# Committee on Natural Resources
Rob Bishop, Chairman
Hearing Memorandum

September 7, 2018

To: All Natural Resources Committee Members

From: Majority Committee Staff, Subcommittee on Water, Power and Oceans (x-58331)

Hearing: Full Committee Hearing on *"The Federal Columbia River Power System: The Economic Lifeblood & Way of Life for the Pacific Northwest"*
**September 10, 2018, 10:00 am; Pasco, Washington**

---

The Committee on Natural Resources will hold an oversight hearing titled *"The Federal Columbia River Power System: The Economic Lifeblood & Way of Life for the Pacific Northwest"* on **Monday, September 10, 2018, 10:00 AM PDT, in Pasco, Washington.** The hearing will focus on the multipurpose benefits of the Columbia and Snake Rivers and the Federal Columbia River Power System.

**Policy Overview**

- The Columbia and Snake River dams are the backbone of the economy and way of life in the Pacific Northwest, generating vast amounts of clean, renewable hydropower that generates jobs and boosts local economies, supporting commercial navigation and providing irrigation for some of the nation's most significant crops.

- Federal and non-federal dams along the Columbia and Snake Rivers generate over 60% of the Northwest's energy through hydropower and enable cargo transportation by barge, both of which significantly reduce greenhouse gas emissions in the region.

- Despite successful, bipartisan collaborative efforts by the Northwest States, tribes and other entities to develop robust measures to protect salmon, the Federal Columbia River Power System has been subject to constant litigation, failing to see through a single Biological Opinion (BiOp) since the protected species residing in the river were listed.

- The hearing will focus on the economic and environmental benefits of federal infrastructure on the Columbia and Snake Rivers and the challenges to their long-term viability.

**Witnesses Invited** (*in alphabetical order*)

*Ms. Terry Flores*
Executive Director, Northwest RiverPartners
Portland, Oregon

*Ms. Marci Green*
President, Washington Association of Wheat Growers
Ritzville, Washington

*Mr. Dan James*
Deputy Administrator, Bonneville Power Administration
Portland, Oregon

*Mr. Kris Johnson*
President & CEO, Association of Washington Business
Olympia, Washington

*Hon. Doc Hastings*
Pasco, Washington

*Hon. McCoy Oatman*
Vice-Chairman, Nez Perce Tribe
Location

*Mr. Rob Rich*
Vice President Marine Services, Shaver Transportation
Portland, Oregon

*Mr. Glen H. Spain*
Northwest Regional Director, Pacific Coast Federation of Fishermen's Associations
Eugene, Oregon

## Background

*History of the Columbia River Basin*

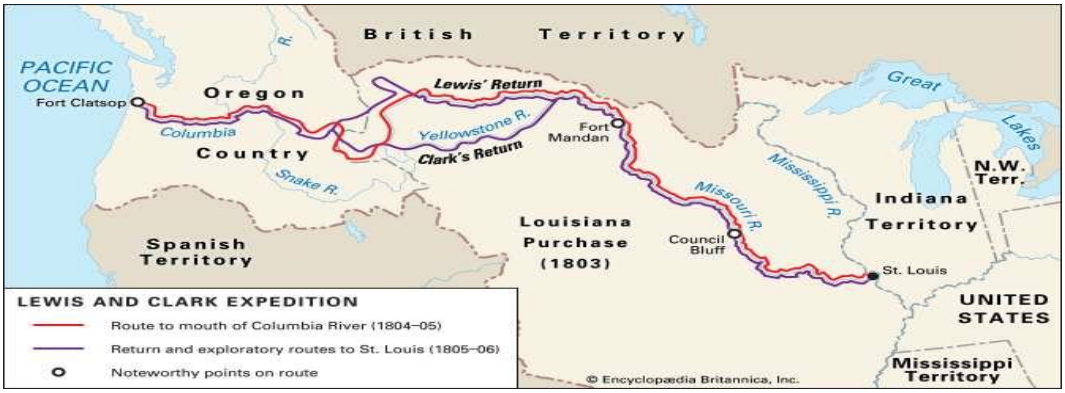

Map 1: The Columbia River Basin
*Source: Lake Roosevelt Forum*

The Columbia River drains an approximately 258,000 square mile basin that includes parts of seven States (Washington, Oregon, Idaho, Montana, Wyoming, Utah and Nevada) and the Canadian province of British Columbia.[1] Originating in the Canadian Rocky Mountains and flowing for approximately 1,240 miles, it is the 4th largest river by volume in North America.[2] On average, the Columbia River discharges 198 million acre-feet of water into the Pacific Ocean annually. Snowmelt during the spring and summer months drive the highest discharge volumes with the lowest levels of discharge occurring between December and March.[3] Of the Columbia River's major tributaries, the Snake River (Snake) is the largest by both length (1,078 miles) and average annual discharge (54,830 cubic feet per second (cfs) at Ice Harbor Dam).[4] The Snake originates in the southeastern corner of Yellowstone National Park in northwestern Wyoming and flows through Idaho, along the Oregon-Idaho border, and into Washington where it empties into the Columbia River.[5]

Native Americans originally settled the Columbia River Basin and relied mainly on hunting, gathering and fishing for survival.[6] Spanish settlers first discovered this region in the

[1] Marts, M.E. (1999). Columbia River in *Encyclopaedia Britannica*. Retrieved from https://www.britannica.com/place/Columbia-River.
[2] U.S. Bureau of Reclamation Staff (2016). *Basin Report: Columbia River*. U.S. Bureau of Reclamation, U.S. Department of the Interior. Retrieved from https://www.usbr.gov/climate/secure/docs/2016secure/factsheet/ColumbiaRiverBasinFactSheet.pdf.
[3] Lang, W. L. (2018). Columbia River in *The Oregon Encyclopedia*. Retrieved from https://oregonencyclopedia.org/articles/columbia_river/#.W3ihV-hKiUk.
[4] Northwest Power and Conservation Council Staff. *Columbia River: Description, Creation, and Discovery*. Columbia River History Project, Northwest Power and Conservation Council. Retrieved from https://www.nwcouncil.org/reports/columbia-river-history/columbiariver.
[5] Editors of Encyclopaedia Britannica (1999). Snake River in *Encyclopaedia Britannica*. Retrieved from https://www.britannica.com/place/Snake-River.
[6] Horstman, M. C. and Woods, P. D. (1996). *Study on the Historic Settlement of the Columbia River Basin*. U.S. Forest Service, U.S. Department of Agriculture, at 3. Retrieved from https://www.fs.fed.us/r6/icbemp/science/woods.pdf.

16th century in pursuit of valuable resources such as turquoise, silver, gold and furs.[7] Although early 16th and 17th century explorers never laid eyes on the Columbia River, they did recognize the impact of its massive freshwater discharge along the Olympic Coast.[8] On May 11, 1792, American ship captain Robert Gray became the first Euro-American voyager to encounter the mouth of the Columbia.[9]




Map 2: Route of Lewis and Clark to the Columbia River and Pacific Ocean
*Source: Encyclopaedia Britannica*

Meriwether Lewis and William Clark in the early 1800s were the first Euro-Americans to thoroughly explore the Pacific Northwest, following the Columbia River system to the Pacific Ocean.[10] Shortly thereafter, permanent and semi-permanent economic centers, focused on trade in natural resources, took root throughout the region. Initial settlements centered around fur trading, but over the first half of the 19th century, settlers arrived in the region to farm the land, raise cattle and sheep, find gold and other precious minerals, and establish a variety of other industries.[11] Growing economic activity in the western United States (West) created a huge demand for lumber and a resultant booming wood products industry in the Pacific Northwest.

*Development of the Columbia River*

As agriculture increased throughout the region, the demand on water supplies and need for irrigation projects increased. Many landowners developed small, local irrigation systems throughout the second half of the 19th century, and the federal government began to aid in the development of irrigation infrastructure for small family farms – up to 160 acres of land per

[7] Northwest Power and Conservation Council Staff. *Columbia River: Description, Creation, and Discovery*. Columbia River History Project, Northwest Power and Conservation Council. Retrieved from https://www.nwcouncil.org/reports/columbia-river-history/columbiariver.
[8] Id.
[9] Id.
[10] Horstman, M. C. and Woods, P. D. (1996). *Study on the Historic Settlement of the Columbia River Basin*. U.S. Forest Service, U.S. Department of Agriculture, at 3. Retrieved from https://www.fs.fed.us/r6/icbemp/science/woods.pdf.
[11] Id at 4.

landowner – throughout the West with the passage of the Reclamation Act of 1902 (32 Stat. 388, Ch. 1093). It was not until the 1920s that the federal government seriously explored developing major infrastructure along the Columbia River. Congress directed the U.S. Army Corps of Engineers (Corps) to study potential development along the Columbia River in the River and Harbors Act of 1925 (43 Stat. 1186, Ch. 467). On March 29, 1932, the Chief of Engineers for the Corps submitted a report detailing proposed development on the Columbia; this report proposed ten dams along the mainstem of the Columbia River, beginning with what is now the Bonneville Dam and ending with what is now Grand Coulee Dam.[12]

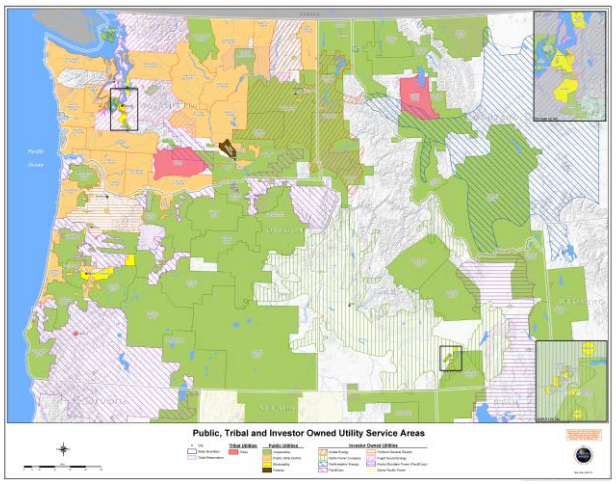
As the nation sunk into the Great Depression, these plans became political realities as major dam construction became the centerpiece of President Franklin Roosevelt's "New Deal". On September 30, 1933, President Roosevelt authorized the construction of Bonneville Dam under the National Industrial Recovery Act.[13] In that same year, President Roosevelt authorized funds for the construction of Grand Coulee Dam, and in 1935 Congress specifically authorized its construction in the River and Harbors Act of 1935 (74 Stat. 480). Bonneville and Grand Coulee Dams were completed in 1937 and 1942, respectively.[14]

Picture 1: Construction underway at Grand Coulee Dam
*Source: U.S. Fish and Wildlife Service*

The hydropower produced by these dams powered the United States' war effort throughout World War II, fueling energy intensive industries such as aluminum and shipbuilding in the Pacific Northwest.[15] The war industries in the Pacific Northwest produced almost 750 large ships, utilized more than 2 million tons of steel, employed approximately 100,000 workers, and, at its peak, accounted for over 25% of the entire aluminum output of the United States.[16]

[12] Billington, D. P., Jackson, D. C., & Melosi, M. V. (2005). *The History of Large Federal Dams: Planning, Design, and Construction in the Era of Big Dams*. U.S. Bureau of Reclamation, U.S. Department of the Interior. Denver, Colorado, at 191. Retrieved from https://www.usbr.gov/history/HistoryofLargeDams/LargeFederalDams.pdf.
[13] Id at 194.
[14] Id at 201 and at 221.
[15] Bonneville Power Administration (2012, October 31). *BPA powered the industry that helped win World War II* [Press Release]. Retrieved from https://www.bpa.gov/news/newsroom/Pages/BPA-powered-the-industry-that-helped-win-World-War-II.aspx.
[16] Id.

President Harry Truman stated in 1948 that "[h]ad we not had that power source [from Bonneville and Grand Coulee Dams], it would have been almost impossible to win this war".[17]




Map 3: Area served by BPA wholesale customers
*Source: Bonneville Power Administration*

The completion of these two dams effectuated the Federal Columbia River Power System (FCRPS). In total, FCRPS comprises 31 federal hydropower dams all of which were completed before 1977.[18] The Corps owns 21 of these dams while the Bureau of Reclamation (Reclamation) owns the remaining ten.[19] FCRPS hydropower projects have a combined generation capacity of 22,458 megawatts (MW).[20] The four dams with the largest capacity are Grand Coulee (7,079 MW), Chief Joseph (2,614 MW), John Day (2,480 MW), Bonneville (1,225 MW), and McNary (1,120 MW).[21]

The Bonneville Power Administration (BPA) markets and delivers the hydropower generated at these facilities to 143 wholesale customers, consisting primarily of rural electric cooperatives, municipalities, and public utility districts.[22] BPA is a self-financing agency required to set electric power rates sufficient to repay the federal investment in the generating and transmission assets and recover costs associated with the operation and maintenance of these federal facilities. While hydropower accounts for approximately 8% of the nation's total generating capacity, this renewable energy resource accounts for nearly 60% of electricity used

[17] *Rear Platform Remarks in Idaho, June 7, 1948*. Public Papers: Harry S. Truman 1945-1953. Independence, MO: Harry S. Truman Presidential Library & Museum. Retrieved at https://www.trumanlibrary.org/publicpapers/index.php?pid=1653.
[18] U.S. Army Corps of Engineers, Bonneville Power Administration, & U.S. Bureau of Reclamation (2003). *Federal Columbia River Power System* [Brochure], at 7. Retrieved at https://www.bpa.gov/p/Generation/Hydro/hydro/fcrps_brochure_17x11.pdf.
[19] USACE: Bonneville, The Dalles, John Day, McNary, Chief Joseph, Albeni Falls, Libby, Ice Harbor, Lower Monumental, Little Goose, Lower Granite, Dworshak, Big Cliff, Detroit, Foster, Green Peter, Cougar, Dexter, Lookout Point, Hills Creek, Lost Creek.
BOR: Chandler, Roza, Grand Coulee, Hungry Horse, Black Canyon, Boise River Diversion, Anderson Ranch, Minidoka, Palisades, Green Springs.
[20] Bonneville Power Administration (2018). *BPA facts* [Brochure], at 2. Retrieved from https://www.bpa.gov/news/pubs/GeneralPublications/gi-BPA-Facts.pdf.
[21] Id.
[22] Id. at 1.

in the Pacific Northwest.[23] BPA provides approximately 28% of the total power used in the region, and in 2017, hydropower accounted for 82.8% of BPA's generation resources.[24]

Since the passage of the Northwest Power Act (Public Law 96-501) in 1980, BPA ratepayers have financed the agency's Fish and Wildlife Program.[25] This program was created to mitigate, protect, and enhance fish and wildlife populations and their habitat in the Columbia Basin.[26] The costs of this program include lost power generation caused by water spillage used for environmental purposes, power purchases to replace lost generation, and on-the-ground work including structural modifications at dams, habitat protection, research and fish hatcheries.[27] A significant amount of the program's costs are dedicated to salmon protections mandated under the Endangered Species Act (ESA, 16 U.S.C. 1531 et seq.). According to Scott Corwin, Executive Director of the Public Power Council, which represents consumer-owned utilities in the Pacific Northwest, "[t]hese efforts cost around $700 million per year (about 25 to 30 percent of the wholesale power cost), and some of the measures impose large constraints on the production of clean hydropower."[28] These costs are passed on to BPA's electricity customers.

*The Snake River Dams*

The Snake has 15 dams in total, with the dams along the Upper Snake primarily used for irrigation while the dams along the Lower Snake, beginning around Brownlee Dam, generate the most electricity. The four dams on the Lower Snake River – the stretch of the Snake in Washington just before it joins the Columbia – are the most significant power producing dams along this tributary. Little Goose, Ice Harbor, Lower Monumental, and Lower Granite Dams have a combined generating capacity of 3,033 MW; this is enough energy to power a city the size of Seattle.[29] In May 1962, then-Vice President Lyndon B. Johnson, when dedicating Ice

---

[23] Federal Energy Regulatory Commission Staff (2017). *Hydropower Primer: A Handbook of Hydropower Basics*. Office of Energy, Federal Energy Regulatory Commission, at 1. Retrieved from https://www.ferc.gov/legal/staff-reports/2017/hydropower-primer.pdf;

[24] Bonneville Power Administration (2018). *BPA facts* [Brochure], at 2. Retrieved from https://www.bpa.gov/news/pubs/GeneralPublications/gi-BPA-Facts.pdf.

[25] Northwest Power and Conservation Council Staff (2016). *2016 Columbia River Basin Fish and Wildlife Program Costs Report*. Northwest Power and Conservation Council, at 7. Retrieved from https://www.nwcouncil.org/sites/default/files/2017-2.pdf.

[26] Bonneville Power Administration. *Fish & Wildlife*. Retrieved from https://www.bpa.gov/efw/FishWildlife/Pages/default.aspx.

[27] Northwest Power and Conservation Council Staff (2016). *2016 Columbia River Basin Fish and Wildlife Program Costs Report*. Northwest Power and Conservation Council, at 8. Retrieved from https://www.nwcouncil.org/sites/default/files/2017-2.pdf.

[28] *The Power Marketing Administrations: A Ratepayer Perspective: Hearings before the Committee on Natural Resources Subcommittee on Water and Power*, House of Representatives, 113th Cong. (2013) (Testimony of Mr. Scott Corwin), at 5. Retrieved from https://naturalresources.house.gov/uploadedfiles/corwintestimony06-26-13.pdf.

[29] Northwest RiverPartners. *Value of Snake River Dams*. Retrieved from https://nwriverpartners.org/value-of-snake-river-dams.

Harbor Dam, stated the dam "made the country stronger and our freedom more secure," and that "wise investment in a resource program today will return vast dividends tomorrow."[30]

In addition, water from the Snake irrigates 3.8 million acres, and is the most significant tributary for Idaho's economy.[31] These dams also make possible commercial navigation from the Pacific Ocean throughout the Pacific Northwest. Barge transportation is one the most environmentally friendly forms of cargo transportation as barged can transport one ton of cargo 576 miles on one gallon of fuel, compared to 413 and 155 miles for rail and truck shipping, respectively.[32] In 2014, 4.4 million tons of cargo were barged on the Snake and nearly 10% of all U.S. wheat exports moved through the Snake River dams.[33]

*Economic and Jobs Impact of the Columbia River and FCRPS*

In 2017, the combined GDP of the Pacific Northwest was approximately $863 billion.[34] If the Pacific Northwest were a country, it would rank as the 16th largest economy in the world.

Irrigation: Approximately 6% of the Columbia River's annual runoff is used to irrigate some 7.8 million acres of land in the Pacific Northwest.[35] The River irrigates over 300 crops grown in the Pacific Northwest including potatoes, barley, wheat, apples, hops, and grapes.[36] Prudent use of scarce water supplies resulted in a 10-25% decrease in water use per acre in the Columbia River Basin between 2003 and 2013.[37]

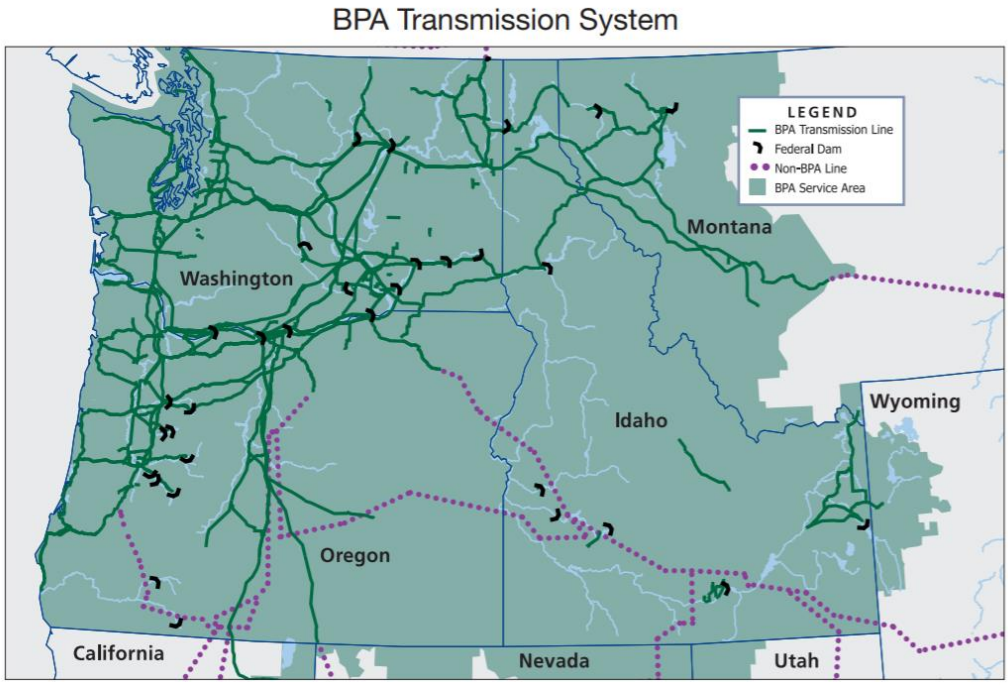
The apple industry in Washington has a sales impact of $2.2 billion[38], while 77% of the U.S. hop crop comes from the Yakima Valley.[39] In 2014, accounting for exports, Idaho agriculture had a sales impact of $27.8 billion supporting 128,200 Idaho jobs, $3.7 billion in

[30] http://www.historylink.org/File/7607
[31] Northwest Power and Conservation Council Staff. *Snake River*. Columbia River History Project, Northwest Power and Conservation Council. Retrieved from https://www.nwcouncil.org/reports/columbia-river-history/SnakeRiver.
[32] Pacific Northwest Waterways Association. *Snake River Dams: Safe, Efficient Navigation*. Retrieved from http://www.snakeriverdams.com/safe-efficient-navigation/.
[33] Id.
[34] U.S. Bureau of Economic Analysis (2017). *Gross domestic product (GDP) by state (millions of current dollars) – All industry total, 2017*. Retrieved from https://apps.bea.gov/iTable/iTable.cfm?reqid=99&step=1#reqid=99&step=1&isuri=1. (For ease of calculation, this GDP figure includes the entire GDP of Montana, although only the eastern portion of the state is traditionally considered part of the Pacific Northwest.)
[35] Northwest RiverPartners (2013). *Northwest Hydropower and Columbia Basin River Benefits* [Brochure], at 8. Retrieved from https://nwriverpartners.org/wp-content/uploads/2015/04/nwrp_pocket_guide_2013.pdf.
[36] American Farmland Trust. *Pacific Northwest*. Retrieved from https://www.farmland.org/our-work/where-we-work/pacific-northwest.
[37] Northwest RiverPartners (2013). *Northwest Hydropower and Columbia Basin River Benefits* [Brochure], at 8. Retrieved from https://nwriverpartners.org/wp-content/uploads/2015/04/nwrp_pocket_guide_2013.pdf.
[38] American Farmland Trust. *Pacific Northwest*. Retrieved from https://www.farmland.org/our-work/where-we-work/pacific-northwest.
[39] Washington Beer Commission. *The Hops*. Retrieved from https://washingtonbeer.com/washington-hops/.

wages and an additional $10.3 billion in value added impacts.[40] Development of the river system has also supported a booming wine industry in the region. According to the Washington State Wine Commission, Washington is the 2nd largest premium wine producer in the United States. With nearly 1,000 wineries in the State, the industry has a $4.8 billion economic impact.[41]

Commercial navigation: The Corps maintains the Columbia River Navigation Channel and manages the river system to ensure safe navigation throughout.[42] Each dam along the lower Columbia and Snake Rivers has an associated lock to facilitate vessel traffic. Approximately 17 million tons of cargo traverse these rivers each year.[43] Barging in the Pacific Northwest keeps approximately 700,000 trucks off regional highways every year.[44] According to the Pacific Northwest Waterways Association, the Columbia River is the top route for wheat, West coast wood, West coast bulk minerals and West coast auto exports.[45] Eleven States export wheat through the river system, and the Columbia/Snake River system accounts for over 50% of all wheat exports.[46] In 2016, 25% of all U.S. soy exports, 23% of U.S. corn exports, 2.7 million logs, and 3.6 million tons of mineral bulks were exported through the system.[47] The river system also supports a robust tourism industry in the region. In 2017, 18,000 passengers visited the region on cruise ships and contributed approximately $15 million to the local economy.[48]

[40] Watson, P. & Ringwood, L. (2016). *Economic Contribution of Idaho Agribusiness* [Brochure], College of Agricultural and Life Sciences, University of Idaho, at 9. Retrieved from https://www.cals.uidaho.edu/edcomm/pdf/BUL/BUL892.pdf.
[41] Washington State Wine Commission. *Washington State Wine Fast Facts*. Retrieved from https://www.washingtonwine.org/wine/facts-and-stats/state-facts.
[42] Port of Portland. *River Navigation*. Retrieved from https://www.portofportland.com/Navigation.
[43] Northwest Power and Conservation Council Staff. *Navigation*. Columbia River History Project, Northwest Power and Conservation Council. Retrieved from https://www.nwcouncil.org/reports/columbia-river-history/navigation.
[44] Northwest RiverPartners (2013). *Northwest Hydropower and Columbia Basin River Benefits* [Brochure], at 6. Retrieved from https://nwriverpartners.org/wp-content/uploads/2015/04/nwrp_pocket_guide_2013.pdf.
[45] Pacific Northwest Waterways Association (2018). *Columbia Snake River System Facts* [Brochure], at 1. Retrieved from https://www.pnwa.net/factsheets/CSRS.pdf.
[46] Id. at 2.
[47] Id.
[48] Id.




Map 4: BPA Transmission System
*Source: Bonneville Power Administration*

Power: Under Reclamation's policy, hydropower is typically first used to provide electricity to operate irrigation pumps, and any remaining Reclamation hydropower is then primarily sold by BPA to wholesale customers.[49] The wholesale electricity rates are designed to repay the federal capital investment – plus interest – in federal electricity generation and transmission facilities, annual operation and maintenance costs of such facilities, and federal staffing.[50] In total, Columbia River dams produce 14,000 average MW of clean, renewable hydroelectricity per year, enough energy to power nearly 11 cities the size of Seattle.[51] Almost two-thirds of the region's supply of hydropower comes from federal hydroelectric dams.[52]

Although the direct socioeconomic impacts of this inexpensive source of renewable energy pervade the region, FCRPS contributes significantly to the stability of the regional electric grid. BPA operates over 15,000 circuit miles, or 75%, of the high voltage transmission lines in the Pacific Northwest.[53] Hydropower has the unique capability to begin generation

[49] U.S. Bureau of Reclamation. *Reclamation-Wide Power Profile*. Power Resources Office, U.S. Bureau of Reclamation, U.S. Department of the Interior, at 2. Retrieved from https://www.usbr.gov/power/data/recl-wid.pdf.
[50] U.S. Government Accountability Office (2000). *Power Marketing Administrations: Their Ratesetting Practices Compared With Those of Nonfederal Utilities*. Report to the Chairman, Subcommittee on Water and Power, Committee on Resources, House of Representatives, at 9-10. Retrieved from https://www.gao.gov/assets/240/230206.pdf.
[51] Northwest RiverPartners (2013). *Northwest Hydropower and Columbia Basin River Benefits* [Brochure], at 3. Retrieved from https://nwriverpartners.org/wp-content/uploads/2015/04/nwrp_pocket_guide_2013.pdf.
[52] Id.
[54] National Hydropower Association. *Hydropower is Reliable*. Retrieved from https://www.hydro.org/waterpower/why-hydro/reliable/.

immediately and without requiring a kickstart from an external power source. This was displayed in the 2003 blackout in the Northeastern U.S. which affected nearly 50 million people, where hydropower was instrumental in restoring power supplies due to this "blackstart" capability.[54]

Hydropower is also the only renewable energy resource capable of providing base load power – "the minimum amount of electric power delivered or required over a given period of time at a steady rate."[55] Given the intermittent nature of prominent renewable resources like solar and wind, emissions-free hydropower serves as an ideal complement to these systems. Wind accounts for 4,800 MW of BPA's generation capacity, but utilities require operating reserves to mitigate for unexpected declines in generation.[56] Natural gas may serve as an adequate complement, but hydropower requires slightly less startup time, emits fewer greenhouse gases, and is significantly more efficient in converting fuel to electricity (See figure 1).

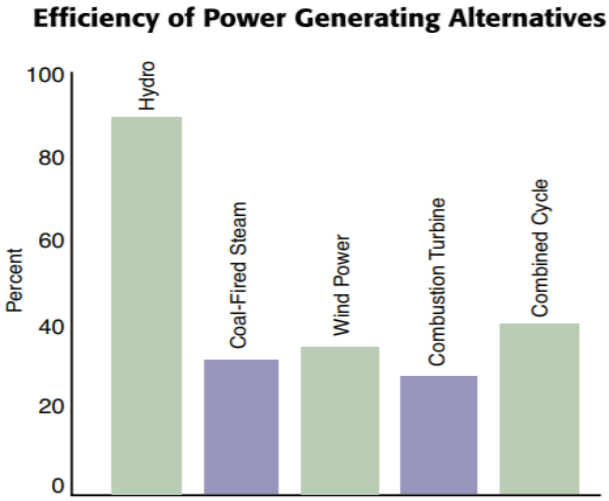


Figure 1: Efficiency of various electricity generation sources
*Source: U.S. Army Corps of Engineers*

Economic Activity and Jobs: Hydropower produced by the Northwest's dams has been a major factor in decisions by major companies and other small businesses to locate and operate in the Northwest. For example, over the past decade, technology giants Yahoo, Microsoft, Dell, Intuit, Vantage, and Intergate have established data centers, and BMW has located a major production plant--all in Grant County, Washington, in large part due to the availability of affordable hydropower.[57]

*FCRPS Litigation*

ESA requires the Corps, Reclamation, and BPA – the federal operators of the FCRPS (Action Agencies) – to consult with the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service on how project operations may impact listed species.[58] Following this

[54] National Hydropower Association. *Hydropower is Reliable*. Retrieved from https://www.hydro.org/waterpower/why-hydro/reliable/.
[55] U.S. Energy Information Administration. Retrieved at https://www.eia.gov/tools/glossary/?id=B.
[56] Bonneville Power Administration (2016). *A Northwest energy solution: Regional power benefits of the lower Snake River dams* [Brochure], at 2. Retrieved from https://www.bpa.gov/news/pubs/FactSheets/fs-201603-A-Northwest-energy-solution-Regional-power-benefits-of-the-lower-Snake-River-dams.pdf.
[57] Northwest RiverPartners. *Commerce and Jobs*. Retrieved from http://nwriverpartners.org/commerce-and-jobs.
[58] *Endangered Species Act of 1973*. 16 U.S.C. 1536.

consultation, NMFS issues a biological opinion (BiOp) specifying with either a jeopardy or no-jeopardy finding for the 13 separate species of salmon and steelhead that NMFS listed beginning in 1991.[59] A finding of jeopardy requires NMFS to develop Reasonable and Prudent Alternatives (RPAs) to the proposed action in order to avoid jeopardy.[60]

NMFS issued the first of three "no jeopardy" BiOps for FCRPS in April 1992.[61] The District Court of Oregon (District Court) in *Idaho Department of Fish and Game v. National Marine Fisheries Service* found both the 1993 and 1994 BiOps to be flawed and ordered NMFS and the Action Agencies to revise the 1994 BiOp. In 1995, NMFS issued the first BiOp (1995 BiOp) which concluded that FCRPS operations jeopardized the continued existence of listed species, and proposed RPAs to avoid this finding.[62]

NMFS issued a new BiOp in December 2000, which again found that the operations of the FCRPS dams were likely to jeopardize the existence of certain listed species, and proposed RPAs to mitigate these impacts.[63] It was determined that jeopardy would not be avoided even after implementing the RPAs. Eventually, the cumulative effect of the RPA – coupled with off-site measures including hatchery and habitat initiatives – was determined to be sufficient to warrant a "no-jeopardy" opinion.[64]

In 2003, then-Judge James A. Redden ruled that the 2000 BiOp failed to provide reasonable certainty that the off-site mitigation measures was not reasonably certain to occur, and ordered NMFS to issue a new BiOp by 2004.[65] In addition, the district court required the modification of the FCRPS dam operations during the spring and summer of 2006, requiring certain dams to bypass hydroelectric turbines and spill water during this period.[66] Judge Redden would eventually go on to reject the 2004, 2008 and the 2010 Supplemental BiOps issued by NMFS.[67] In a 2011 decision, Judge Redden wrote:

---

[59] NOAA Fisheries, West Coast Region. *West Coast Salmon Recovery Planning & Implementation*. Retrieved from http://www.westcoast.fisheries.noaa.gov/protected_species/salmon_steelhead/recovery_planning_and_implementation/.

[60] 16 U.S.C. 1536(b).

[61] NOAA Fisheries (2008). *Executive Summary of the FCRPS 2008 Biological Opinion.* NOAA Fisheries, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, at 12. Retrieved from http://www.westcoast.fisheries.noaa.gov/publications/hydropower/fcrps/2008fcrps_execsummary.pdf

[62] Crampton, B., & Espenson, B. (2009, February). Salmon and Hydro: An Account of Litigation over Federal Columbia River Power System Biological Opinions for Salmon and Steelhead, 1991-2009. *Columbia Basin Bulletin*, *1*, 5. Retrieved August 21, 2018, from http://www.webpages.uidaho.edu/fish510/PDF/salmon_hydro_ebook.pdf.

[63] Id. at 39.

[64] ***National Wildlife Federation v. NMFS***

[65] **National Wildlife Federation v. NMFS, 254 F. Supp. 2d at 1216**

[66] The Columbia Basin River Basin Federal Caucus. *2000 FCRPS BiOp*. Retrieved from https://www.salmonrecovery.gov/BiologicalOpinions/FCRPSBiOp/2000FCRPSBiOp.aspx.

[67] The Columbia Basin River Basin Federal Caucus. *NOAA Fisheries Biological Opinion for the operation of the Federal Columbia River Power System*. Retrieved from https://www.salmonrecovery.gov/BiologicalOpinions/FCRPSBiOp.aspx.

*"No later than January 1, 2014, NOAA Fisheries shall produce a new biological opinion that reevaluates the efficacy of the RPAs in avoiding jeopardy… and considers whether more aggressive actions, such as dam removal and/or additional flow augmentation and reservoir modifications are necessary to avoid jeopardy,"*[68]

After Judge Redden retired in late 2011, the case was assigned to Judge Michael Simon who found the 2014 Supplemental BiOp flawed but allowed it to stay in place until a new BiOp can be completed.[69] The 2014 Supplemental BiOp supplements, without replacing, the 2008 and 2010 BiOps. As part of his rejection of the BiOp, Judge Simon charged that the federal government had avoided taking a "hard look" at breaching, bypassing and removal of the dams.[70] This is contrary to the more than $22 million spent for extensive studies by the Army Corps in

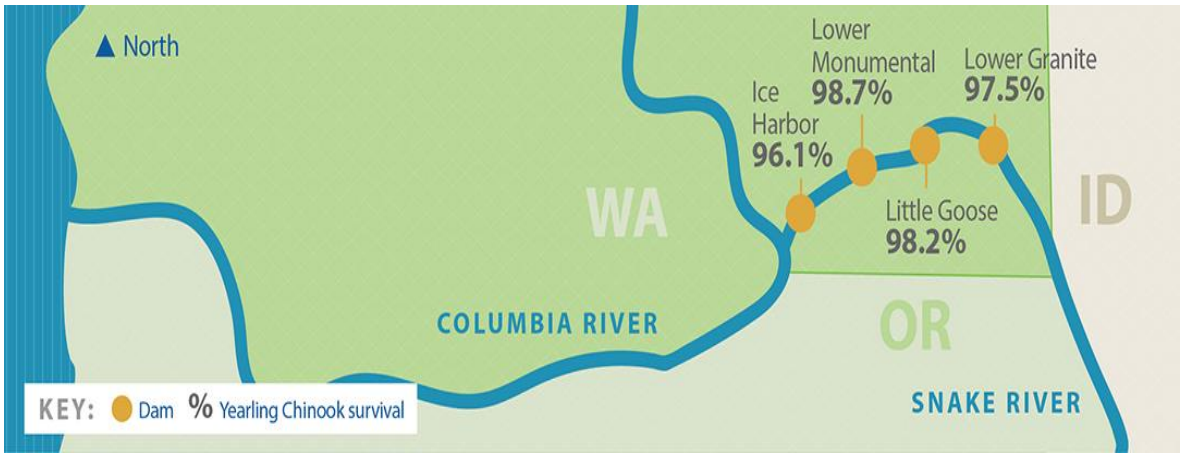
Image 2: Little Goose Dam on the Lower Snake River before (left) and after (right) the spill order went into effect.
*Source: University of Washington (left) and Committee Staff (right)*

1999 and again in 2010 on the enormous impacts of removing dams in the Snake River weighed against the minor benefit, if not harm, to salmon.[71]

In March, 2017, Judge Simon ordered "tailored injunctive relief" including additional spill, but ordered the federal agencies to test the impacts of this spill before deciding how much would be mandated at each dam in 2018.[72] According to the Bonneville Power Administration, the spill order, which went into effect on April 3, 2018, is expected to cost ratepayers

[68] National Wildlife Federation v. NMFS, 839 F. Supp. 2d 1117, 1131
[69] Id. at 1121.
[70] National Wildlife Federation, *et al.*.v. National Marine Fisheries Service, *et al.*, United States District Court for the District of Oregon (2016). Retrieved from http://earthjustice.org/sites/default/files/files/1404%202065%20Opinion%20and%20Order.pdf.
[71] *Lower Snake River Juvenile Salmon Migration Feasiblity Study: Draft Social Analysis Report* (1999), Prepared by Foster Wheeler Environmental Corporation for the U.S. Army Corps of Engineers, Walla Walla District. Retrieved from http://www.nww.usace.army.mil/portals/28/docs/environmental/drew/social.pdf.
From 1999 to 2002, the Army Corps spent $20.69 million on the impacts of alternatives relating to breaching the Snake River dams. In 2010, the Army Corps spent $274,254 on a study regarding lower Snake River dam breaching.
[72] https://earthjustice.org/sites/default/files/files/3-27-17%20Injunction%20NWF%20Columbia%20River%20salmon%20ruling.pdf

approximately $40 million annually.[73] Already, the court-ordered spill has resulted in BPA having to tack a "spill surcharge" onto power customers rates, cuts to fish and wildlife programs to offset the lost power generation revenue, and most concerning, potential uncertainty to BPA's long-term financial stability and competitiveness with escalating power rates.[74]




Map 5: Survival Rates through the Lower Snake River Dams
*Source: Northwest River Partners*

There is broad bipartisan support for the consensus-driven and science-based approach to managing these dams under BiOps that are required to utilize the best available science.[75] In response to the spill order, Representatives Cathy McMorris Rodgers (R-WA) and Kurt Schrader (D-OR) along with several Members of Congress representing districts in Washington, Idaho, Montana, Oregon, Nevada and Arizona that benefit from the dams, introduced H.R. 3144, a bipartisan bill that would allow the river to operate under the 2014 Supplemental BiOp until a new BiOp was finalized. On April 25, 2018, H.R. 3144 passed the House with further bipartisan support.[76]

Despite the economic and environmental benefits of the Lower Snake River dams, litigious activist groups have focused on removing these four dams. These interests blame the Lower Snake River dams for declines in salmon populations, ignoring the high survival rates of

[73] *Examining the Proposed Fiscal Year 2019 Spending, Priorities and Missions of the Bureau of Reclamation, the U.S. Fish and Wildlife Service, the National Oceanic and Atmospheric Administration, and the Four Power Marketing Administrations*: *Hearings before the Committee on Natural Resources Subcommittee on Water and Power*, House of Representatives, 115th Cong. (208) (Testimony of Mr. Elliot Mainzer), at 5. Retrieved from https://naturalresources.house.gov/uploadedfiles/4.12_testimony_mainzer.pdf.
[74] Bonneville Power Administration (2018). *Administrator's Decision: Implementation of the FY 2018 Spill Surcharge*, at 1-5. Retrieved from https://www.bpa.gov/Finance/RateCases/surcharge18/surcharge18documents/Spill_Surcharge_Implementation_FY2018_06-21-2018.pdf.
[75] Hastings, D., & DeFazio, P. (2011, March 11). Saving Columbia River salmon: Time to get out of the courtroom and into the river [Editorial]. *The Oregonian*. Retrieved August 21, 2018, from https://www.oregonlive.com/opinion/index.ssf/2011/03/saving_columbia_river_salmon_t.html.
[76] http://clerk.house.gov/evs/2018/roll153.xml

salmon passing through these dams (See Map 5). According to Bonneville, replacing the dams would increase power costs by $274 million to $372 million per year.[77] In contrast, there has been strong bipartisan opposition to breaching the Lower Snake River dams.[78] Despite fluctuations in ocean conditions that have impacted salmon in recent years, more adult chinook have migrated past the four Lower Snake Dams over the last seven years than in the prior 37 years combined.[79] The economic and environmental benefits of FCRPS and the threats facing its reliability and success for future generations will be the focus of this hearing.

[77] Bonneville Power Administration (2016). *A Northwest energy solution: Regional power benefits of the lower Snake River dams* [Brochure], at 2. Retrieved from https://www.bpa.gov/news/pubs/FactSheets/fs-201603-A-Northwest-energy-solution-Regional-power-benefits-of-the-lower-Snake-River-dams.pdf.

[78] Representative Kurt Schrader (2017, June 29). *Schrader & Bipartisan Pacific Northwest Delegation Introduce Legislation to Address FCRPS Biological Opinion* [Press Release]. Retrieved from https://schrader.house.gov/newsroom/documentsingle.aspx?DocumentID=390805; Representative Dan Newhouse (2017, July 11). *Save Our Snake River Dams* [Editorial]. Retrieved from https://newhouse.house.gov/media-center/weekly-columns-and-op-eds/column-save-our-snake-river-dams. Representative Cathy McMorris Rodgers (2018, April 2). *McMorris Rodgers's Bill to Protect Dams to be Voted on in Coming Weeks* [Press Release]. Retrieved from https://mcmorris.house.gov/mcmorris-rodgerss-bill-protect-dams-voted-coming-weeks/; Culverwell, W. (2018, March 29). Murray talks Tri-Cities issues like dams, shoreline — and tennis shoes? *Tri-City Herald*. Retrieved August 21, 2018, from https://www.tri-cityherald.com/news/local/article207395339.html.

[79] Northwest RiverPartners. *Value of Snake River Dams*. Retrieved from https://nwriverpartners.org/value-of-snake-river-dams.