PACIFIC NORTHWEST WATERWAYS ASSOCIATION
COLUMBIA SNAKE RIVER SYSTEM

Frequently Asked Questions

What is the Columbia Snake River System?

The Columbia Snake River System is the network of federal dams and locks on the Columbia River and connected water bodies, including the Snake River. Our federal government built the river system to control flooding, generate hydroelectricity, store municipal and irrigation water supplies, and enable vessels to travel from the mouth of the Columbia River near Astoria, Oregon, to the most inland port in the nation in Lewiston, Idaho.

Who owns and operates the Columbia Snake River System?

The U.S. Army Corps of Engineers (USACE) owns and operates 12 dams, and the Bureau of Reclamation (BOR) owns and operates two dams. The Bonneville Power Administration (BPA) markets and transmits the electricity generated by the hydroelectric dams. Since all of these dams are owned and operated by the federal government, this means they belong to all of us!

How does the river system benefit me?

The benefits of the Columbia Snake River System have contributed to thriving communities in the Pacific Northwest, where we enjoy a healthy balance of economy and environment. If you live in the Pacific Northwest, you directly benefit from the Columbia Snake River System each time you:

- Eat food grown on farms irrigated by river waters
- Purchase goods shipped up and down the Columbia and Snake rivers
- Enjoy lights, electronics, vehicles and other items powered by hydroelectricity

There are other ways you benefit from the river system that are harder to see:

- Renewable, low-carbon electricity from hydroelectric dams is our region's foundation in the fight against climate change.
- As the most fuel-efficient mode of cargo transportation, barging reduces carbon emissions while moving the goods we use every day. Barging is nearly 40% more fuel-efficient than freight trains, and 270% more fuel-efficient than semi-trucks.
- There are fewer semi-trucks and trains in our communities because so much of our trade happens via barge. One four-barge tow can ship the equivalent goods of 1.4 100-unit freight trains, or 538 semi-trucks.
- Our regional economy is strong thanks in large part to our cost-effective barge shipping and reliable, affordable electricity.

What does it mean to have a "strong and balanced" river system?

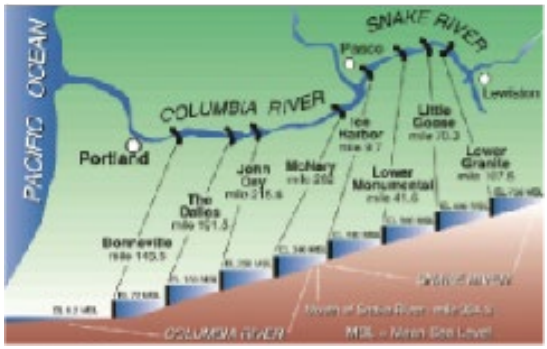
A strong and balanced river system is foundational to the progressive balance of economy and environment so important to Pacific Northwest life and culture. A balanced river system produces economic benefits like jobs, trade, and renewable electricity while caring for environmental values through good management practices and reinvestment in our natural resources.

Why is this important?

Our regional communities care about the issues that surround the Columbia Snake River System, including climate change, clean energy, salmon recovery, and efficient freight. For over 85 years the Pacific Northwest Waterways Association (PNWA) has collaborated with its members to ensure our region's waterways are efficient, reliable and environmentally sustainable.

PNWA has always shared messages supporting the benefits of the Columbia Snake River System. Today PNWA calls for a stronger sense of urgency as extreme measures like dam breaching are being sold as a simple solution to the complex problem of salmon recovery in the Northwest. As an advocate for the river system, PNWA has elevated its messages to help our communities understand the river system's importance to our region and the consequences of extreme actions.

Why do barges need the river system to ship goods up- and downstream?



The dams and locks on the Columbia and Snake rivers help maintain a navigation channel that remains at least 14 feet deep for 360 miles between Vancouver, Washington, and Lewiston, Idaho. The system is like a series of elevators that allow barges to navigate the river system, which starts at sea level in Astoria, Oregon, and climbs to 738 feet above sea level in Lewiston.

Do all the dams have locks?

Eight of the 14 dams on the Columbia and Snake rivers have navigation locks. You'll find four of these dams on the Columbia River (Bonneville, The Dalles, John Day and McNary) and four on the Snake River (Ice Harbor, Lower Monumental, Little Goose and Lower Granite). Each lock has one chamber and about 100 feet of lift, making them some of the tallest locks in the world. They move products and people, including goods we use every day, and cruise ships, which carry about 18,000 passengers up and down the river system each year on scenic tours.

How does the river system affect salmon?

The USACE, BOR and BPA work to balance environmental values like salmon health with the economic values of our region, which depends heavily on the benefits of the river system. Through investments in operations and infrastructure, the agencies – and all who use electricity in the region – have helped make great improvements in helping salmon and other migrating fish pass the dams on their journeys up- and downstream.

Today, the Columbia Snake River System's fish passage facilities, such as fish ladders, are some of the best in the world. Dam operators also spill water over the dams in the spring to help young salmon pass safely on their journey to the ocean. These improvements have significantly increased fish passage since the dams were first built, with more than 95% of juvenile salmon now successfully passing each of the eight federal dams.

River system operators continue to address other challenges to salmon recovery. These include warm water temperatures, bird and sea lion predation, and factors that lead to delayed mortality that we're still working to understand. Changing conditions in the ocean also affect salmon health, and studies have repeatedly shown that poor ocean conditions are the common factor in declining salmon runs up and down the West Coast, including for rivers that have no dams. However, salmon returns on the Columbia River are performing better compared with other salmon runs on the West Coast. More research is needed to develop new strategies to support salmon recovery in our rivers and ocean while maintaining the essential economic uses and environmental benefits of the river system.

Why are we talking about the four dams on the lower Snake River?

The four dams on the lower Snake River have been at the center of community conversations about salmon recovery for decades. In 2000, a biological opinion produced by NOAA Fisheries suggested that removing the four dams on the lower Snake River was the action with the most potential to improve Snake River salmon recovery. Environmental advocates have focused on this and related studies to urge river system operators to consider breaching the lower Snake River dams to improve salmon numbers.

Over the years, NOAA has updated its recommendations to account for improved fish passage infrastructure and management practices that reduce impacts to salmon. In 2008 and 2014, NOAA produced biological opinions that stated breaching the four lower Snake River dams was not a necessary action for salmon recovery.

In early 2021, Congressman Mike Simpson of Idaho put forward a proposal to establish a $32 billion "Columbia Basin Fund" for regional economic and environmental transition. The highlight of this plan is the breaching of the four Lower Snake River dams and replacing the clean power they generate with nuclear and other emerging energy technologies. Since dam breaching would end river navigation, all the cargo currently moved efficiently on the Snake River would be put onto trucks and trains, resulting in additional carbon emissions and traffic congestion.

While we need real funds for salmon recovery and additional sources of renewable, carbon-free energy to fight climate change, this plan removes four effective, run-of-river dams with no guarantee it would restore salmon runs, especially on upper reaches of the Snake River where private dams have no fish passage facilities. It also does not address ocean conditions or predation—two issues that significantly affect the survival of all salmon, regardless of their river of origin.

The Pacific Northwest needs a comprehensive solution to salmon recovery that also supports carbon reduction and maintains communities' economic health and cultures. NOAA Fisheries has worked for years to develop basinwide, scientific plans under the Endangered Species Act for Snake River salmon. These plans are currently being implemented on the Snake River:

- NOAA ESA Recovery Plan for Snake River Spring / Summer Chinook Salmon & Snake River Basin Steelhead
- NOAA ESA Recovery Plan for Snake River Fall Chinook Salmon

Do endangered orcas depend on salmon from the Snake River?

Southern Resident killer whale recovery is related to salmon recovery, as these fish-eating orcas depend on salmon from many sources, including the Snake River. A 2016 NOAA Fisheries study found endangered Southern Resident orcas feed on salmon from dozens of different rivers and travel as far as Alaska and California for prey.

NOAA Fisheries' recovery plan concludes that breaching the dams is not necessary for recovery of Southern Resident orcas. NOAA has instead urged recovery of all the Chinook salmon stocks upon which these whales rely for prey, with special emphasis on Puget Sound Chinook. The agency has also noted that there are other significant impacts to these orcas, including water pollution, noise, and vessel traffic.

What are the negative effects of breaching the four dams on the lower Snake River?

The Columbia River System Operations Environmental Impact Statement and a study commissioned by PNWA found there would be significant negative effects to regional communities if the four dams on the lower Snake River were breached. These include:

- Significant die-off of juvenile and adult Snake River Chinook during and for several years after dam breaching, due to the release of silt behind the dams.
- Dramatic increases in greenhouse gas emissions from:
  - Less fuel-efficient semi-trucks and trains moving goods that would have been moved by barge.
  - Replacing low-carbon hydropower with fossil-fuel energy sources, such as natural gas and coal.
- Increased power costs, which will affect every Northwest resident and business and our regional economy.
- Double the risk of widespread power blackouts, with serious economic consequences to a variety of industries and communities.
- The loss of 48,000 acres of irrigated farmland and millions of dollars in U.S. crops annually.
- Significant increases to agricultural shipping costs, likely forcing some farmers into bankruptcy.
- Job losses in agriculture, food processing, transportation, and related sectors, which often hit low-income and minority residents hardest.
- Devastating effects to inland ports and the communities that rely on them for jobs and economic activity.
- More traffic on highways, local roads and rail lines, which will cause increased congestion and safety issues.

- Unfunded costs of more than $800 million to upgrade roads, improve short line rail, and upgrade mainline rail lines.
- Exposure of Tribal cultural resources due to receding waters, subjecting them to looting.
- Decimation of existing recreation, including boating and fishing.

What can I do to keep the river system strong and balanced?

Join the thousands of people and organizations in our region who believe we can have a working river system that allows all uses to thrive.

1. Learn more and share your perspective. Find us @PNWaterways on Facebook, Twitter, and Instagram.
2. Connect with other people and organizations who share your views
3. Write your U.S. Congressperson to encourage them to advocate for a strong, balanced system to support our communities and states
4. Write letters to the editor in your local newspaper and share your perspective with others who may be less informed
5. Become a PNWA member and be directly involved in advocacy efforts