estimated 70,000 adult spawners perished in the lower river before they could reach their spawning grounds (see Attachment 3).

The combined, cumulative and synergistic impacts of all these assaults on once-robust Klamath salmon runs has been devastating. These valuable salmon runs have collapsed several times in recent years, causing massive economic losses up and down the northern California and southern Oregon coastline to salmon-dependent fisheries.

Weak Stock Management – Klamath Salmon Declines Can Close Down the Whole West Coast Ocean Salmon Fishery

One rule of good salmon fisheries management is that whenever multiple stocks from different streams intermingle in the ocean, the total fishing pressure must be regulated (in effect, capped) based on the biological replacement needs of the weakest of those stock. This so-called “weak stock management” rule is not only required by fisheries law, but also by the much more unforgiving laws of physics and biology, and is an obligation built into the Pacific Fishery Management Council’s Salmon Fishery Management Plan (FMP).¹

Where this plays out most in west coast ocean salmon fisheries, since the Klamath is right in the middle of the coast, is whenever the Klamath fall-Chinook salmon are the weakest stocks.²

If the “escapement” number of Klamath fall-run Chinook spawners coming back as adults from the ocean to spawn inland is too low, then that population cannot biologically replace itself from one generation to the next. If that should happen consistently, then that population could accidentally be driven to extinction! Hence there are “minimum spawner floors” designated for many river systems and major salmon populations by the Pacific Fishery Management Council (PFMC), and all other ocean harvests are strictly controlled to make sure they are always at levels that are well within the range of what is biologically sustainable. The “minimum spawner floor” for Klamath-origin fall-run Chinook is currently 40,700 adults spawners – a mere 4.6 percent of the river’s historical capacity of 880,000 spawners.

Under weak stock management constraints, then, whenever the Klamath fall-run Chinook spawning escapement is projected to fall below that biologically magic number of 40,700 spawning adults, the fishery goes into a “zero harvest” mode and is closed! Worse yet, because

¹ The Pacific Fishery Management Council (PFMC) is one of several regional fisheries management councils created by Congress under the Fishery Conservation and Management Act of 1976 (16 U.S.C. § 1801, et seq.), with regulatory jurisdiction over all ocean fisheries which occur in federal waters (3 miles to 200 miles offshore for the west coast) and with overlapping jurisdiction with the states in state ocean waters (shoreline to 3 miles offshore).

² Sadly, some salmon stocks are now so weak they are ESA-listed as threatened or endangered with extinction, and thus entirely off limits to all directed fisheries. There are no ocean commercial fisheries directed on Klamath-origin coho, for instance, which are part of the Southern Oregon/Northern California Coastal (SONCC) coho ESU listed under the federal ESA. Every effort is made to avoid ESA-listed species such as this one in all west coast fisheries, including stringent “incidental take” limits even on any accidental “bycatch” of these stocks by chance in other directed fisheries. At present, the only allowed directed commercial, recreational or Tribal fisheries on natural or wild salmon from the Klamath are on the much more abundant (but still depressed with respect to historic numbers) fall-run Chinook salmon. The incidental take limit on SONCC Coho that might accidentally stray into these fisheries is a stringent 13%. Thus ESA-listed coho salmon also impose “weak stock management” restrictions on otherwise abundant fisheries as well.

Klamath fall-run Chinook typically migrate in the ocean in substantial numbers as far south as Monterey, CA, and as far north as the Oregon-Washington border (see Figure 1), whenever weak stock management forces the closure of the entire Klamath fishery, all intermingling salmon fisheries from Monterey, CA to as far north as the Oregon-Washington border also have to be closed. *Even if only 1 Klamath-origin fish out of 100 fish from otherwise abundant stocks from other rivers that are in much better shape occur in these intermingling fisheries, the whole fishery must generally be closed.*

This is precisely what happened during 2006.³ That massive and highly destructive Klamath-driven weak stock management ocean closure resulted in the total or near-total closure of ALL ocean commercial salmon fisheries from Monterey to Washington State, costing our industry an estimated \$200 million in economic losses – and triggered Magnuson Act “fishery failure” disaster assistance of \$60.4 million in disaster assistance years later to try to save our damaged fisheries infrastructure. Since then, several other Klamath-driving coastal fisheries closures have also occurred, as one fisheries disaster has piled on another in the Klamath. In recent years, even meeting the 40,700 “minimum spawner floor,” which is only 4.6 percent of historic production, has often been impossible to achieve, resulting in several partial or near total ocean closures in several of the most recent years (see Figure 2 below). This year of 2022 will be no exception.

Iron Gate dam was completed in 1964, but its impacts from lack of fish passage began to really be felt in the 1970s. Since then, Klamath salmon have been in severe decline over time, as have salmon harvests throughout the ocean areas in which they generally migrate (i.e., the Klamath Management Zone or KMZ – see Figure 1). As salmon from the Klamath became scarcer, more and more fishing effort had to be shifted away from the KMZ in order to meet minimum spawner floors.

The end result of these several decades of decline in Klamath-origin salmon stocks has been economically disastrous for these once-prosperous KMZ ports. First, all directed coho salmon fisheries were eliminated under weak stock management when these fish, which are very habitat dependent, all but disappeared. These closures in our prior coho salmon fisheries occurred

³ Because Chinook salmon typically have a 3-year lifespan on average, the severe declines in incoming Klamath salmon adult stocks in 2006 were largely driven by the massive and unprecedented fish kill of 2002, in which an estimated 70,000 adult pre-spawners were decimated as a result of massive disease outbreaks in the lower river triggered in part by poor water quality problems created by the dams. Those few salmon eggs that got laid in winter 2002 would have hatched in spring of 2003 and returned as adults in 2006, but most were missing in action that year when so many adult spawners died before spawning in 2020. In fact, some fish from that 2002 brood year would ordinarily have come in early (in 2005) and others later (in 2007) because their maturation cycle is on a bell curve, which only averages at 3 years. That all these 2002 brood year fish were missing, i.e. their eggs were never laid and thus they never existed, is why the fisheries closure crises started in 2005, saw its deepest dip in 2006 (the average life-span) and continued in depressed fisheries well into 2007.

Figure 1: Klamath fall-run Chinook harvest components of total ocean salmon harvest, from coded-wire tag data from the KMZ area.

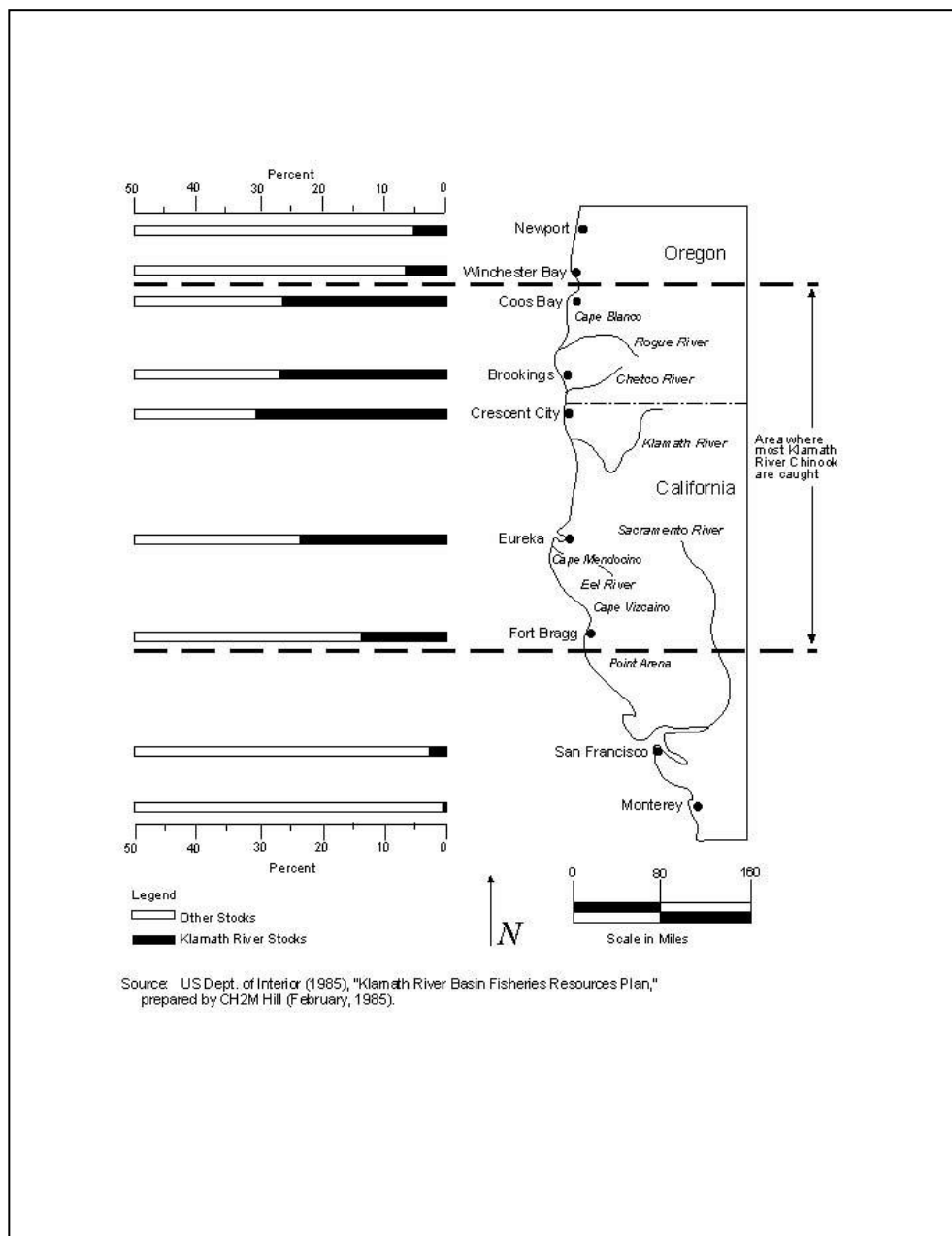
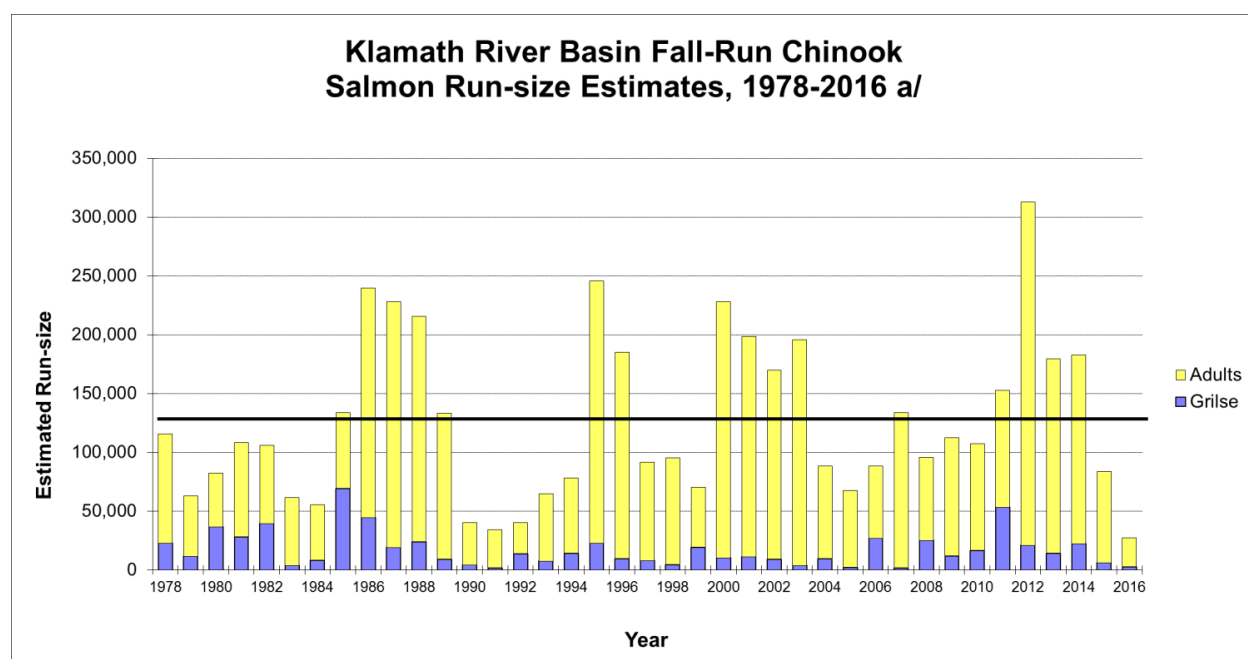


Figure 2: Klamath fall-run Chinook Salmon Spawner Shortfalls in Recent Years



years before the SONCC Coho were officially ESA listed, but were necessary under “weak stock management” to conserve these fish.⁴ Then years of accelerating and dramatic closures occurred within all the KMZ ports in northern California as well as southern Oregon. *Economic losses to our industry have been horrific.* Average annual salmon landings in these once booming KMZ ports from 1976-1980 as compared to the annual average from 2010 to 2020 fell a whopping 96% in Eureka, CA and an astonishing 98% in Crescent City. Losses as far south in the KMZ as Fort Bragg, California and on the Oregon side of the KMZ, in Brookings, Oregon were comparable. (See Figure 3)

And in all these losses, the damage done to these fisheries by the Klamath Dams has played a major role, particularly by creating conditions below Iron Gate dam that encouraged the massive expansion of *C. shasta* parasite areas into several “hot zones.” Every year now there is a juvenile fish kill equivalent to the adult spawner disaster of the 2002, but primarily among the out-migrating juvenile salmon rather than adults. These massive juvenile fish kills are silent and much harder to see, and so do not make headlines like adult fish kills – but are no less deadly in wiping out a large portion of each salmon brood year before they can return as adults.

⁴ SONCC Coho were ESA listed May 6, 1997 (62 Fed. Reg. 24588), several years after all directed ocean fisheries on these coho were closed.

**Figure 3:
DECLINES IN KMZ PORT SALMON
LANDINGS BETWEEN 1976-2020**

**Pounds of Salmon Landed by the Commercial Troll Ocean Fishery
For Major Klamath Management Zone (KMZ) Port Areas⁵**

Year or Average of years	Eureka (CA)	Crescent City (CA)	Brookings (OR)
Salmon Landings (nearest thousands of dressed pounds)⁶			
Av. of 1976-1980	1,403	393	699.9
Av. of 1981-1985	428	350	385.8
Av. of 1986-1990	405	155	467.5
Av. of 1991-1995	25	2	31.0
Av. of 1996-2000	35	2	92.2
Av. of 2001-2005	64	86	203.6
2006	0	0	45.0
2007	81	34	98.3
2008	0	0	7.9
2009	0	0	4.6
2010	4	0	42.6
2011	53	8	58.8
2012	78	5	97.1
2013	200	24	166.0
2014	110	27	298.0
2015	48	6	127.0
2016	6	*	24.0
2017	3	0	14.0
2018	43	42	59.0
2019	14	39	35.0
2020 ⁷	3	*	24.0
Av. of 2010-2020 ==	51.1	13.7	86.0
* = Fewer than 500 pounds			

**SALMON FISHERY LOSSES BY PORT AREA
(Average of Years 1976-1980 as compared to Average of 2010-2020 landings)**

<u>Port Area</u>	<u>Decline (%) of Fishery</u>
Eureka (CA) =	96% LOSS
Crescent City (CA) =	97% LOSS
Brookings (OR) =	88% LOSS

⁵ The port areas listed include landings in the following ports: Crescent City includes only Crescent City; Eureka also includes Trinidad and Humboldt Bay locations; Brookings also includes Port Orford and Gold Beach.

⁶ Data from Pacific Fishery Management Council (PFMC), *Review of 2020 Ocean Salmon Fisheries (2/21)*, Tables IV-6 and 7. Available at: www.pcouncil.org.

⁷ Preliminary 2020 numbers as of publication (2/21) may be slightly adjusted based on final figures. Oregon keeps early records to the nearest 100 lbs. while California rounds to nearest 1,000 lbs.

But all the science shows that the *C. shasta* and other warm-water activated fish disease problems suffered in the lower Klamath will not likely occur within a free-flowing, much colder river that would result from Klamath dam removal. In addition, the sudden volitional freedom of in-migrating spawners to swim back into more than 420 stream-miles of now unoccupied former spawning and rearing habitat will also spark much larger returns. And the elimination of the warm-water, nutrient-rich reservoirs will also eliminate the massive toxic algae blooms of today. These algae species thrive in slack-water reservoirs, but do not take hold in free-flowing, colder water spring-fed rivers like the Klamath once was – and can be again!

However, the good news is that the Klamath Dam Removal project is still proceeding toward its final FERC approval. Most recently, on February 25, 2022, FERC finally issued its *Draft Environmental Impact Statement for Hydropower License Surrender and Decommissioning (DEIS)*. FERC staff noted in that document, the following:

“After taking mitigation into account, the project would have some significant adverse effects, but would provide many significant benefits including the protection and restoration of anadromous fisheries that are of vital importance to the Tribes. The staff’s recommendation is for approval of the license surrender as proposed with additional staff recommendations.” (DEIS, p. iii)

Why Klamath Dam Removal Under the KHSA Makes Economic Sense

The 1956 Federal Energy Regulatory Agency (FERC) 50-year license to operate the Klamath Hydropower Project expired in 2006. PacifiCorp, the company that owns the Klamath dams (J.C. Boyle dam in Oregon, and Copco dams 1 & 2 and Iron Gate dam in California, in river-descending order), can limp along on *temporary* one-year FERC license extensions only while an active application for FERC relicensing or removal is pending. That time is coming to a close and a final FERC decision on the fate of these dams must soon be made. No privately owned dam can legally operate without a valid FERC license.

Once their FERC license expired in 2006, there were only two legal options for these Klamath Hydropower Project dams, both of which would cost PacifiCorp ratepayers money: (1) fix them up and relicense them to modern standards, which turns out will cost *at least* \$460 million, and quite likely more than \$500 million once all (currently unknown) water quality mitigation costs are added in, according to PacifiCorp testimony to the state Public Utility Commissions (PUCs),⁸ or; (2) decommission and remove these aging dams entirely – which it can now do under the

⁸ See CPUC Docket No. A10-03-015, *Testimony of Cory Scott*, Exhibit PPL-300 (March 18, 2010), pg. 6; Opening Brief of PacifiCorp (Nov. 17, 2010), pg. 6. PacifiCorp “conservatively estimates” relicensing costs of at least \$400 million in capital improvements, plus \$60 million in operations costs and maintenance over a 40-year relicensing term, not counting likely large (but still unknown) additional costs for any water quality mitigations that may be required to meet state 401 Certification requirements in Oregon and California. Note that these estimates are in 2010 dollars, and would be much more (due to inflation) in 2022.

Klamath Hydropower Settlement Agreement (KHSA) for a “capped” cost to its customers of only \$200 million, with the rest paid through watershed restoration bond funds by the State of California.⁹ There are NO federal funds that will be used for Klamath dam removals.

The best recent estimate for the total costs of decommissioning and full removal of the four dams, so that the Klamath River and its salmon can once move run freely through them, is about \$446 million (if started in January 2023 as currently planned), including various environmental mitigation measures, and which includes a very conservative \$50 million contingency fund and various insurance indemnification mechanisms to reduce uncertainty – risk reduction measures far more extensive than typical industry standards.¹⁰ This is within KRRC’s current \$450 million budget. This is another reason the KHSA is a really good deal for PacifiCorp’s customers. There are now also contingency plans in place for dealing with any cost overruns, although budget overruns are very unlikely given the stringent budgeting analysis and already existing conservative contingency funds.

On May 5, 2011, the California Public Utilities Commission (CPUC) formally confirmed that the KHSA is indeed the most cost effective, least risk and therefore best alternative for PacifiCorp’s customers as compared to relicensing.¹¹ A prior September 16, 2010, ruling by the Oregon PUC came to the same conclusion.¹²

The reality is that all four dams combined do not generate all that much power. Although the whole Klamath Hydroelectric Project is technically rated for maximum power generation of about 163 megawatts (MW), these dams cannot run at maximum capacity 24/7, especially during summers when turbine flows are lowest. The entire Project combined actually generates only **about 78 MW of power on average** according to FERC records.¹³ For comparison, a single modern electrical power plant can continuously generate 1,000 MW or more.

And according to estimates by FERC made in 2006, even after all the expensive retrofitting to meet modern standards for relicensing, these dams would then only generate about 53 MW of power on average -- *about 26% less than they do today*.¹⁴ Relicensing thus means spending a great deal of money for what is actually very little power. In fact, FERC estimated in its 2007 Final Environmental Impact Statement (FEIS) on relicensing that even if fully relicensed, the required retrofitting would be so expensive that these dams would then operate *at more than a \$20*

⁹ The rationale for this bi-state equitable cost-sharing scheme is that nearly 600,000 Oregonians are PacifiCorp customers already paying into a Klamath Dam Removal Trust Fund monthly, while only about 40,000 Californians are ratepayers – but most economic benefits for restored Klamath salmon fisheries will be in California.

¹⁰ Numbers as of KRRC’s February 28, 2020 FERC filing, available at: www.klamathrenewal.org. However, these numbers are constantly being refined.

¹¹ California PUC Final Order at: <http://docs.cpuc.ca.gov/published/proceedings/A1003015.htm>.

¹² Oregon PUC Final Order at: <http://apps.puc.state.or.us/orders/2010ords/10-364.pdf>.

¹³ 2022 Draft EIS, p. xxxi).

¹⁴ 2022 Draft EIS, p. xxxi, with 26% reduction figure from the 2007 FERC FEIS, Sec. 4.4, pg. 4-4.

million/year net loss (in 2007 dollars).¹⁵

In short, keeping the Klamath dams means extremely expensive fixes for a lot less power, and a Project that would likely lose money for the rest of any new license – losses that customers would ultimately also have to make up for in even higher power rates. The “bottom line” is that in the end dam removal advocates like PCFFA/IFR and the Tribe demonstrated to the company that it’s just a lot cheaper for customers to remove the dams than to keep them. This is why PacifiCorp switched its position in 2010 and now advocates for dam removal as well, under the terms of the KHSA.

And this narrow focus on company costs alone is completely ignoring likely economic and jobs benefits of a restored world-class salmon run, a more stable irrigation system and the many other benefits also highlighted in the 2022 FERC DEIS.

As to replacement power, when Pacific Power was bought by Berkshire-Hathaway in 2005, the Company legally committed to bringing more than 1,400 MW of brand new, cost-effective renewable power online by 2015.¹⁶ This is *17 times more* power than the four Klamath dams generate all together. In fact, the company considerably exceeded that goal. Adding an additional 82 MW of cost-effective and clean replacement power to its grid after 2020, as it intends to do under the KHSA, would be an almost trivial task by comparison. There are many options for the replacement of this power from comparable carbon-free or renewable sources by 2030.¹⁷

Returning to dam relicensing would be even more expensive, with (in PacifiCorp’s own estimates from its own PUC filings) at least \$500 in estimated costs and with no upper cap, since it is unclear how much mandatory fish passage will cost (or even if it would work), and particularly whether the severe water quality problems PacifiCorp faces within the Project could ever in fact be sufficiently mitigated or resolved – hence the potential costs of dam relicensing could easily escalate upwards well beyond \$500 million.

Many coastal residents in northern California and Oregon, including many associated with PCFFA, are dependent upon the salmon-driven economies of their local coastal communities – and they are also PacifiCorp ratepayers! These PacifiCorp customers by and large supported the KHSA wholeheartedly and look forward to an economic Renaissance in their region once the Klamath dams are down and their valuable salmon runs start to rebound.

Projections prepared for the 2007 FERC NEPA analysis indicated that dam removal coupled with modest habitat improvements in newly opening salmon recolonization areas could lead to a

¹⁵ FERC FEIS (Nov. 2007), Table 4-3 on pg. 4-2. These FERC estimates were in 2007 dollars, and would be much greater losses in 2022 dollars due to inflation.

¹⁶ See for instance, *Final Order*, Measure 41, in CPUC Docket A05-07-010.

¹⁷ A single modern wind turbine, for instance, can generate up to 6 MW of power and it would take fewer than 55 such wind turbines, even at a very conservative 25% efficiency, to completely replace the total amount of “green power” these four dams now generate – and only 41 such wind turbines to replace the 61 MW after any hypothetical relicensing. A single modern “wind farm” may contain hundreds of such wind turbines.

doubling of the Klamath salmon runs within a relatively short time-frame. The recently released 2022 Draft EIS confirms most of these salmon economic benefits.

For these and many other reasons, PacifiCorp's best option (and the best option for its customers and for the northern California/southern Oregon region) is clearly to proceed with four-dam Klamath decommission and removal under the KHSA, which – if FERC makes its final decision by September, 2022 – could formally begin in January of 2023. Dam removal is still by far the least-cost as well as least-risk option for the company, as well as the only option that has already received both PUC and state water quality approvals.

Nevertheless, there are still those seeking to derail the Klamath Dam removal project, but always without forwarding any feasible alternatives. This even includes some members of Congress, who have sought in the past to block this obviously necessary dam removal project by Congressional fiat. None of these delaying tactics should be allowed to succeed.

In short, PacifiCorp does not want the Klamath dams, does not need the dams, is advocating for the speedy removal of these dams and has already replaced the very small amount of power they produced many times over! And the benefits of dam removal to the environment – including the restoration of once abundant and valuable salmon runs as a major food source to harvest in our ocean fisheries, and for the use of the Tribes with homelands in the basin – will be immense.

In the end, however, dam removal is a necessary – but not, in itself, sufficient – precondition for full watershed and salmon restoration in the Klamath. More than 100 years of abuse of the Klamath ecosystems still needs to be reversed and repaired. We are gratified that some \$164 million in *Bipartisan Infrastructure Bill* money will already be coming to the Klamath over the next five (5) years for that purpose. Putting that money to a good use is an investment in the future health of this salmon-producing watershed that will provide valuable economic benefits to the whole region many times more than the price of those investments, potentially forever.

ATTACHMENTS:

Attachment 1: Maps showing extent of fish passage blockages.

Attachment 2: Problems of *Ceratanova shasta* created by dam impacts.

Attachment 3: Klamath River scene from the massive 2002 adult fish kill.

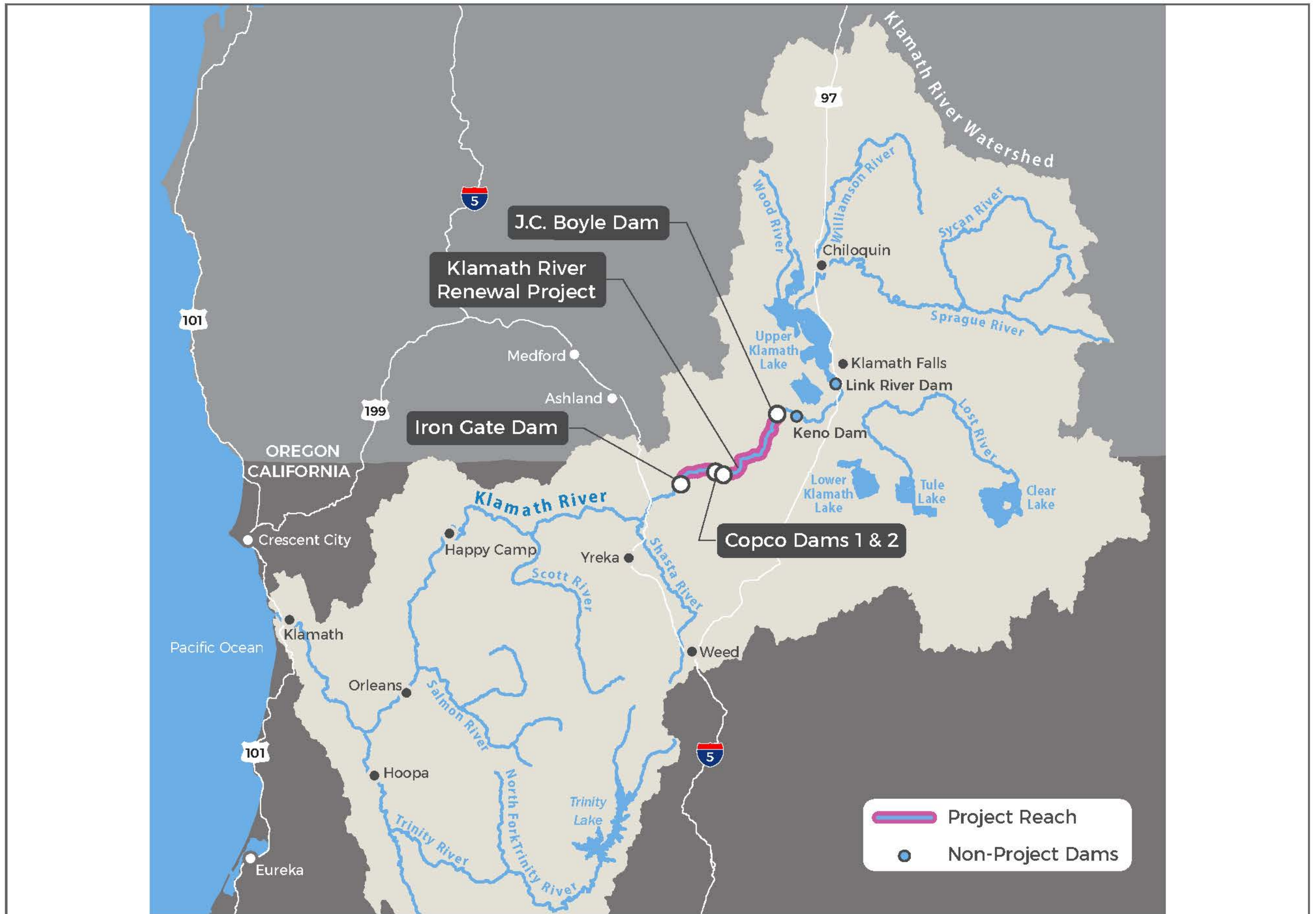
Attachment 4: Fort Bragg, CA harbor in 1980 vs. 2002.

Attachment 5: Toxic Blue-green algae and Health Hazard warning at Copco Lake.

Attachment 6: Letters from the PFMC urging Klamath dam removals.

Attachment 1

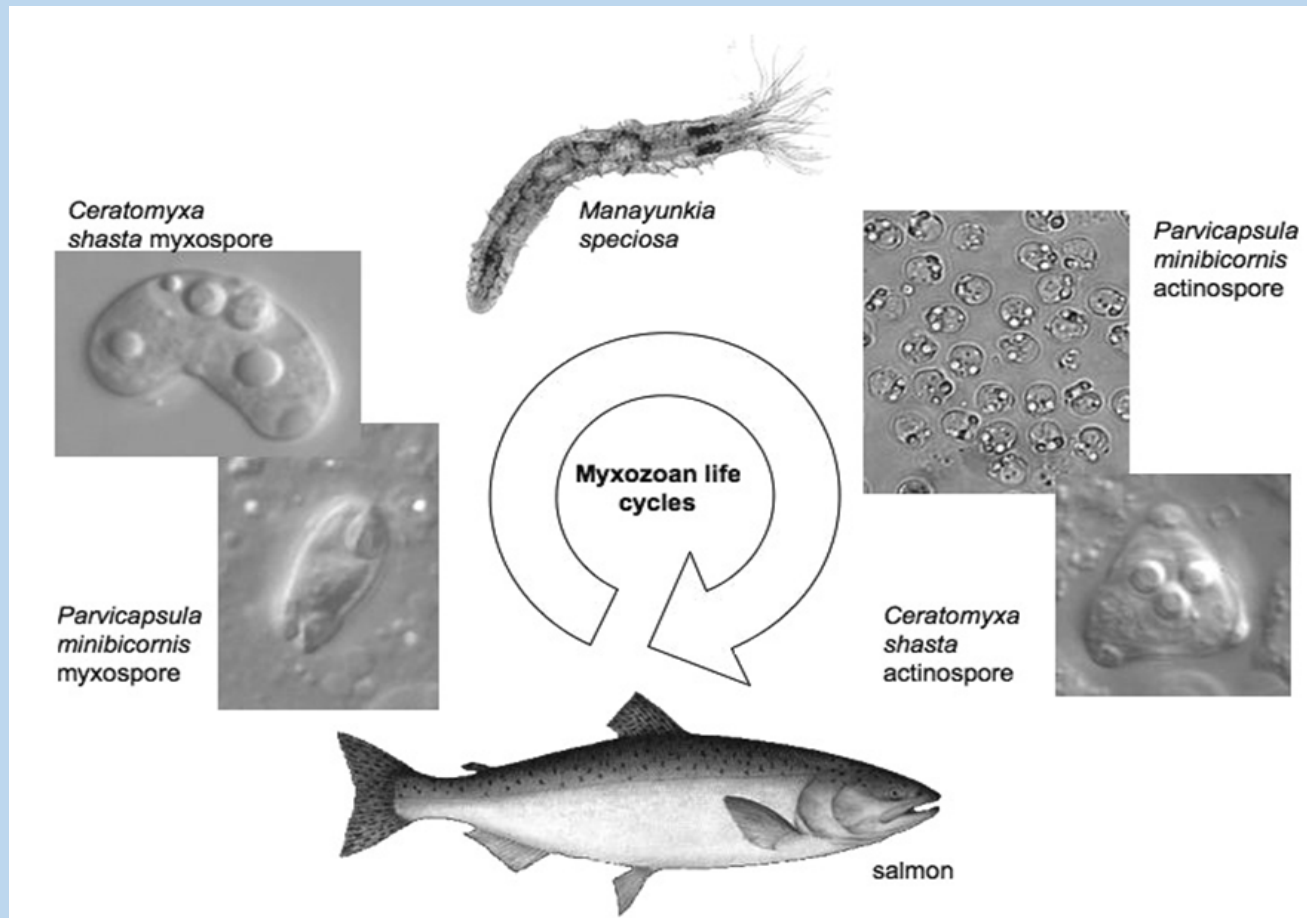
Maps of the Klamath Basin Showing Locations of the Dams and Loss of Salmonid Habitat from the Dams



Attachment 2

The Problems of *Ceratnova Shasta* Created by the Dams and their Ecosystem Impacts

Life Cycle of *Ceratanova shasta*



Polychaete worms
(*Manayunkia speciosa*)

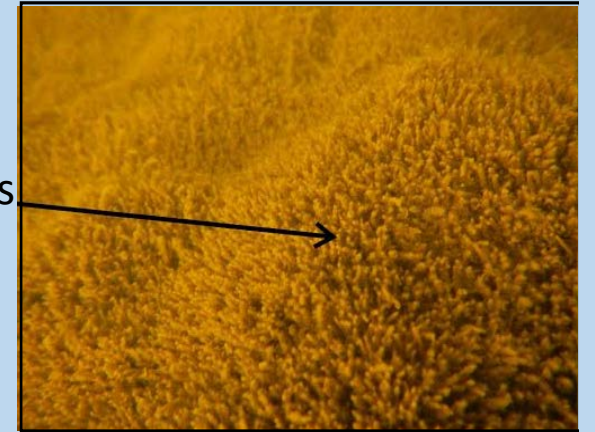


Figure. The life cycle of *Ceratanova shasta* and *Parvicapsula minibicornis*. *Manayunkia speciosa* is a small freshwater polychaete worm (3-5 mm in length) and intermediate host of both parasites. (Figure and photo from USFWS, Arcata Fish and Wildlife Office).

Extremely High *C. shasta* Disease Rates when Juvenile Chinook Emigrated in 2014 and 2015

Year	% Positive <i>C. shasta</i> from QPCR
2006	34
2007	31
2008	49
2009	45
2010	17
2011	17
2012	30
2013	46
<u>2014</u>	<u>81</u>
<u>2015</u>	<u>91</u>
2016	48
Mean	44

→ This cohort's age-4 projection is the lowest on record

→ This cohort's Age-3 projection is the 2nd lowest on record

Data from:

True K., Voss A., Foott J.S. 2016. *Myxosporean Parasite (Ceratanova shasta and Parvicapsuls minibicornus) Prevalence of Infection in Klamath River Basin Juvenile Chinook Salmon, March – August 2016*. Anderson, CA: US Fish and Wildlife Service. California-Nevada Fish Health Center.

Attachment 3

**Klamath River Scene from the
Massive 2002 Adult Fish Kill**



Some 70,000 adult spawners died in the river that year before spawning, driven by warm water diseases transmitted by overcrowding in cold-water refugias.

**This is what the river looked like for
the lower 35 miles.**

Attachment 4

Fort Bragg, CA harbor fishing boats preparing for salmon season, in 1980 vs. 2002, before and after major “weak stock management” KMZ closures



Attachment 5

Toxic Blue-green Algae and Health Hazard Warning at Copco Lake Reservoir



Attachment 6

Letters from the PFMC Urging Klamath Dam Removals

**Letters dated April 26, 2006; December 8, 2006;
December 13, 2011 & June 21, 2017**

PACIFIC FISHERY MANAGEMENT COUNCIL

7700 NE Ambassador Place, Suite 200
Portland, Oregon 97220-1384

CHAIRMAN
Donald K. Hansen

EXECUTIVE DIRECTOR
Donald O. McIsaac

Telephone: 503-820-2280
Toll Free: 866-806-7204
Fax: 503-820-2299
www.pcouncil.org

April 24, 2006

Ms. Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First St., N.E., Room 1A
Washington, DC 20426

RE: Docket Number P-2082 (Pacific Fishery Management Council's Essential Fish Habitat [EFH] Recommendation for the Klamath Hydropower Project)

Dear Ms. Salas:

The Pacific Fishery Management Council (Council) hereby submits its EFH recommendations and formal comments on the relicensing of the PacifiCorp hydroelectric project on the Klamath River. The recommendations are the result of focused deliberation at the Council's March and April meetings, including extensive public testimony and expert advice from scientific and fishery-related advisory bodies. We understand that we may have missed a recent deadline for these comments, but due to the timing of the established public Council process, this is the earliest we are able to provide them. We ask that you give them your full consideration.

For the reasons below, the Council recommends that the Federal Energy Regulatory Commission (FERC) order the decommissioning and removal of Iron Gate, Copco 1, Copco 2, and J.C. Boyle dams on the Klamath River. We ask that you proceed with the development of a decommissioning plan, in consultation with resource agencies, tribes, and other interested parties, that provides full restoration of habitat in and below the project dams and reservoirs. FERC should also consider including mitigation funds to restore future anadromous habitat above the project.

This recommendation is consistent with National Marine Fisheries Service's (NMFS) recommendation pursuant to Section 10(a) of the Federal Power Act (FPA): "The Licensees shall develop and implement a plan to remove the lower four Project dams..., restore the riverine corridor, and bring upstream and downstream fish passage facilities at Keno Dam into compliance with NMFS guidelines and criteria within 10 years of license issuance, expiration, or surrender."^{1,2}

¹ National Marine Fisheries Service (March 24, 2006). Letter and Attachments from Rodney McInnis to Magalie Salas re: *Comments, Recommended Terms and Conditions and Preliminary Prescriptions for the Klamath Hydroelectric Project, FERC Project 2082*. Page C-4.

² We understand that the Keno and Link Dams are not currently being relicensed, and are limiting our recommendations at this time to the four lower dams. However, in the long term, the Council calls upon FERC to improve conditions for anadromous fish in the Klamath River by addressing the operations of Keno and Link Dams.

Background

During the last several years, the Council has written frequently to FERC, the U.S. Bureau of Reclamation, and the U.S. Department of the Interior regarding impacts of Klamath River management on salmon habitat.³ Although anadromous fish stocks fluctuate naturally, it is now clear that factors associated with hydropower generation, including lack of fish passage and water quality impacts, have had a consistent and increasingly detrimental impact on Klamath River salmon. The Council believes the operations of the full complex of dams in the Klamath River basin can be the limiting factor for anadromous salmonids abundance, and are likely the controlling anthropogenic factor during drought years. Therefore, we believe changes in the effects of these dams offer the greatest opportunity to increase population abundance.

The Council's concerns about dam operations have been heightened in recent years by the low abundance of naturally spawning fall Chinook salmon. As you may know, ocean salmon fisheries on the West Coast target a complex of stocks from various rivers that have consistently produced harvestable surpluses. Under the Council's salmon fishery management plan, fisheries in this ocean complex are managed to achieve the spawning objective of the weakest stock, which has frequently been Klamath River natural fall Chinook. In 2004 and 2005, abundance was so low that the spawning escapement fell below the 35,000 conservation objective in both years. Unfortunately, in 2006 it is expected that the Klamath natural fall Chinook stock abundance will fall even further, to a disastrously low level.

In 2005, fishing off most of Oregon and California was virtually halved to meet the Klamath River fall Chinook natural spawning objective. This year, ocean salmon fishing in this area will be cut back a further 75% to protect these fish. The inriver recreational fishery on adult fall Chinook will be closed in 2006. Inriver tribal fisheries will also be severely affected. The cutbacks and closures adopted by the Council to protect these Klamath River fish will have enormous economic and social impacts on West Coast fishing communities. The effects are so severe that the Governors of the States of Oregon and California have formally called for the Secretary of Commerce to declare a fishery disaster, as provided for under the Magnuson-Stevens Fishery Conservation and Management Act (MSA) §312(a).

Basis for Council Recommendation

There is both a legal basis for the Council's recommendation and a strong rationale to justify it. Legal standing for the Council's recommendation is provided by the MSA. Under §305(b)(3)(B), the Council is obligated to comment on activities that are likely to substantially affect EFH for salmon.⁴ In turn, the Federal government is obligated to consider the Council's recommendations and to reply

³ December 15, 2005, to U.S. Bureau of Reclamation (BOR) on management of Klamath water flows; April 21, 2005 to U.S. Department of the Interior (DOI) on flow management and essential fish habitat (EFH) in the Klamath basin; April 23, 2004 to FERC on EFH concerns related to PacifiCorp Klamath River Hydroelectric Project FERC-2082; July 7, 2003 to BOR on EFH concerns related to the Klamath project; April 23, 2003 letter to the DOI related to water flows in the 2003 Klamath operations plan; April 22, 2003 to FERC on relicensing rules; December 4, 2002 to the DOI and Secretary of Commerce on the adverse impacts of reduced flows to Klamath salmonids; May 13, 2002 to FERC on EFH conservation responsibilities; April 22, 1999 to BOR on the Klamath project environmental impact statement. Letters available at <http://www.pcouncil.org/habitat/habdocs.html>.

⁴ "[Each Council] shall comment on and make recommendations to the Secretary and any Federal or State agency concerning any such activity that, in the view of the Council, is likely to substantially affect the habitat, including essential fish habitat, of an anadromous fishery resource under its authority." MSA§305(b)(3)(B)

in writing within 30 days.⁵ The rationale for the Council's recommendation includes the Council letters and background considerations referred to above and the information provided below.

We understand that the Klamath hydropower project is now operating under an annual license, and that any new long-term license may be in effect for up to 50 years. The Council does not make recommendations for interim annual licenses in this letter, though we believe that until a long-term license is granted, FERC should protect and fully mitigate damages to anadromous salmonids and their habitat with the dams in place. Some recommendations from others, such as those provided by NMFS and U.S. Fish and Wildlife Service pursuant to Section 10(j) of the Federal Power Act for interim modifications to hatchery management and ramping rates, may be appropriate. However, the Council will address recommendations for interim licenses in a separate letter following further public process and discussion.

The Council's recommendation for dam removal is made with the recognition that several factors beyond FERC's jurisdiction can harm Klamath River anadromous stocks.⁶ Water withdrawal practices reduce water availability downstream, and timber harvest practices, road building, parasites, and other factors impact stocks. We further recognize that some recommend fish passage at the project dams instead of their removal.

The Long Range Plan for the Klamath River Basin Conservation Area Fishery Restoration Program clearly identifies the lack of passage through and beyond the project area as a significant limitation on the Klamath River anadromous fish resource⁷. Under the current license, the lower three project dams (Iron Gate, Copco 1 and Copco 2) are not equipped with fish passage facilities, and the facilities at J.C. Boyle Dam do not conform to accepted passage criteria. PacifiCorp's proposed license under FERC does not provide passage for anadromous fish.

Lack of fish passage at the Klamath Project facilities blocks access to more than 400 miles of migration, spawning, and rearing habitat for salmon, steelhead and Pacific lamprey, including access to channel areas inundated by the project, access to tributary habitat within the project area, and access to currently-blocked habitat in the upper watershed⁸. The habitat within and above the project area was historically an important producer of spring Chinook, fall Chinook and coho. Reintroducing anadromous fish above the current barrier of Iron Gate Dam is a key component of Klamath River Basin restoration. We understand significant resources are now being directed toward improving potential habitat in the Upper Klamath Basin above Upper Klamath Lake.

Even with fish passage at each of the projects, the following dam-related problems within and below the project area would remain unaddressed:

⁵ "Within 30 days after receiving a recommendation under subparagraph (A), a Federal agency shall provide a detailed response in writing to any Council commenting under paragraph (3) and the Secretary regarding the matter. The response shall include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on such habitat..." MSA §305(b)(4)(B)

⁶ National Research Council (2004). *Endangered and Threatened Fishes in the Klamath River Basin – Causes of Decline and Strategies for Recovery*. Washington, D.C.: U.S. Department of Interior and U.S. Department of Commerce.

⁷ Klamath River Basin Fisheries Task Force and William M. Kier Associates, 1991. *Long Range Plan for the Klamath River Basin Conservation Area Fishery Restoration Program*.

⁸ We recognize that Keno dam, upstream of the project area, now blocks most upper watershed habitat for anadromous salmonids.

- Loss of spawning and rearing area in the Klamath River between Iron Gate and J.C. Boyle dams
- Effects of hydroelectric peaking operations, including reduced flows in bypassed reaches; effects of large flow fluctuations in peaking reaches; reduced abundance of macroinvertebrates; restricted fish movement; decreased water quality; and fish stranding
- Impacts of water impoundment, including changes to water temperature, dissolved oxygen, and nutrient loads; gravel depletion; altered flood flows; and enhanced conditions for toxic algae blooms and parasitic disease vectors
- Alteration of the natural hydrologic regime, including loss of thermal refugia and ecosystem function

In summary, the Council believes removal of the dams is a necessary step in recovering currently unsuitable habitat in the project reach, in providing access to suitable habitat upstream of the project, and in normalizing water conditions below Iron Gate Dam.

Costs and Benefits

The value of ocean fisheries is high when Klamath natural Chinook are abundant, but can be much lower when Klamath fish constrain the catch of other healthy stocks. The Council estimates that between 1970 and 2004, the average annual personal income impacts of the recreational and commercial ocean salmon fishery in the area where Klamath fish are found amounted to \$92 million. The constraints on the fishery in 2006 caused by the need to protect Klamath River natural fall Chinook are expected to reduce the value of this fishery to less than \$33 million. In contrast, the Klamath hydropower project produces 163 megawatts with an annual net economic value of \$16.3 million.⁹ NMFS notes that the "generating capacity provided through continued Project operations is nominal...relative to the watershed level of benefits to aquatic resources and regional and national priorities for restoring anadromous salmonids."¹⁰ The California Energy Commission reviewed the effects of full or partial decommissioning and concluded that "because of the small capacity of Klamath hydro units... removal of these units will not have a significant reliability impact on a larger regional scale."¹¹

Providing fish passage would be a major endeavor, with cost estimates ranging up to \$200 million.¹² The cost of dam removal has been estimated at \$35.8 million.¹³ Based on these estimates, it is not clear that providing fish passage is a superior economic alternative to dam removal.

It may not be appropriate to directly compare the loss of \$59 million in the ocean salmon fishery in one year, due to the low abundance of Klamath River Chinook, with the \$16.3 million in power generated annually at the four project dams and the \$35.8 million cost of dam removal. However, it may well be that the annual value of the portion of the fishery affected by Klamath River Chinook compares favorably to the annual value of the electrical power. It may also compare favorably with the cost of dam removal, given the number of years that fishery benefits will accrue after the dams

⁹ California Energy Commission (2004). California Energy Commission Staff Comments on PacifiCorp's Final License Application to the FERC for the Klamath Hydroelectric Project, FERC No. 82.

¹⁰ National Marine Fisheries Service (March 24, 2006), op. cit.

¹¹ California Energy Commission, op. cit.

¹² PacifiCorp spokesman Dave Kvamme in "A Good Week for Klamath Salmon." *Sacramento Bee*, March 30, 2006, page A3.

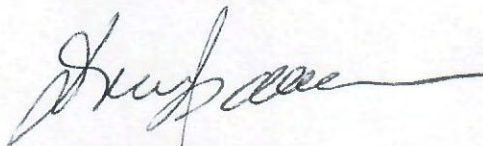
¹³ G&G Associates (2003). *Klamath River Dam Removal Investigation*. Seattle, Washington: G & G Associates.

are removed. Further, it must be noted that a comprehensive economic analysis of the benefits of dam removal needs to include the benefits of habitat improvement to all Klamath River fish populations, not merely one stock (naturally spawning fall Chinook) in one fishery (the ocean salmon fishery).

Conclusion

The Council believes the proposed relicensing of this project will have substantial adverse impacts on EFH in the Klamath River. The project causes harm to salmon habitat; to the health of fish stocks; to commercial, recreational, and tribal fisheries; and to fishing communities along the Oregon and California coasts and in the Klamath River basin. Consequently, the Council recommends that FERC order the immediate decommissioning and removal of the four lower Klamath River dam structures and full restoration of habitat affected by the dams and reservoirs.

Sincerely,



Donald O. McIsaac
Executive Director

JDG:redd

c: Council Members
Habitat Committee
FERC Required Service List Distribution
Salmon Advisory Subpanel
Salmon Technical Team
Scientific and Statistical Committee
Dr. Donald McIsaac
Dr. John Coon
Council Staff Officers
Ms. Eileen Cooney
Ms. Jane Hannuksela
Ms. Mariam McCall
Mr. Judson Feder
Ms. Corinne Pinkerton
Mr. Phil Dietrich



Pacific Fishery Management Council

7700 NE Ambassador Place, Suite 101, Portland, OR 97220-1384
Phone 503-820-2280 | Toll free 866-806-7204 | Fax 503-820-2299 | www.pcouncil.org

December 8, 2006

The Honorable Magalie Salas
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426

RE: Docket Number P-2082 (Pacific Fishery Management Council's Comments on the Draft Environmental Impact Statement, and Essential Fish Habitat [EFH] Recommendations for the Klamath Hydropower Project).

Dear Secretary Salas:

The Pacific Fishery Management Council (Council) submits these comments regarding the Draft Environmental Impact Statement (DEIS) for Hydropower License for the Klamath Hydroelectric Project (P-2082). Under §305(b)(3)(B) of the Magnuson-Stevens Fishery Conservation and Management Act, the Council is obligated to comment on activities that are likely to substantially affect essential fish habitat (EFH) for salmon. The Council has identified EFH for fall Chinook and coho within the Klamath River below Iron Gate Dam.

First, we reiterate our comments sent in a letter dated April 24, 2006 (enclosed). In that letter, the Council submitted its recommendation that the Federal Energy Regulatory Commission (FERC) order the removal of the lowermost four dams on the Klamath River (Iron Gate, Copco 1 and 2, and JC Boyle Dams). FERC replied to the Council's letter on May 12, 2006, noting that "We will consider your April 24, 2006, EFH comments under section 10(a) of the Federal Power Act as we prepare our Draft Environmental Impact Statement (DEIS)... We will look forward to your comments and any EFH recommendations after you've reviewed our DEIS and EFH Assessment." We note with disappointment that the DEIS contains no alternative for the removal of all four lower Klamath dams.

In that the current DEIS does not include an option for removal of the four lowermost dams on the Klamath River, we believe it is inadequate in addressing the full range of reasonable alternatives as required by 40 CFR 1502.14. Further, FERC's proposed final action is unclear. Although FERC is mandated to follow prescriptions submitted to it by the Secretaries of Commerce and the Interior under Section 18 of the Federal Power Act, it has failed to include the preliminary prescriptions for fishways in its "Staff Alternative." Similarly, FERC has failed to include many of the preliminary 4(e) conditions in its "Staff Alternative." These conditions were based upon facts that were affirmed by an Administrative Law Judge in September 2006. FERC needs to clearly lay out a preferred alternative that includes these terms and conditions which, when finalized, will be mandatory.

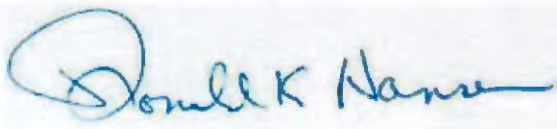
The Council also believes that FERC's EFH analysis is inadequate. On page 5-88, FERC addresses EFH issues as they relate to the Klamath River Hydroelectric Project. This analysis reiterates the measures that PacifiCorp and FERC propose in the DEIS, and then, comparing with today's extremely impaired baseline, states that the proposed action will "not adversely affect EFH" (page 5-89). We strongly disagree with this conclusion, and with the selection of today's impaired conditions as a baseline. In fact, we note that in May 2005 U.S. District Judge James A. Redden remanded a National Oceanic and Atmospheric Administration (NOAA) Biological Opinion on Columbia Basin hydropower operations because, in part, NOAA had included dams as part of the baseline conditions in that system.

As the near-shutdown of ocean salmon fisheries demonstrated this year, the low abundance of Klamath fall Chinook abundance can be the constraint that closes otherwise healthy fisheries. The economic consequences that result from the degradation of EFH caused by the Klamath Hydroelectric Project can be quite large. Future actions to improve salmon EFH in the Klamath River are needed to avoid the situation whereby fishery-dependent communities along the coasts of California and Oregon and in the Klamath River bear the associated unfortunate consequences of lack of action.

In summary, the Council requests that FERC add a four dam removal scenario to its analysis and that the full extent of the effects of all alternatives on pristine EFH be disclosed. In addition, we believe FERC must modify its "Staff Alternative" in any further EIS efforts to reflect the mandatory conditions placed upon the new license by the Departments of the Interior and Commerce. Lastly, based upon the content of our April 24, 2006 letter and the recommendations of numerous individuals, agencies, and other organizations, we strongly recommend FERC select the four dam removal option as the preferred alternative.

Thank you for the opportunity to comment.

Sincerely,

A handwritten signature in blue ink, appearing to read "Don Hansen", is written over a light blue rectangular background.

Don Hansen, Chairman
Pacific Fishery Management Council

JDG:sks

Enc: April 24, 2006 letter from PFMC to FERC

c: Council Members
Habitat Committee
FERC Required Service List Distribution
Salmon Advisory Subpanel
Salmon Technical Team

Scientific and Statistical Committee

Dr. Donald McIsaac

Dr. John Coon

Council Staff Officers

Ms. Eileen Cooney

Ms. Jane Hannuksela

Ms. Mariam McCall

Mr. Judson Feder

Ms. Corinne Pinkerton

Mr. Phil Detrich



Pacific Fishery Management Council

7700 NE Ambassador Place, Suite 101, Portland, OR 97220-1384
Phone 503-820-2280 | Toll free 866-806-7204 | Fax 503-820-2299 | www.pcouncil.org
Dan Wolford, Chairman Donald O. McIsaac, Executive Director

December 13, 2011

Ms. Elizabeth Vasquez
Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825

**Subject: Klamath Facilities Removal Public Draft Environmental Impact Statement/
Environmental Impact Report**

Dear Ms. Vasquez:

This letter presents the comments of the Pacific Fishery Management Council (Council) regarding the Klamath Facilities Removal Public Draft Environmental Impact Statement/ Environmental Impact Report (EIS/EIR).

The Council would like to commend the Department of Interior and the State of California for completing this comprehensive National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) document over a relatively short period of time. The proposed action includes the removal of four dams owned by PacifiCorp from the mainstem of the Klamath River, in addition to implementing the landscape-scale restoration efforts outlined in the Klamath Basin Restoration Agreement (KBRA). These are major steps toward addressing habitat-related problems that have plagued Klamath Basin fishery resources for decades; the Council recognizes the significant controversy surrounding this action.

The Council has previously expressed its concern, in various forums, regarding the extensive impacts of the Klamath Hydroelectric Project to the West Coast salmon fishery and dependent communities. The Council is gratified to see that an agreement to remove the dams (Klamath Hydroelectric Settlement Agreement) and to address other habitat problems facing the Basin's fishery (KBRA) has been reached, and that environmental studies are progressing in a timely manner.

The Council was created by the Magnuson Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) of 1976 with the role of developing, monitoring, and revising management plans for fisheries conducted in Federal waters off Washington, Oregon and California. Subsequent congressional amendments in 1986, 1990, and 1996 added emphasis to the Council's role in fishery habitat protection. Amendments in 1996 directed the National Marine Fisheries Service, as well as the regional fishery management councils, to make recommendations regarding Federal or

state agency activities that may affect the "essential fish habitat" (EFH) of fisheries under their authority. The proposed action to remove the hydro-electric facilities from the Klamath River is a Federal action that has an effect on EFH and will require formal EFH consultation.

The current Facilities Removal EIS/EIR and the previous Federal Energy Regulatory Commission EIS regarding the relicensing of the Hydroelectric Project show that the Project has dramatically diminished the range, quantity, and quality of habitat for Klamath Basin anadromous fish stocks, and has had other profound negative impacts on the anadromous fish of the Klamath Basin. Anadromous fish have been extirpated from several hundred miles of historic habitat above Iron Gate Dam, and habitat in the mainstem Klamath River below Link River Dam has been degraded, as a result of the Project. Our review of the EIS/EIR and its large body of supporting documentation and studies confirm these observations.

The decline of Klamath River Basin fisheries resources is a serious concern to the Council. Ocean fisheries along the Pacific Coast from Cape Falcon to Monterey Bay are often constrained by the need to reduce harvest impacts to Klamath River fall Chinook because of the depleted status of this stock. The Klamath Hydroelectric Project has had a significant effect on Klamath Basin fisheries and on the economies of tribal and nontribal fishing communities within the Klamath Basin and along the Pacific Coast from Monterey Bay, California to Cape Falcon, Oregon. We are gratified to see that these effects, long ignored in other analyses, are treated with rigor and quantitative discipline in the current EIS/EIR.

The fish production modeling efforts that were developed for the socioeconomic analysis of the NEPA/CEQA document support the need to implement the proposed action, as they indicate a substantial increase in both spring and fall Chinook salmon production as a result of the hydroelectric facilities' removal and KBRA implementation. The estimated 42 percent increase in ocean troll and sport fishery income over the next 50 years is indeed encouraging. However, we note that the independent expert panels whose purpose is to inform the Secretary of Interior about the effects of dam removal on fish populations have cautioned that significant improvements in water quality and fisheries habitat must accompany dam removal to see the true benefits of the proposed action. We urge the Secretaries of Interior and Commerce to do everything in their power to prioritize resources and expertise to accomplish these tasks.

In light of substantial benefits to the fishery resource and dependent fishing communities along the Pacific Coast and Klamath River, the Council is supportive of proposed action, Alternative 2: complete removal of the facilities. We could also support the partial removal alternative (Alternative 3), which includes removal of enough of each dam to allow free-flowing river conditions and volitional fish passage for all anadromous species at all times, especially if cost considerations would preclude full removal. The document notes that benefits to the fishery are expected to be similar under Alternatives 2 and 3.

In summary, we appreciate the monumental effort that has gone into development of this environmental analysis over a relatively short time period. We believe that it forms a

Page 3

solid foundation for a positive determination by the Secretary of Interior to remove the hydroelectric facilities and implement the KBRA.

Sincerely,

A handwritten signature in blue ink, appearing to read "D. O. McIsaac", followed by a long horizontal line.

D. O. McIsaac, Ph.D.
Executive Director

JDG:kam

C: Council Members
Habitat Committee Members
Salmon Advisory Subpanel Members



Pacific Fishery Management Council

7700 NE Ambassador Place, Suite 101 Portland, OR 97220-1384
Phone 503-820-2280 | Toll free 866-806-7204 | Fax 503-820-2299 | www.pcouncil.org
Herbert A. Pollard II, Chair | Charles A. Tracy, Executive Director

June 21, 2017

The Honorable Kimberly D. Bose
Secretary, Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Dear Madam Secretary:

The Pacific Fishery Management Council (Council) is submitting this letter in support of the September 2016 application filed by the Klamath River Renewal Corporation (KRRC) and PacifiCorp to transfer PacifiCorp's license to operate the four Klamath Hydroelectric Facilities dams in Oregon and California to the KRRC, and more importantly, in support of an additional application filed by the KRRC requesting the Federal Energy Regulatory Commission (FERC) to approve dam decommissioning and removal of the facilities from the Klamath River. Removal of the Klamath River dams would be a major step toward restoring essential fish habitat (EFH) for Klamath River fall Chinook salmon, the stock whose depleted status has resulted in the closing of substantial ocean and Klamath River fisheries during 2017.

The Council recommends management actions for Federal fisheries off of Washington, Oregon, and California. It is one of eight Regional Fishery Management Councils established by the Magnuson-Stevens Fishery Conservation and Management Act (MSA), which includes provisions to identify, conserve, and enhance EFH for fisheries managed under a Council's fishery management plan. Each Council is authorized under the MSA to comment on any Federal or state activity that may affect the habitat, including EFH, of a fishery resource under its authority. The MSA defines EFH as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity."

The projection for Klamath River fall Chinook potential natural spawner abundance in 2017 is lower than all postseason values estimated from 1985-2016. The age-three ocean abundance forecast is the second lowest on record, while the age-four forecast is the lowest on record—less than half the previous lowest forecast. Due to the extremely low projection for Klamath fall Chinook in 2017, fisheries off the coast of California and Oregon have large closed areas, and those remaining open are at *de minimis* levels. Inriver sport fisheries for fall Chinook salmon in the Klamath River are closed during 2017, and tribal fisheries will be nearly non-existent, resulting in allocations that are far from meeting subsistence needs and providing for no economic opportunity. These closures will have severe economic and social consequences along the coasts of Oregon, California, and in the Klamath Basin. It is noteworthy that there have been several previous years when concerns regarding the status of Klamath fall Chinook salmon have resulted

Page 2

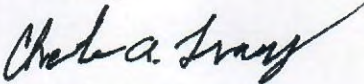
in severe curtailment of fisheries and disaster declarations along the coast of Oregon, California, and within the Klamath River Basin.

Multiple factors contributed to the decline of Klamath fall Chinook in 2017, such as high juvenile disease levels and poor ocean productivity. However, the Klamath dams are thought to be a primary contributing factor to the high juvenile disease levels in the Klamath. The dams create habitat conditions conducive to the proliferation of the parasitic disease *Ceratanova shasta*; a disease that was at extreme infection levels for the juveniles of the age-three and age-four broods that are driving the low projection for 2017.

The Council has followed with keen interest the Klamath Hydroelectric Project relicensing process, as well as the negotiations and eventual agreements that were reached to remove the lower four dams on the Klamath River, given the negative effect these dams have upon EFH and the associated abundance of salmon stocks in the Klamath River. The Council is on record from previously submitted comments to FERC (enclosed) regarding the effects the Klamath dams have upon EFH, the salmon fisheries we manage, and our desire to see the four dams removed to help address habitat and water quality problems of the Klamath River and restore access to several hundred miles of historic anadromous fish habitat.

We are encouraged to see that the Amended Klamath Hydroelectric Settlement Agreement is the impetus that puts us on a trajectory for dam removal in 2020. The agreement appears to have broad support, given that: 1) it is a business decision by PacifiCorp, the owner of the dams, 2) is in the rate-payers' interest, 3) it contributes to the restoration of salmon of the Klamath River, thereby benefiting salmon fisheries along the West Coast, and 4) has sufficient non-Federal funding for implementation. Therefore, we strongly recommend that FERC approve the application to transfer ownership of the Klamath Hydroelectric Project to the KRRC, as well as the application from the KRRC to decommission and remove the dams from the Klamath River.

Sincerely,



Charles A. Tracy
Executive Director

JDG:ael

Enclosure

Cc: Council Members
Habitat Committee
Mr. Barry Thom
Mr. Thomas O'Rourke
Mr. Ryan Jackson
Mr. Judson Feder
Ms. Jennifer Gilden
Mr. Mike Burner