

Written Testimony
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Hearing: "Saving Our Dams and New Hydropower Development and Jobs Act of
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Chairman Hastings, Ranking Member Markey and Members of the Committee, thank you for this opportunity to testify and share the United Power Trades Organization's perspective on hydropower in our region. My testimony will primarily focus on the Columbia-Snake River system and more specifically on the four dams of the Lower Snake River Project.

The United Power Trades Organization represents the Trades and Crafts non-supervisory employees at U.S. Army Corp of Engineers hydroelectric projects in Washington, Oregon, Idaho and Montana. These hydroelectric projects make up a portion of the Northwest Division of the Army Corps of Engineers and are divided up into the Portland, Seattle and Walla Walla Districts. The Walla Walla District includes four hydroelectric projects on the lower Snake River that seem to be the target of most dam removal proponents.

The Northwest Division of the U.S. Army Corps of Engineers is a major employer and a huge contributor to the economy of the Pacific Northwest with an annual budget of over \$3 billion and a professional workforce of nearly 4,800. The members of the United Power Trades Organization include the men and women who maintain and operate the equipment at the hydroelectric projects and number over 600. But this number doesn't include the engineers, administrators, biologists, park rangers and the hundreds of others whose jobs are directly connected to the dams, associated lands and reservoirs. Nor does it include the many private companies who by contract, also rely on the existence and operation of the dams for their employment.

The dams of the Columbia-Snake River system are multipurpose in that they provide hydropower, flood control, navigation, irrigated agriculture and recreation. The benefits of the dams cannot be measured by megawatts alone but in the overall value they provide a region.

Hydropower is clean, renewable and plays a significant role in Pacific Northwest power production. Northwest residents and businesses enjoy lower power bills when compared to other regions of the United States which is directly attributable to hydropower. The dams of the Columbia-Snake River system alone produce enough power to meet the needs of more than 13

million homes with the surplus exported, providing additional economic importance to the Northwest. Only hydropower has the instantaneous capability to meet peak demands and provide power for heat when temperatures are frigid or sustain power for cooling on exceptionally hot days. Hydropower costs much less to produce than any other source such as nuclear, coal or natural gas and is pollution free, with zero emissions. The firm power alone provided by the dams of the Columbia-Snake River system keeps close to 30 metric tons of CO₂ out of the air. This is similar to taking nearly 6 million cars off the road.

Hydropower is clean, carbon-free, renewable and reliable. Hydro supports wind and other renewables by providing the peaking power necessary to meet demand. Hydropower turbines are capable of converting 90 percent of available energy into electricity, which is more efficient than any other form of generation. Even the best fossil fuel power plant is only about 50 percent efficient. Wind has about 30 percent efficiency. After hydropower, 83 percent of the region's energy production is from fossil fuels coal or natural gas.

Considering the four Lower Snake River dams alone, it would take 2 nuclear, 3 coal-fired, or 6 gas-fired power plants to replace their annual power production. It would take 3 nuclear, 6 coal-fired, or 14 gas-fired power plants to provide the peaking capacity of these four dams. It has been estimated that the cost to replace these dams with natural gas-fired generation would be \$444 million to \$501 million a year. It has also been estimated that it would cost \$759 million to \$837 million a year if these dams were replaced with a combination of wind, natural gas and energy efficiency.

Navigation is a major benefit of the Columbia-Snake River system of dams. They provide 365 miles of navigable water from Portland/Vancouver to Lewiston, Idaho. Barging is the lowest cost, most fuel efficient and least polluting transportation mode. Each year, barging keeps 700,000 trucks off the highways through the Columbia River Gorge. The facts speak for themselves. The Columbia-Snake River system is the number one wheat export gateway in the United States and the second largest wheat corridor in the world. It is the number one barley export gateway in the United States. It is number one in West Coast paper and paper products exports. It is number one in West Coast mineral bulk exports and number one in West Coast auto imports. Ten million tons of commercial cargo travel through the system annually with a value around two billion dollars.

Navigation through the Columbia-Snake River system provides a vital transportation link for the states of Idaho, Montana, Oregon and Washington. The economies of these four states rely on the trade and commerce that flows up and down the most important commercial waterway of the Northwest. Navigation is fuel efficient. A ton of commodity goods can move 524 miles by barge on one gallon of fuel, compared to 202 miles by rail and 59 miles by truck. The average barge can transport 3500 tons of wheat which would require 35 jumbo rail cars or 134 trucks. The economic benefit of the Columbia-Snake River system cannot be doubted. Tens of thousands of jobs are dependent on this trade and local economies benefit from \$15-20 million in annual revenue from the 15 thousand passengers yearly on 5-7 day cruise tours.

Irrigated Agriculture is the economic powerhouse of the West. The net value of irrigated agriculture to all western states is over \$60 billion. Net earned income from agricultural production in the three Northwest states exceeds \$8 billion annually. Northwest states are the leading U.S. producers of apples, potatoes, raspberries, blackberries, asparagus, currants, hops, lentils, concord grapes, sweet cherries, spearmint and peppermint oil, pears, sweet corn, and frozen peas. All of these crops are grown on irrigated land. Northwest exports of irrigated agricultural products exceed \$1.4 billion annually. Food processing in the Northwest adds another \$6 billion in sales value just for fruit, vegetables and specialty products. Food processing is the largest manufacturing employment sector in the state of Idaho and the second largest in both Washington and Oregon. The net direct value to the economy of one-acre foot of water, when used for irrigation is over \$50 per acre-foot. The Columbia Basin Project alone supplies about 2.6 million acre feet per year. It is the dams that provide the water for irrigation and as a direct result help sustain the economy of the Northwest.

The Walla Walla District employs over 800 people, with over 400 working at the hydroelectric projects McNary, Ice Harbor, Lower Monumental, Little Goose, Lower Granite and Dworshak. In addition to being a major employer, the District pumps millions of dollars into the local economies. The anticipated fiscal year 2012 budget for the District is \$193 million with 57 percent of this funding coming directly from the Bonneville Power Administration (BPA). The power produced by the District dams, like other projects in the Northwest, is sold by BPA who, in turn, direct funds the operation and maintenance of the dams, plus provides additional funding for major work. This means that over \$100 million annually is provided the area economy as a result of the power sales of these District hydroelectric projects.

Removal of the Snake River dams would be a detriment to a large amount of irrigated agriculture, would eliminate barging from Pasco to Lewiston, Idaho, and would damage the electrical infrastructure that relies on these generating units not only for power production, but for reactive support that helps to stabilize the electrical grid of the Northwest. While BPA markets power from 31 federal dams, only the 10 largest dams keep the federal power system operating reliably through Automatic Generation Control (AGC) which includes the four Lower Snake River projects. Under AGC, when total generation in the power system differs from the total load being consumed, automatic signals go to these few dams to increase or decrease generation. This is especially critical when generating facilities are suddenly added or dropped from the system. Removal of the dams would cost hundreds if not thousands of jobs. Jobs at the dams themselves would be lost, contracting jobs would be lost, farm jobs would be lost as a result of a large decrease in the amount of irrigated agricultural lands, and jobs related to the barging of commodities would be lost. The impact on the region would be devastating.

The fact is that science does not support the position that the lower Snake River dams need to be removed in order to aid in fish survival. Scientists using special acoustic tags planted in fish found that the survival rate of Idaho juvenile salmon reaching the ocean identical to migrating salmon that originate in the Yakima drainage in Washington. In other words, juvenile salmon passing through the four Snake River dams suffered no higher mortality rate than those that did not. Even more surprising is findings that show the survival rate of both Yakima and Clearwater

fish was the same as survival measured in the Fraser River in British Columbia, a river with no dams. In addition, another finding from the research revealed that juvenile salmon transported by fish barges survived from Lower Granite Dam to the northern tip of Vancouver Island at five times the rate of fish that were not barged. This information strongly contradicts any claims by environmental groups that the removal of the dams is necessary for fish to survive and that barging juvenile salmon through the dams is ineffective.

It is time to eliminate dam removal from the discussion on the best way to support migrating fish. Studies have shown that adult fish have no problem passing through the dams at extremely high survival rates. Studies have also shown that the vast majority of juvenile fish migrating downstream are near the surface, so screens at the intakes of generators are positioned to direct them into bypass channels where they are collected for barge transport or bypassed back to the river. Weirs are in place on the spillways that allow for spilling water directly from the surface, thus providing another effective bypass for juvenile fish traveling downstream. It is the existence of these spillway weirs that make any additional spilling unnecessary and, in fact, can have an adverse affect on fish due to the increase in dissolved gases that result when spilling from bays that don't have the spillway weir. Fish passage plans are in place at each facility and overseen by federal and state biologists to assure that hydro plants are operated in criteria most advantageous to fish passage.

“The utter disappearance of the salmon fishery of the Columbia is only a question of a few years.” That prediction was made by Hollister McQuire, Oregon Fish and Game Protector in '94. What makes this quote newsworthy is that it was made in 1894, long before the first dam was constructed on the Columbia-Snake River system. The decline of Columbia River salmon began in the 1800's and was originally attributed to two factors: over fishing and environmental degradation from such human activities as mining and logging. Millions of dollars have been spent during the last couple of decades studying the problem and millions more have been spent on making hydroelectric facilities as fish friendly as possible, even though studies have shown very little difference, if at all, between the decline of salmon runs on rivers with and without dams. Too much blame has been placed on the dams when it is obvious that no single factor caused the salmon decline. And no single factor will solve the problem. Solutions must look at all factors impacting salmon decline, including dam operations, fish harvest levels, hatchery practices, degradation of habitat where salmon lay their eggs and the impact of ocean conditions. R. Hilborn from the University of Washington was quoted as saying “Any attempts to understand the impact of in-river action on survival will be confounded by changes in ocean conditions. The poor returns of Chinook salmon in the early 1990's are to a large extent almost certainly due to poor ocean survival, whether or not they encounter dams.” My point here is that increasing and maintaining fish runs is a multifaceted problem that requires solutions to many different factors. Since studies have shown that the survival rate of migrating fish is the same on rivers with dams as they are without, the focus should be on ocean conditions and their impact rather than dam removal which would provide no benefit.

The dams have been upgraded extensively at great cost and the improvements work. Dam operation now maximizes attraction water for adult fish and improves downstream migration

due to flow augmentation that also serves to cool the reservoirs during low water months. Rotating screens at the turbine intakes direct fish to bypass channels where they are collected for barging or bypassed back to the river. And spillway weirs are strategically placed to provide a gentle “slide” for juvenile fish to travel downstream unharmed. Since removal of the dams would provide no benefit to fish survival, it makes absolutely no sense to continue studying a non-solution.

A poll taken by Northwest voters indicate the people of the Northwest value clean, reliable, renewable, climate friendly hydropower. Key findings of the poll include that 88% of the poll’s respondents view hydro as a renewable resource similar to wind and solar sources, 69% understood that wind is less reliable than hydro, 75% recognize that hydro does not contribute to global warming and 79% support designation of hydro as a renewable resource by the U.S. Congress and state legislatures. Additionally, 71% agree that removing the lower Snake River dams would be an extreme solution, 65% believe that the billions planned to be spent to improve salmon runs is enough; removing dams is unnecessary and 75% are unwilling to further reduce electricity generated by hydropower to help salmon if it means fossil fuels replace the lost hydropower.

In conclusion, the facts speak for themselves. Dam removal will not increase fish survival and would have a significant negative impact on our economy and environment by eliminating about 1,020 average megawatts of carbon-free energy, increasing greenhouse gasses by 4.4M tons/yr and reducing navigation capacity. H.R. 6247, by enacting funding prohibitions on dam removal ensures that the focus of salmon and steelhead recovery is on actions that actually work and help fish.

Thank you again for this opportunity to testify before the committee.

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