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STATE SENATOR
District - 28**



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Ms. Michelle Siebal
State Water Resources Control Board– Division of Water Rights
Water Quality Certification Program
P.O. Box 2000
Sacramento, CA 95812-2000

July 19, 2018

Re: Opposition to the 401 Water Quality Certification Approval for three dams on the Klamath River

The current and future citizens of California are, and should continue to be beneficiaries of the monumental achievements in water infrastructure that has created California's exemplary agricultural economy. The proposed removal of the four PacifiCorp dams, including the Copco 1, Copco 2 and Iron Gate dams, in California will destroy that very infrastructure.

Therefore, I stand alongside the majority of tax-payers and citizens in firm opposition to State Water Board approval of a water quality certification request for the J Copco 1, Copco 2 and Iron Gate Dam removal project.

This enormous dam removal effort has too many uncertainties which bear negatively on long-term water quality, river habitat and fish spawning grounds due to the river dynamics and existing sedimentary buildup behind the dams.

These dams serve several environmentally beneficial functions by first, creating a series of reservoirs which diminish turbidity and improve water quality as water moves through the system. These reservoirs are essentially giant settling ponds for particulate matter, including erosional debris, dead algae, cobble-sized sediment, pebbles, and valley-fill alluvium.

Particulate organic matter, that originates from Upper Klamath Lake, basin agricultural return flows, municipal and industrial sources in the Klamath Falls area, is largely trapped by the J. C. Boyle, Copco 1, Copco 2 and Iron Gate Dam reservoirs. The overall nutrient loads, including naturally occurring phosphorous rich material, settles behind the dam and never reaches the slower moving and shallower gradient portions of the river system. In turn, also serve to keep sedimentary debris from flowing further downstream.

Although, all four reservoirs are known to have elevated organic loads, they still serve as excellent sedimentary traps. Current estimates range from 15 million to 30 million cubic yards of sediment behind all four dams. The J. C. Boyle dam, had an estimate that was originally 1.5 million cubic yards. Today the estimate has been forced into a range that is deemed politically acceptable, at 600,000 cubic yards. I am not aware of revised estimates for the three California dams but jiggling the numbers in a downward direction certainly sounds like a political move in order to place undue influence on funding agencies, regulatory bodies and the public. The sheer tonnage of material, however, is still a ridiculously large volume of sedimentary debris to consider flushing into the Pacific Ocean. Flushing this debris would be unconscionable and would cause catastrophic harm to the overall river environment, downstream fish populations, spawning grounds and riparian habitats.

Additionally, the toxicity of these enormous volumes of muck and sedimentary composites have not been sufficiently studied. Mining operations have long surrounded the river system throughout So. California and No. California. A U.S. Geological Survey review of mine data (2005), highlights that these past operations released elevated amounts of toxic substances into the watershed, including arsenic, chromium, copper, lead, mercury, nickel, tungsten, uranium, and zinc.

California has been tightening rules, initiating moratoriums and legislating outright bans on various small-volume run-of-river dredge mining operations for years. Therefore, the State Water Board should have serious reservations about the complexities involved in this potential toxic stockpile and be less insistent on approving this certification. Otherwise, the citizens will recognize this current 401-certification process is a politically motivated, agenda-driven water quality charade reeking with double-standards.

The existing dams provide beneficial cleansing structures which allow the massive fresh-flow tributaries, and downstream volumes of low phosphoric, clean water from the western-slope to actually improve water quality as it travels the 250 miles to the Pacific Ocean.

State Water Board should never consider allowing this potential toxic debris into the river system. First, it will never make it to the Pacific Ocean because deep boulder pockets, gravel and cobble bars and the subsequent multiple confluence embankments and ridges that occur along the lower elevations will trap the overwhelming tonnage of debris.

Additionally, the downstream gradient is too shallow, and the river flows will never be sufficient to mobilize the debris field. This is indefensible because all of these toxins, muck and sedimentary debris will devastate the lower river and be nearly impossible to extract once it becomes dispersed along the pockets

While dam critics often complain that dam construction has altered the natural sediment transport processes reducing gravel bar and pocket gravel deposits and thereby reducing salmonid and lamprey spawning and rearing habitats, dam removal is not the solution.

The downstream impacts cannot be ignored. From River Mile 160 to the Pacific Ocean the gradient approaches a mere two percent (.1893) grade (Figure-1). The drop to sea level is only a 1600-foot change in elevation, which is only ten feet per mile. The State Water Board certainly knows the typical waste-water or home septic system would require a slope of 110 feet per mile to drain efficiently.

The purposeful disbursement of this sheer tonnage of debris into the lower portion of the Klamath River system and possibly into the Pacific Ocean would be an immoral act.

In fact, the debris flow today, with the dams in place, is too heavy for the current channelized flows to successfully push into the Pacific. Even with the benefit of increase flows used for dissolution and flushing programs, which are regulated by the dam structures, there is insufficient flow to clear the mouth of the river (Figure-2).

In summary, these three California dams:

- Provide cool water for the continued operations of Iron Gate Fish Hatchery which releases 7 million anadromous fingerlings annually
- Provide clean, renewable, low-cost hydroelectric power for 70,000 households
- Reduce peak flood flows by 25 percent
- Reduce algae blooms in the Lower Klamath River
- Reduce river temperatures in the Lower Klamath River
- Reduce river sedimentation and debris buildup in the Lower Klamath River
- Provide for lakeside camping, hiking, fishing, boating and recreational opportunities
- Provide river rafting and business opportunities
- Provide reservoirs for bio-remediation, while trapping toxins and sediment
- Allow for flow control and remediation techniques, such as flushing flows

These positive attributes provide enormous public benefit and sufficient reason for State Water Board's denial of this step in the dam removal certification process.

In closing, there is another item that State Water Board must consider – Cost.

Original cost estimates ranged from \$1.4 billion and upwards. After 2010, when the US Congress first balked at funding the destruction of the Klamath Dams, there was an enormous effort to “find cost reductions.” The results offered nothing more than cost shifting and slight-of-hand congressional Gerry-rigging of payments from various agency-level accounts. Nevertheless, the public was told of a new cost estimate of \$800 million, a reduction of \$400 million. Today, the Klamath River Renewal Corp. estimates total cost at \$400 - \$450 million dollars, an estimated reduction of nearly \$1 billion. It appears that if we wait a couple of more years the cost would be halved again!

I suggest, that a neat and tidy, \$1 billion cost reduction from the original estimates with an

overall price-estimate today of only \$400 million cannot be legitimate, at least not using the same project scope and equivalent efforts. This begs the question, what items will be added to complete the dam removal project and who will fund future restoration and remediation efforts?

No doubt, tax-payers will end up paying the full-price. They will be burdened with millions of dollars of cost-overruns, future water quality issues, higher rates for base-load electricity, devastated habitat and riparian areas, and the destruction of private property, all because of an over-whelming, unfathomable mindset intent on destroying western civilization's technological advances.

Californians should be the beneficiaries of the monumental investments, hard work and successful achievements made possible by California's water infrastructure. California's status as a modern agricultural and technological engine has been made possible by inexpensive base-load electricity and abundant, well-managed water resources.

Please ensure our heritage by denying approval of the 401 Water Quality Certificate for the dam removal effort encompassing the Copco 1, Copco 2, and Iron Gate dams along the Klamath River system.

Sincerely,



Dennis Linthicum
OR State Senate – District 28

Attachments: Figure-1, Figure-2

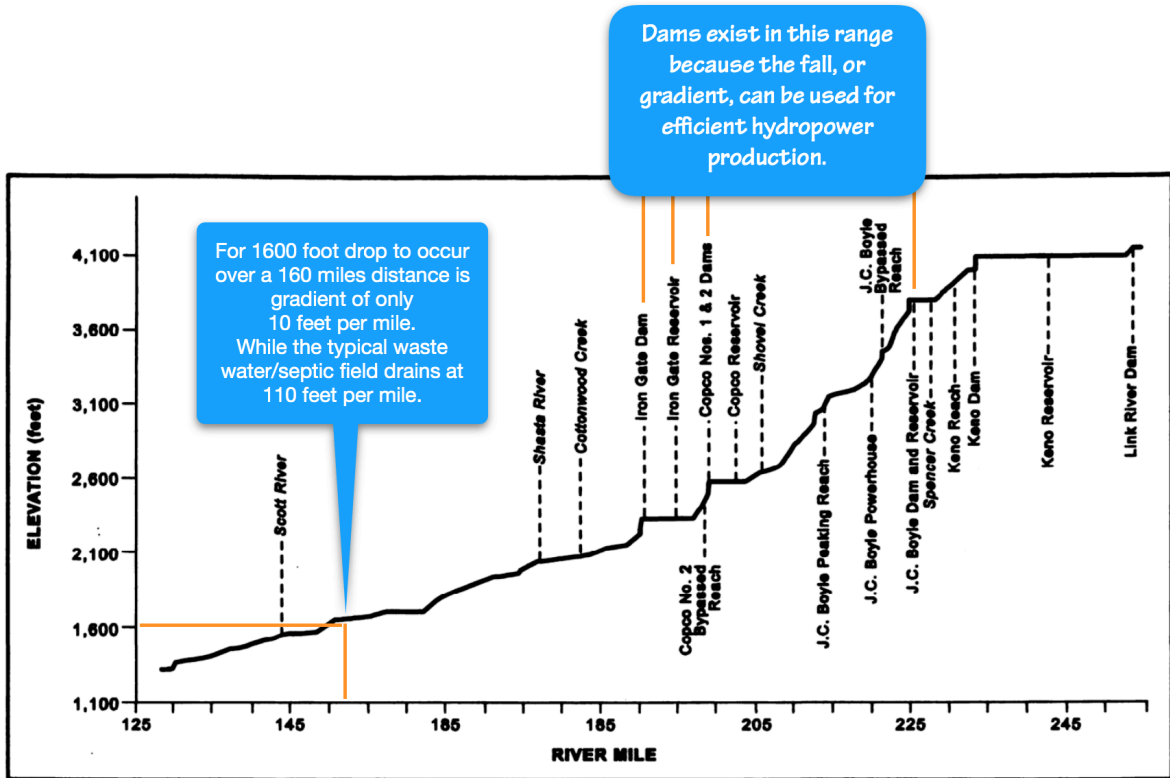


Figure 1 – Klamath River Profile. (Source: PacificCorp, 2004)



Figure 2 - Tonnage of Debris at Mouth of Klamath (Source: gardensforgoldens.com)