

The Columbia River Regional Forum

March 17, 2017 | Hood River, OR

A Report for the Oregon and Washington Chapters
of the American Planning Association



March 17, 2017 | Best Western Plus Hood River Inn
HOOD RIVER, OREGON



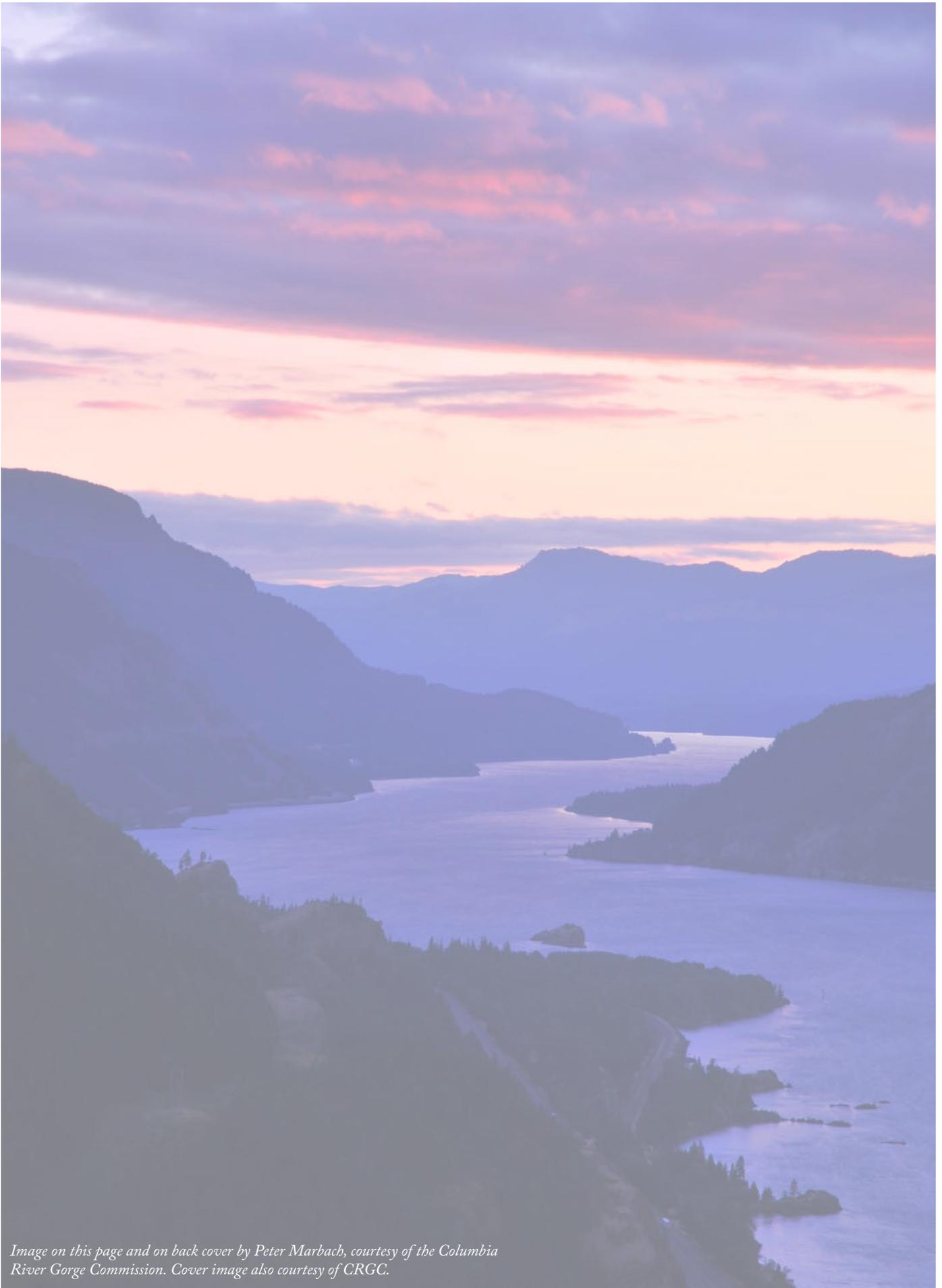
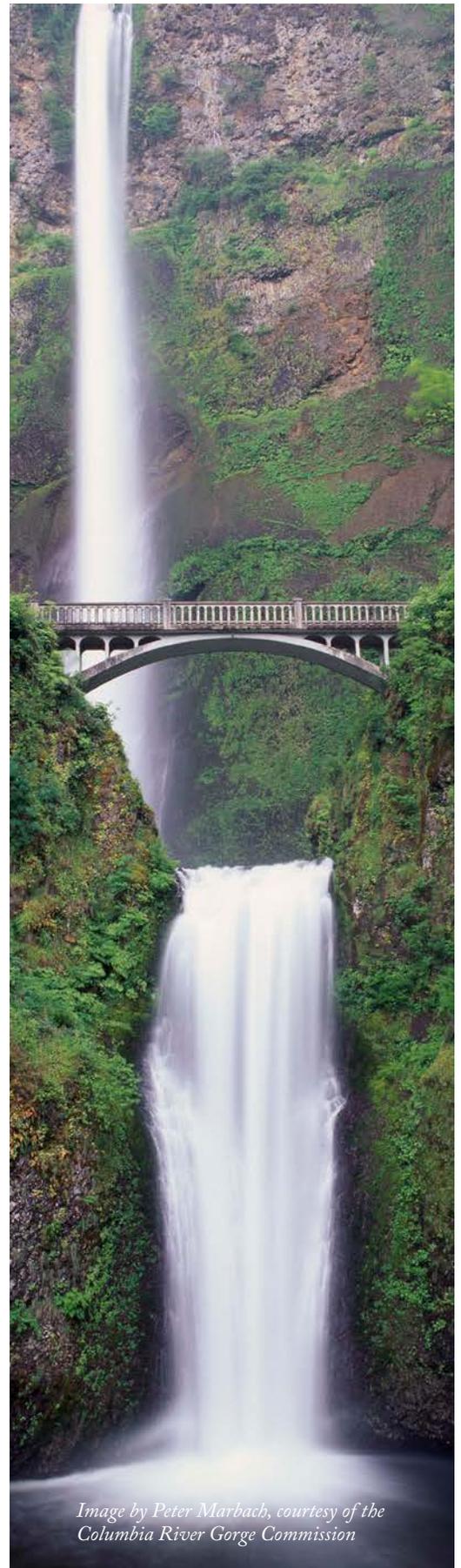


Image on this page and on back cover by Peter Marbach, courtesy of the Columbia River Gorge Commission. Cover image also courtesy of CRGC.

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*Image by Peter Marbach, courtesy of the
Columbia River Gorge Commission*

Executive Summary



Images courtesy of the Columbia River Gorge Commission

A variety of stakeholders convened at the Columbia River Regional Forum to discuss the most pressing needs in the Columbia River Gorge today and looking ahead to the future

On Friday March 17, 2017, over 65 individuals representing a broad audience of planners, regulators, natural resource experts, attorneys, Tribal Nations and other stakeholders from across Washington and Oregon states came together in Hood River, Oregon for the Columbia River Regional Forum. The Forum was made possible through generous funding from the National American Planning Association (APA) Chapter Presidents Council, and SmartGov.

The concept for this one-day forum evolved from initial planning efforts for the 2016 bi-state American Planning Association (APA) Conference “Planning People and Places: Columbia Connection” held in October. The bi-state conference planning committee felt various topics deserved more time than a conference session and a broader audience than planning professionals. The Washington and Oregon Planning Association chapter presidents worked to secure funding from National APA to convene a committee and hold a second forum focused specifically on the Columbia River region. In December, a planning committee (participants are listed at the end of this report) convened to put together the first ever bi-state forum agenda, covering a range of cross-cutting, critical issues to the Columbia River Gorge region that were not addressed at the October planning conference.

The convening kicked off with a call to partnership and collaboration

The Columbia River Regional Forum was held in Hood River, Oregon. Hood River is in the heart of the National Scenic Area and is a top tourist destination in the Pacific Northwest. Abundant with recreation opportunities and sweeping views of the Columbia River Gorge and Mt. Hood, Hood River is home to many industries and businesses and is conveniently located just one hour from Portland.

Karmen Fore, Senior Director for Federal/Regional Affairs and Transportation Policy Advisor for Oregon Governor Kate Brown, opened the day with a reminder that there are far more issues that we have in common than those that divide. As an example, transportation connections across jurisdictions that bridge urban and rural communities and provide critical infrastructure for commerce are key issues across the state of Oregon. In the Columbia River Gorge specifically, she urged participants to take a role in the stewardship of the National Scenic Area by collaborating across traditional boundaries.

Antone Minthorn, Columbia River Gorge Commissioner and member of the Confederated Tribes of the Umatilla Indian Reservation in Oregon, along with Krystyna Wolniakowski, Executive Director of the Columbia River Gorge Commission introduced the Columbia River Regional forum by sharing successful past collaborative efforts in the Columbia River Gorge including the Umatilla Basin Project and the redevelopment of Celilo Village. Participants heard a brief overview of how the National Scenic Area came to be, and of the ongoing planning efforts that occur within its boundaries.

Three Panel Discussions and a Keynote speaker highlighted critical issues facing the Columbia River Gorge, kicking off the Gorge 2020 planning process

The remainder of the day was structured around three panel discussions and a lunchtime keynote address. Panelists presented on three critical issues in the Columbia River Gorge, infrastructure, water, and energy. The keynote speaker discussed a current and persistent threat to the Columbia River Gorge: the Hanford nuclear power site. The Hanford site sits on the Columbia River in Eastern Washington due north of Richland, WA. During the Cold War, Hanford produced the majority of the United States' plutonium for nuclear weapons, and a total of nine nuclear power plants were built at Hanford for military purposes.

The forum kicked-off a 2-year planning process to update the Columbia River Gorge Management Plan - Gorge 2020. The plan, mandated by the Columbia River Gorge National Scenic Area Act of 1986 is updated every ten years, and most of the Gorge management plan is 30 years old with only parts updated in 2004. The Columbia River Gorge Commission will lead the 2-year visioning and planning process.



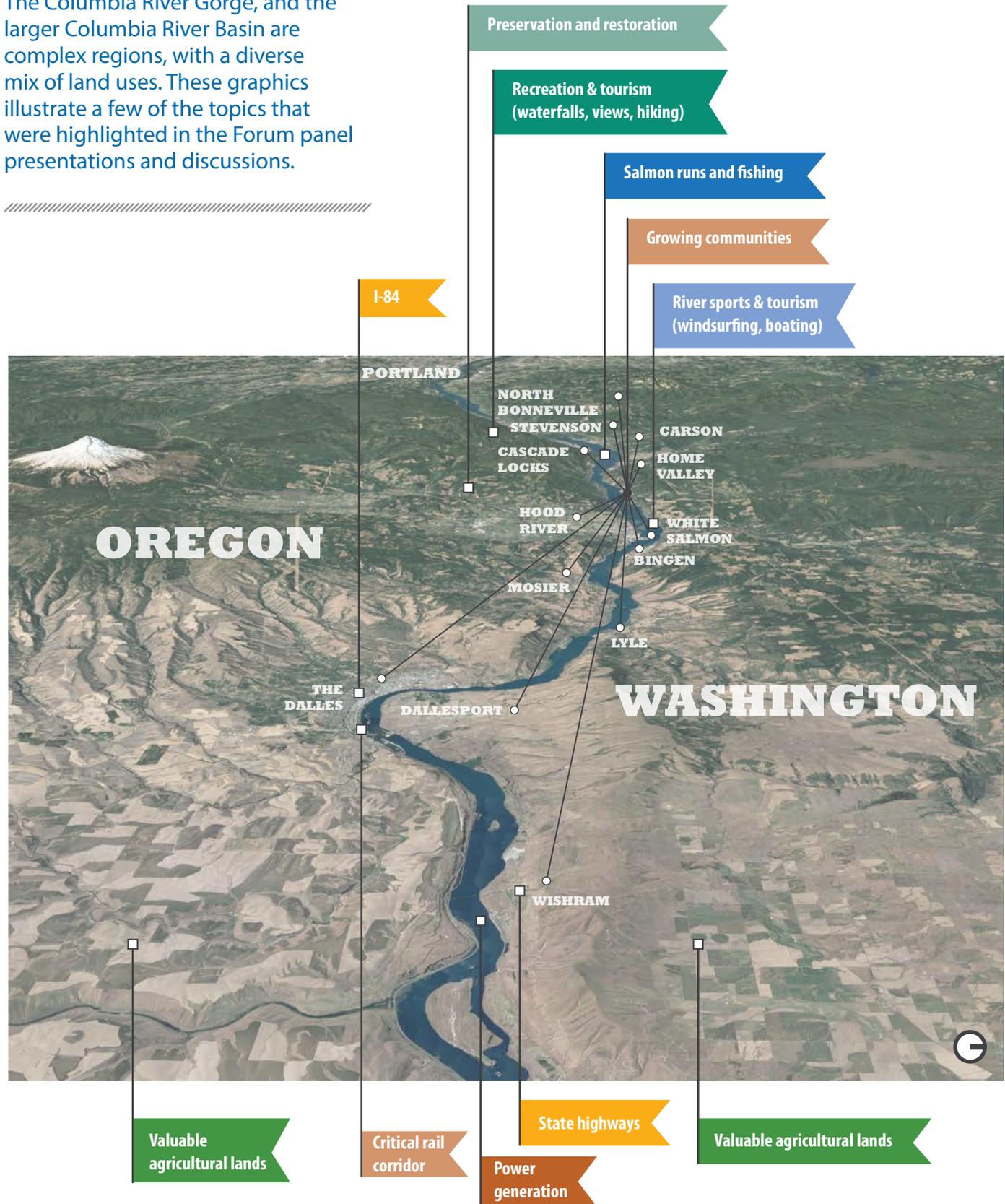
Image by Peter Marbach, courtesy of the Columbia River Gorge Commission

“The power to assist in making good change in the Columbia River Gorge may lean on the use of tribal treaty rights and interests in a cooperative way of partnerships. A strong example of that is the establishment of the Columbia River Inter tribal Fish Commission (CRITFC), an organization that is visionary and proactive.”

- Antone Minthorn

Complexity of the Columbia River Gorge

The Columbia River Gorge, and the larger Columbia River Basin are complex regions, with a diverse mix of land uses. These graphics illustrate a few of the topics that were highlighted in the Forum panel presentations and discussions.



Columbia River Basin Facts

190,000 ^{cu ft} per second

Average annual flow of the Columbia River at the Dalles.

Measured by volume, the Columbia River is the:

4th Largest River in North America.

260,000 square miles

Size of the Columbia River Basin

The basin includes...



7 parts of U.S. States

16 tribal reservations



1 part of Canadian Province

Source:

Columbia River Facts, Washington Department of Ecology.
<http://www.ecy.wa.gov/programs/wr/cwp/cwpfactmap.html>

Columbia River Gorge National Scenic Area

Opening Session

Krystyna U. Wolniakowski

Columbia River Gorge Commission

Antone Minthorn

Umatilla Tribal Member and Columbia River Gorge Commissioner

The Columbia River Gorge is managed under the 1986 National Scenic Area Act

The Columbia River Gorge National Scenic Area Act was passed by Congress and signed into law by President Ronald Reagan on November 17, 1986. The National Scenic Area Act mandates the protection and enhancement of scenic, cultural, natural and recreation resources and the protection and support of the Gorge economy. A total of 292,500 acres were designated for special protection on both the Washington and Oregon sides of the Columbia River from the outskirts of Portland-Vancouver in the west to the semi-arid regions of Wasco and Klickitat counties in the east.

The beautiful Columbia River Gorge National Scenic Area stretches 85 miles and includes portions of three Oregon and three Washington counties. Formed by ancient volcanoes and sculpted by floods, the Columbia River Gorge carves an impressive corridor through the Cascade Mountains in Oregon and Washington as the great Columbia River flows to the Pacific Ocean.

The Columbia River Gorge is more than just great scenery; it's a place where thousands of people live, work and play. One thing that differentiates the Columbia River Gorge National Scenic Area from national parks and monuments is land ownership, as nearly half of the lands in the National Scenic Area are in private ownership.

The Columbia River Gorge continues to change with the establishment and ongoing management of the area as directed by the National Scenic Area Act

The National Scenic Area Act of 1986 has created an opportunity to explore new and innovative ways to manage a bi-state region in such a way that protection of natural, cultural, scenic and recreational resources and supporting a regional thriving economy can work together and be mutually beneficial.

The National Scenic Area Management Plan provides regulatory policy direction affecting private, government, business, and non-profit entities who live and work in the National Scenic Area and must be reviewed every 10 years. The Plan was last revised 12 years ago. Since 2004, the Columbia River Gorge has seen significant changes in emerging industries, visitation and recreation, fossil fuel transport, and climate change impacts. Gorge Commission staff launched the Gorge 2020 Management Plan Review Process in November 2016, hosting public listening sessions, presenting at city and county meetings, and working directly with staff from county, state, and federal partners, and four Treaty Tribes to identify ways the Plan can better serve the mandate of the National Scenic Area Act to protect resources and support local economies. Stakeholders are engaged and keenly interested in seeing improvements. Gorge 2020 creates a focus on the future of the National Scenic Area.

The National Scenic Area is categorized into three areas:

- Special Management Areas cover approximately 114,600 acres and contain some of the Gorge's most sensitive resources. Special Management Areas are managed by the US Forest Service.
- The General Management Area covers approximately 149,400 acres of land and the Columbia River – which contain a mixture of land uses including farming, logging, cattle grazing, public recreation and rural residential uses.
- Thirteen Urban Areas are exempt from National Scenic Area regulations: Cascade Locks, Hood River, Mosier and The Dalles in Oregon, and North Bonneville, Stevenson, Carson, Home Valley, White Salmon, Bingen, Lyle, Dallesport and Wishram in Washington. Lands held in trust by the Bureau of Indian Affairs are also exempt from National Scenic Area regulation.

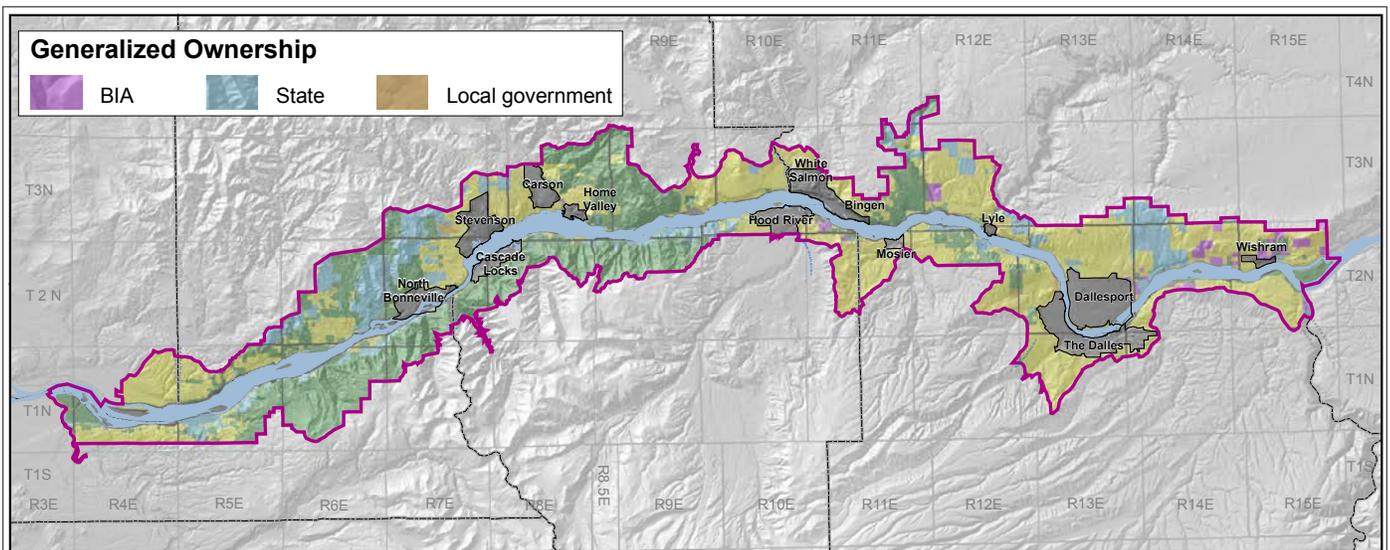
The Columbia River Gorge Commission

The Columbia River Gorge Commission (CRGC) was established in 1987 by the states of Oregon and Washington through an interstate compact, the Columbia River Gorge Compact. The CRGC Commission was created to develop and implement regional planning policies and programs that protect and enhance the scenic, natural, cultural and recreational resources of the Gorge, while encouraging growth within the existing urban areas.



Tribal history in the Columbia River Basin

The Columbia River Gorge has been the residence of American Indian tribes for over 10,000 years. When Lewis and Clark arrived in 1805-1806, Celilo Falls was a major fishery and economic driver in the Columbia River Gorge. The Native American communities were overwhelmed by the non-native settlers arriving in the Pacific Northwest region of Oregon Territory. To prevent more war between Native American tribes and these settlers, treaties were negotiated by the Tribes and the United States Government, ceding tribal lands to the U.S. Government and creating Indian Reservations. The Treaty of 1855 established the Indian Reservations of the mid-Columbia Region, Warm Springs, Yakama, Umatilla and Nez Perce.



Map of the Columbia River Gorge National Scenic Area, courtesy of the Columbia River Gorge Commission

Infrastructure in the Columbia River Gorge

Existing infrastructure along the Columbia River is hard-pressed to meet current demands. Local communities and public agencies are working to address aging infrastructure, mitigate congestion and provide transportation options. This panel featured speakers from both OR and WA DOTs, as well as governmental entities that oversee infrastructure and economic development throughout the Columbia River Gorge.

Infrastructure Panel Speakers

Dale Robins

Southwest Washington Regional Transportation Council (RTC)

Michael Williams

WSDOT Southwest Region

Amanda Hoey

Mid-Columbia Economic Development District (MCEDD)

Paul Koch

Port of Cascade Locks

Kristen Stallman

Oregon Department of Transportation (ODOT)

The Columbia River Gorge has a variety of existing and critical infrastructure that promotes commerce and recreation.

From trucks, buses, and cars to hikers and bikers, from kite surfers, barges, and trains, the Columbia River Gorge has a variety of infrastructure to accommodate tourism, recreation, commerce, emergency access, and mobility for local residents.

The Columbia River Gorge is the only place in the entire Cascade mountain range, stretching from British Columbia to California, where the mountains are split at sea level. This makes its highways and railroads ideal routes for Midwest exports to travel to coastal terminals. Railroads (operated by Union Pacific on the Oregon side and Burlington Northern on the Washington side) and highways (I-84 on the Oregon side and SR-14 on the Washington side) run on both sides of the river with trains and freight moving wheat, timber, and other exports daily through the Gorge, while barges carry shipments up the river. The river system is the #1 exporter of U.S. wheat and #2 of U.S. soy in the country. Increased production of crude oil and natural gas in the Midwest combined with demand for coal in China has resulted in increased train traffic transporting fossil fuels to refineries and ports on the West Coast. (For more information see energy panel summary on page 16.)

Residents and tourists alike access the Gorge via bicycle or vehicle to ride along the historic highway, to bike 70+ miles of bicycle infrastructure, and to trek along the many miles of trail systems throughout the National Scenic Area. Hood River, OR is known as the windsurfing capital of the world, and on any given day numerous windsurfers, kiteboarders, and sailors can be seen alongside canoes, rafts, and fishing boats recreating on the river.

Transportation infrastructure is an integral component to a thriving Gorge region. A transportation system that is efficient and safe promotes economic vitality of the region, maintains livability, and promotes tourism without overburdening the environment with excessive traffic. The Columbia River Gorge is a critical and major local and regional transportation corridor facing several challenges that must be addressed in order to maintain the economic vibrancy and preserve the natural beauty of the area.



Image courtesy of the Columbia River Gorge Commission

The Columbia River Gorge faces challenges to an optimal transportation infrastructure that has local and regional impacts

The Gorge faces unique challenges to its transportation infrastructure, much of which is aging:

- Three bridges span the Columbia River, and two need significant maintenance while one needs replacement. Bridges are critical to keep commerce flowing, and for emergency response and livability for local residents.
- Critical infrastructure faces threats from landslides and rock falls. In the event that highways are shut down, there are few alternative route options or places to divert traffic in and out of the Gorge.
- A June 2016 oil train derailment in Mosier, OR was a stark reminder of the emergency response needs of a region that is seeing increased daily oil train traffic.
- While population growth in the Gorge has benefits, challenges exist in balancing growth with conservation of sensitive areas and maintaining the scenic beauty of the Columbia River Gorge.
- The demand for recreation by locals and tourists alike is often greater than the capacity. Parking lots overflow during peak tourist months and even in the off season at popular trailheads.
- Jurisdictional boundaries complicate land use issues. For example, the difference in tax structures with Oregon utilizing a weight/mileage tax and Washington a fuel tax has created an unintended incentive for small trucking companies to purchase gas in Oregon but drive on the Washington SR-14 highway.

Panelists and Forum participants identified innovative solutions and potential areas to align across jurisdictions and disciplines

The Forum brought together a variety of disciplines to discuss critical infrastructure issues in the Gorge, some hearing from each other for the first time. The need for interconnected issue planning that is not siloed is of great importance in this unique setting. Overcoming jurisdictional boundaries and institutional barriers will be critical to developing a conservation plan that addresses key infrastructure needs and ensures access to and through the Gorge. A few ideas mentioned were:

- Local, regional, and state jurisdictions partner with Ports to strategically identify funding for maintenance and repair of bridges, and to balance maintenance needs with demand for access. The Bridge of the Gods crossing is an existing and future constraint to the economy of the region.
- Provide alternative transit options to recreation areas from major urban centers such as the Columbia Gorge Express, a fare bus option to reach Multnomah Falls from Portland.

Scenic Infrastructure

The Columbia River Gorge is home to the Bridge of the Gods - a cantilever bridge that is the third oldest bridge along the Columbia River. Bridge of the Gods plays an important role in regional commerce and serves as the connection between Oregon and Washington along the Pacific Crest Trail. Annually, 1.6 million vehicles cross the bridge alongside countless hikers and cyclists. The annual value of goods that cross the bridge is approximately \$35 million per year.



Also residing in the Columbia River Gorge is Multnomah Falls, a towering 620-foot scenic waterfall that is the most visited natural recreation site in the Pacific Northwest. An estimated 2.5 million visitors from around the world seek out the falls each year. The falls can be accessed by vehicle from Interstate-84, or from the Historic Columbia River Highway (Historic Route 30) which celebrated its centennial in 2016.



Water for People, Environment & Economy:

Managing our Finite Water Resources as Washington and Oregon Continue to Grow

The Columbia is a big river with a lot of water, but how much water do we need to accommodate our growing population, water dependent industries and recreation while protecting fish and wildlife? This panel featured speakers from the Washington Department of Ecology Office of the Columbia River, Watershed Professionals Network, Northeast Oregon Water Association, and the Columbia River Inter-Tribal Fish Commission. Panelists provided an overview of water supply and forecasted demand in the Columbia River watershed, and a discussion on the impacts of climate change and the importance of water for business and industry.

Water Panel Speakers

Dave Christensen

Washington Department of Ecology

Niklas Christensen

Watershed Professionals Network

J.R. Cook

Northeast Oregon Water Association

Jim Heffernan

Columbia River Inter-Tribal Fish Commission

Whether for commerce, recreation, agriculture, or fish and wildlife, water in the Columbia River Basin is in high demand

The Columbia River provides a wide range of benefits. As a clean and reliable source of water, the river is essential for meeting basic human needs, and for supporting the economy. Thousands of businesses and industries rely on the river in some form, to irrigate a crop, to manufacture a product, or to provide a service or experience. The economy, in turn, is dependent upon a healthy environment where water resources play an essential part. A healthy environment is critical for fish and wildlife that need a sufficient quantity and quality of water to live, reproduce, and thrive.

The Columbia River Basin is managed to meet a range of competing demands for water, including hydropower generation (see the energy panel summary on page 16 for more information), irrigation, navigation, flood control, protection of salmonid species, municipal and industrial use, tribal treaty commitments, and recreation. Reliable access to water is essential for existing and future regional economic growth and environmental and cultural enhancement. Variations in water supply and demand across the Basin are increasingly leading to localized water shortages as populations grow, the climate changes, and regulatory flow requirements increase.

While overall supply of water in the Basin is forecasted to increase, shifts away from times when demands are highest poses challenges to current and future water users

Water supply and demand impact each other. Out-of-stream diversions reduce supply downstream, while water that is diverted but not used—such as water that is lost through leaks in municipal systems or return flows from irrigated fields—may return to the system and provide water supply downstream.

Forecasts for 2035 Columbia River Basin water supply suggest that there will be an overall increase in annual water supplies across the Basin, and a shift in supply timing away from times when demands are the highest. This shift in timing is due to warming temperatures, which will result in a smaller snowpack, more precipitation falling as rain and less as snow, and an earlier snowmelt. Even with an overall increase in annual water supplies, it is possible that this shift in supply away from the season of highest water demand has the potential to cause increased water scarcity in portions of the Columbia River Basin during the irrigation season, which may also shift to earlier in the year. Average annual increases of 30.8% are expected between November and May, but expected to decrease by 10.3% between June and October. From June through October, when supplies across the Basin are forecast to decrease, ensuring flows are sufficient to meet the needs of fish is likely to become more challenging.

Even as water supplies are forecast to increase by 2035, agricultural water demand—which accounts for approximately 79.4% of total out-of-stream demand (agricultural plus municipal)—is forecast to decrease by approximately 4.96% by 2035, across the entire Columbia River Basin. This decrease in demand is due to a combination of effects of climate change and its impact on growing seasons and crop mix. Climate change will also impact fish through increased frequency of drought conditions and rising water temperatures.

The Forum highlighted the need for innovation and coordination

The forum highlighted the need for innovative and coordinated strategies to conserve and store water, develop water sources and supplies for instream and out of stream uses, secure alternatives to groundwater, and meet the demands of water needs while ensuring a thriving ecosystem for fish and wildlife. One example is the Columbia Basin Water Transactions Program. The Bonneville Power Administration funds this program in order to save water instream to allow more flow during critical low flow periods that would support fish passage and spawning in the tributaries to the Columbia River. The program provides financial incentives to willing landowners to allow them to “use” their water rights by leaving water instream for fish rather than using it for irrigation purposes.

Panelists and forum participants discussed the need for integrated planning that allows short- and long-term water supply certainty that takes pressures off fish rearing tributaries of the Columbia River, improves aquifer conditions and builds the local economy. Coordinated strategies to conserve and store water along the mainstay (see Columbia River Treaty, page 14) are needed to meet the demands for instream and out of stream uses, and partnerships are critical to ensure a thriving ecosystem across the Basin. The Office of the Columbia River in the Washington State Department of Ecology is one example of working across agencies to pursue water resources for multiple uses. Topics identified for further discussion included:

- How can states continue to learn from each other? (Washington has coordinated statewide planning and funding for all watersheds.)
- How can science and technology inform more efficient methods for growing crops and water use in municipalities and homes?
- How might jurisdictions collaborate to conserve water?
- In what ways can statewide and comprehensive plans better integrate water planning at the local level?

Source:

Washington State Department of Ecology, Columbia River Basin Long-Term Water Supply and Demand Forecast, 2016 Legislative Report.

Water Challenges in the Umatilla Basin

The Umatilla Basin is one of the most valuable and productive food producing regions in the world, with roughly 300,000 acres of land that can sustainably and economically produce food products into the foreseeable future. The combination of unique soils and climate, close proximity to major infrastructure, and access to a sustainable water supply for irrigation and development make the area an agricultural asset that cannot be replicated elsewhere.

The region does not currently have the water necessary to either sustain its current production needs, or to grow, due to the designation of four of the State of Oregon’s seven Critical Groundwater Areas and lack of affordable access to the Columbia River due to the mitigation requirements (OAR 690, Division 033).

Irrigation in the Umatilla Basin

- 1862: First documented irrigation of crops
- Early 1900’s: Water development & use is central to the Basin’s economy
- 1926: Chinook & coho salmon no longer exist in the Umatilla River watershed
- 1950’s: Groundwater development ramps up with electric pumping and well drilling
- 1958: First reports of groundwater declines reported near Butter Creek
- Post 1950’s: Groundwater levels in North Morrow County and West Umatilla County plummet
- 1988: The Umatilla Basin Exchange program leads to the reestablishment of anadromous fish species to the Umatilla River and the improvement of water supplies for Irrigation Districts
- 2013: Umatilla Basin formed the Northeast Oregon Water Association to better clarify how much water from the Columbia River was needed to fix the problems and how those water supplies should be developed

The Columbia River Treaty



The Columbia River Treaty of 1964 harnessed the Columbia River for hydropower generation and flood control

The 1964 Columbia River Treaty provided for the construction of four dams in the upper Columbia River Basin that more than doubled the amount of reservoir storage in the Basin: Libby in Montana, and Duncan, Keenleyside (also known as the High Arrow Dam), and Mica in Canada. These four dams are operated to benefit downstream hydropower generation and flood control. Importantly, the Treaty considered that the value of flood control and hydropower dwarfed the value of other costs and benefits, and so it made no explicit provision for other values such as water-flow benefits for salmon and steelhead. By the time the treaty became law, salmon and steelhead had been extinct in the upper Columbia River for more than 20 years because

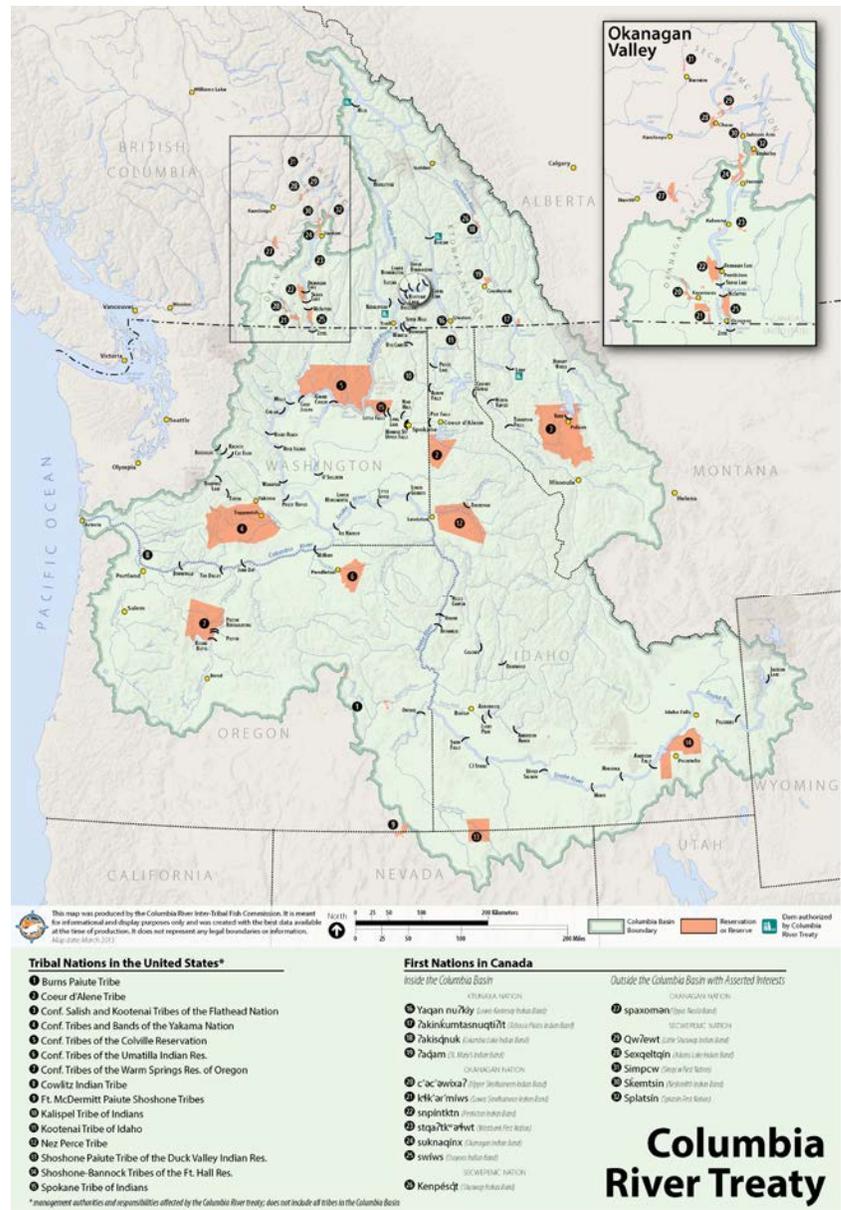


Image by Peter Marbach, courtesy of the Columbia River Gorge Commission

Map courtesy of the Columbia River Inter-Tribal Fish Commission

of Grand Coulee Dam, which has no fish passage facilities. In the process of harnessing the river under the Treaty, substantial habitat for salmon, steelhead and other fish species was inundated or blocked. Major anadromous fish runs were eliminated or decimated. Little consideration and accommodation was planned for ecosystem values and the rights and needs of native peoples, who were not consulted during Treaty negotiations. The Treaty governs the management of the river's water and dams to this day.

A regional recommendation to modernize the Columbia River Treaty was finalized in 2013

The Treaty has an opt-out clause as of 2014, that allows either country to notify the other that they intend to terminate the Treaty ten years from the date of that notification. The year 2024 marks the end of 60 years for pre-paid flood control space from Canada. Since the Treaty was originally ratified, the emergence of complex issues in addition to power and flood control, such as future needs for anadromous and resident fish, irrigation, recreation, and municipal water supply, has both countries examining whether new operating rules would provide additional benefits.

Though no notification to terminate has yet been given by either side, the United States Entity (consists of the Bonneville Power Administration and the U.S. Army Corps of Engineers) convened a wide variety of stakeholders to develop a regional recommendation through a multi-year planning process known as the Columbia River Treaty Review. One final recommendation of the modernization efforts is integrating ecosystem-based function to the Columbia River Basin as a primary purpose of the Treaty. For the sixteen sovereign tribes, whose traditional homelands and nations stretch across the Columbia Basin, it is imperative. The recommendation has been forwarded to the United States Department of State who has appointed a lead negotiator.

Sources:

The Columbia River Treaty 2014/2024 Review, <https://www.crt2014-2024review.gov/>

Columbia River Inter-Tribal Fish Commission, Columbia River Treaty, <http://www.critfc.org/tribal-treaty-fishing-rights/policy-support/columbia-river-treaty/>

The Northwest Power and Conservation Council, The Columbia River Treaty, <https://www.nwccouncil.org/history/ColumbiaRiverTreaty>



Image by Peter Marbach, courtesy of the Columbia River Gorge Commission

Energy Policy & Development in the Columbia River Basin

The third and final panel of the day featured speakers from the Bonneville Power Administration, Washington State Department of Commerce, Oregon Department of Energy, and Columbia Riverkeeper. Panelists discussed the role energy generation and transport plays in the Columbia River story, including legacy hydropower generation and the impacts of other energy resources (e.g. wind, commercial-scale photovoltaics) on the river system and communities that depend on it.



Energy Panel Speakers

Birgit Koehler

Bonneville Power Administration

Tony Usibelli

Washington Department of Commerce

Todd Cornett

Oregon Department of Energy

Lauren Goldberg

Columbia Riverkeeper



The Columbia River is one of the world's largest hydropower systems, providing low cost energy to the Pacific Northwest

The Columbia River is uniquely situated as a hydropower river in that it flows through multiple mountain ranges that fill the river and its tributaries with millions of acre-feet of snowmelt runoff every year. Also, the Columbia drops at a fairly uniform rate of about two feet per mile, and much of its course is through solid rock carved by repeated floods at the end of the last Ice Age. The flooding has left rocky canyons that provide solid footing for dams. But the river's primary asset also provides the greatest challenge to hydropower development: While the volume of water is great, the supply and therefore flow of the river fluctuates — high in the spring and early summer, low in the late summer and fall.

The construction of additional storage dams in the Columbia River system, including the dams built in British Columbia under the Columbia River Treaty of 1964 (see page 14), ultimately reduced the ratio of highest to lowest flows to about 4 or 5:1, increasing the hydroelectric potential of the basin by allowing flows to be regulated and stabilized throughout the year. Still, system wide only about 40 million acre-feet of water can be stored, which is about 22 percent of the average annual runoff of 180 million acre-feet. Today there are 14 dams on the mainstem Columbia River, three in British Columbia and 11 in the United States. Five of the American dams are non-federal. The dams on the Columbia River and its tributaries produce half of the electricity consumed in the Pacific Northwest.

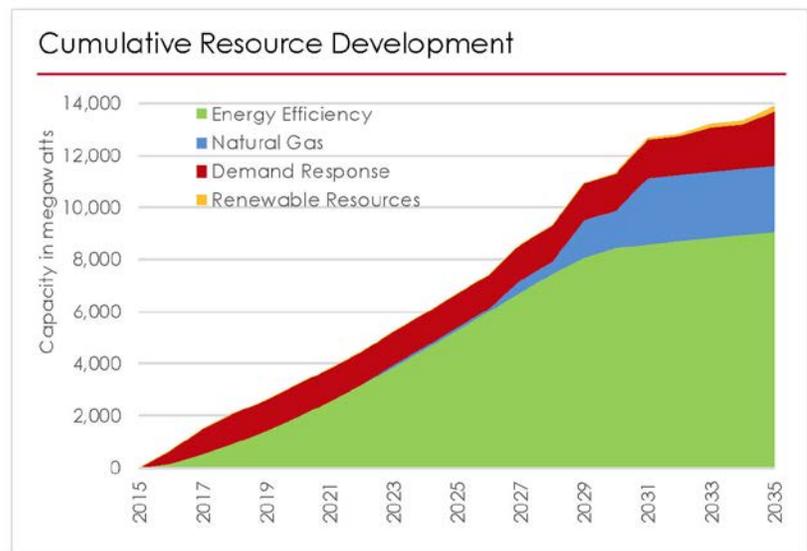


Figure source: *The State of the Columbia River Basin – Northwest Power and Conservation Council 2016 Annual Report* <https://www.nwpcouncil.org/history/Hydropower>

Energy Efficiency is the most promising area of resource development in the Northwest Power Plan (Seventh Plan)

The Northwest Power Plan is a 20-year blueprint to meet future demand for power. The Seventh Plan, adopted in February 2016, is the most recent Northwest Power Plan and forecasts demand to 2035. The Plan's resource strategy provides guidance to the Bonneville Power Administration and regional utilities on resource development to minimize the costs and risks of the future power system over the next 20 years.

Generally, the Plan forecasts include the assumptions that long-term economic growth, population growth, and increases in temperature will alter electricity demand and change precipitation patterns, river flows, and hydroelectric generation, and that policies enacted to reduce greenhouse gases will affect future power resource choices. If the Northwest climate steadily warms as anticipated, the Council's mandate in the Power Act to protect and enhance fish and wildlife affected by hydropower while assuring the Northwest a reliable, low cost - including environmental cost - electricity supply will become ever more important. Low carbon (natural gas) and zero-carbon (hydropower, wind power, solar energy, demand response, energy efficiency) resources will increase in importance as a means of combatting climate change.

Residential and commercial sectors account for much of the growth in energy demand in the next 20 years. Energy efficiency was identified in the Plan as the one resource that can best meet most if not all the region's future demand for power, and energy efficiency consistently proved the least expensive and least economically risky resource. In more than 90 percent of predicted future conditions, cost-effective efficiency met all electricity load growth through 2030 and in more than half of the futures energy efficiency meets all load growth for the next 20 years. It's not only the single largest contributor to meeting the region's future electricity needs; it's also the single largest source of new peaking capacity.

1980 Northwest Power Act

In 1980, Congress enacted the Pacific Northwest Electric Power Planning and Conservation Act (the Power Act), giving the states of Idaho, Montana, Oregon, and Washington a greater voice in planning for energy futures and protecting fish and wildlife resources. The Act gives the four Northwest states a formal role in making decisions about the allocation of new energy resources for the region.

The Act was passed as a result of flawed forecasts for electricity load and demand that had vast implications and led to the second largest municipal bond default in the history of the United States. Congress concluded that an independent agency, controlled by the states and without a vested interest in selling electricity, should be responsible for forecasting the region's electricity load growth and helping determine which resources should be built. The Northwest Power and Conservation Council does that in the Northwest Power Plan. The Act directs the Council to revise the plan at least every five years and to ensure widespread public involvement in formulating regional fish and wildlife and energy policies.



Oregon and Washington Energy Goals

Energy goals of Washington

- Maintain competitive energy prices that are fair and reasonable and support economic success.
- Increase competitiveness by fostering clean energy economy and jobs.
- Reduce greenhouse gas emissions.

Energy Goals of Oregon

- Maximize cost-effective energy efficiency to support a safe, clean, and sustainable energy future.
- Develop energy supplies that support the growth of Oregon's renewable and alternative energy resources (foster innovation).

The Northwest has a deep commitment to renewable energy and environmental protection, yet has seen a significant increase in fossil fuel transport through the Columbia River Gorge

There has been a significant increase in transportation of crude oil by rail through the Pacific Northwest to existing terminals and refineries on the west coast. Most, if not all the oil is transported through the Columbia River Gorge National Scenic Area, and much of the crude oil being transported is highly volatile oil from the Bakken oil fields in North Dakota. Although crude oil is generally transported through pipelines, the lack of adequate pipelines to the Northwest has led to the rail as the primary “pipeline”. Coal companies are targeting the Columbia River as a gateway for coal export, with planned terminals that would send large quantities of U.S. coal to Asia. Multi-billion dollar proposals to export liquefied natural gas (fracked gas) through pipelines and to terminals in the Northwest threaten salmon habitat and water supplies.

The Columbia River Gorge Commission passed a resolution in 2015 expressing grave concerns over the rapidly increasing number of fossil fuel transportation through the National Scenic Area and the extreme risks to the resources and communities along the railroad corridor if an accident occurs. The derailment and explosions of the train carrying Bakken crude oil in Mosier, OR in June 2016 was a reminder of the vulnerability of communities and resources along the Columbia River. There were no oil spills or loss of life (thanks to the windless conditions) because emergency responders were able to quickly control the damage. There is also renewed concerns about air quality due to the increasing number of uncovered coal trains traveling through the National Scenic Area and the loss of tons of coal dust deposited along the corridor.

Northwest local government and Tribal entities are leading the fight in preventing the development of new fossil fuel projects that have the potential to harm the environment. For example, the City of Portland passed the first ever anti-fossil fuel policy when its city council voted unanimously to prohibit building new fossil fuel infrastructure in city limits. The National Scenic Area partners and protector's opposition to fossil fuel export are an example of the role that cross-jurisdictional and interdisciplinary collaboration can have.

Source

The Northwest Power and Conservation Council, History of Hydropower <https://www.nwccouncil.org/history/Hydropower>

Bonneville Power Administration, www.BPA.gov

The Northwest Power and Conservation Council, 2016 Annual Report: The State of the Columbia River Basin, <https://www.nwccouncil.org/media/7490964/2016-11.pdf>

The Northwest Power and Conservation Council, Seventh Northwest Power Plan, <https://www.nwccouncil.org/energy/powerplan/7/plan/>

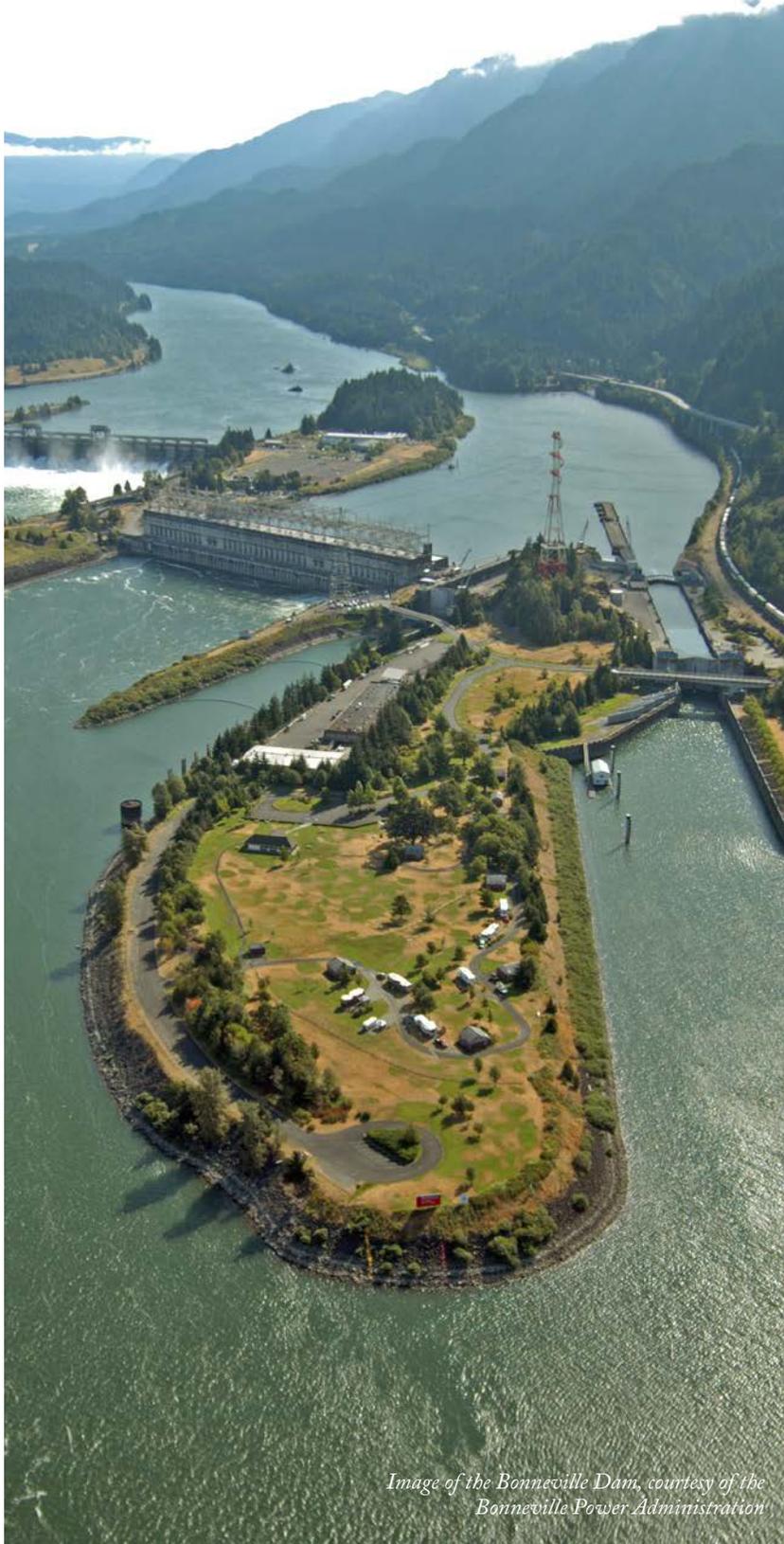


Image of the Bonneville Dam, courtesy of the Bonneville Power Administration

The Bonneville Power Administration

The U.S. Government built Bonneville and Grand Coulee Dams in the 1930s and 1940s under the New Deal. Power from these projects strengthened the Northwest economy and brought electricity to rural areas that were not served by existing utilities. Congress created the Bonneville Power Administration (BPA) in 1937 to deliver and sell the power from Bonneville Dam. The first line connected Bonneville Dam to Cascade Locks, just three miles from the dam. Major construction from the 1940s through the 1960s created networks and loops of high-voltage wire touching most parts of BPA's service territory. During that time, Congress authorized BPA to sell and deliver power from more federal dams on the Columbia and its tributaries. BPA operates and owns about 75 percent of the Pacific Northwest region's high voltage electric transmission system, delivering power from where it's produced to where it's consumed.

About one-third of the power consumed in the Pacific Northwest comes from BPA. BPA Power Customers include publicly-owned utilities, a few direct service industries, Tribal governments and federal agencies. Utilities deliver the power to residential, commercial, industrial and agricultural customers.

BPA promotes energy efficiency and new technologies that improve its ability to deliver on its mission. Energy Efficiency is the second largest power "resource" in the Pacific Northwest. BPA ratepayers fund regional efforts to protect and rebuild fish and wildlife populations affected by hydropower development in the Columbia River Basin. BPA partners with states and tribes, conservation agencies and others to restore damaged habitat, improve hatchery practices and protect lands and streams. BPA and its partners have made significant investments to make dams safer for fish.

Hanford - Legacy of the Nuclear Era

Robert Jacobs is a Professor at the Hiroshima Peace Institute and Hiroshima City University. He is a historian of nuclear technologies and radiation technopolitics. He is the author of *The Dragon's Tail: Americans Face the Atomic Age* (2010), (also available in a Japanese translation published by Gaifusha in 2013), and the editor of *Filling the Hole in the Nuclear Future: Art and Popular Culture Respond to the Bomb* (2010). He is the co-editor of *Images of Rupture in Civilization Between East and West: The Iconography of Auschwitz and Hiroshima in Eastern European Arts and Media* (2016), and *On Hiroshima Becoming History* (forthcoming, 2017). He co-edited a special issue of the journal *Critical Military Studies* "Re-Imagining Hiroshima" (summer 2015). Jacobs has published and lectured widely on nuclear issues around the world.

Keynote Address

Dr. Robert (Bo) Jacobs,
Hiroshima City University, Hiroshima
Peace Institute

The Hanford facility in eastern Washington State produced the majority of U.S. plutonium used in nuclear weapons production during the Cold War

Nuclear weapons production in the United States took place for over five decades at 16 major facilities across the American south and west. When the U.S. entered World War II in 1941, suitable sites for plutonium production facilities were scouted and ground was broken for the Hanford facilities in 1943. By the end of the war in 1945, workers built 554 buildings, including three reactors, three processing canyons, and 64 underground tanks, 386 miles of roadway, 158 miles of railroad lines, and a new city of Richland which could house 17,500. Plutonium from Hanford's reactors went into the Trinity test bomb and into the bomb dropped on Nagasaki.

Hanford underwent its first expansion at the onset of the Cold War in 1947, and further expanded during the Korean War. Hanford's plutonium production reached its peak between 1956 and 1963, with nine plutonium producing reactors along the Columbia River.

The U.S. produced the majority of plutonium for nuclear weapons during the Cold War at Hanford. Plutonium production ended in the late 1980's when the last reactor was shut down. Due to public awareness of contamination and the end of the Cold War, the Hanford Site changed its mission from nuclear weapon production to environmental cleanup and environmental management.

How to deal with nuclear waste at Hanford is a dangerous, costly challenge

Plans to clean up the waste at Hanford began as early as 1958, two years after the first tank leaks were reported. The U.S. Department of Energy, the U.S. Environmental Protection Agency, and Washington State began regulation and cleanup at the Hanford site in 1989 after reaching the Tri-Party Agreement. Cleaning up nuclear waste is complex, the process of making plutonium results in a massive amount of liquid and solid waste for a small amount of plutonium. This waste must be dealt with. Additionally, all the facilities and structures that were associated with Hanford's production must also be deactivated, decommissioned, decontaminated, and demolished.

The Hanford cleanup poses a long-term problem (think millions of years)

An isotope's half-life is the amount of time required for half the nuclei to undergo radioactive decay. Strontium-90 has a half-life of 27 years, which means in 27 years it will diminish to half its original amount through the process of radioactive decay. Some of the radionuclides released from Hanford in the past are no longer of concern because of their short half-lives, such as iodine-131 which has a half-life of 8 days. Other radioactive elements are extremely long-lived. The half-life of iodine-129, for example, is over 15 million years, posing a significant long-term threat to the Columbia River.

Many known pollutants present at Hanford are harmful to human health. Exposure to radioactive iodine causes thyroid cancer, and uranium is a known carcinogen with major impacts on the human kidney (4.5 billion-year half-life). Furthermore, potential environmental impacts are enormous.

Hanford is upstream of the Columbia River Gorge National Scenic Area and poses significant direct risk to all downstream communities in both Oregon and Washington. The forum was a foray into educating colleagues and policy makers about Hanford nuclear production historically and the waste storage legacy it has left.

Sources:

Washington Department of Ecology, Nuclear Waste Program.

Crosscut, 2016. Dr. Robert Jacobs. "For West Coast, nuclear Hanford threat dwarfs Fukushima"

Hanford Challenge, The Big Issues. www.hanfordchallenge.org

Columbia Riverkeeper, Hanford & the River, 2011.

The Green Run:

In December 1949 the United States deliberately released radiation into populated areas at the Hanford Site during what is known as the Green Run. It was the largest intentional release of radiation conducted by the U.S. government. The Green Run was conducted in reaction to the test of the first Soviet nuclear weapon and was intended to develop detection equipment to analyze the Soviet program. The resulting release of iodine-131 dispersed throughout much of Washington State and into Southern Oregon.

The U.S. produced the majority of plutonium for nuclear weapons during the Cold War at Hanford. Plutonium production ended in the late 1980's when the last reactor was shut down. Due to public awareness of contamination and the end of the Cold War the Hanford Site changed its mission from nuclear weapon production to environmental cleanup and environmental management.

Storage of Radioactive Waste: Underground Waste Tanks

- 56 million gallons of Hanford's high-level radioactive waste is contained in 177 underground waste tanks. More than a third have leaked, and nearly all are beyond their design-lives. 28 of the tanks are double-shell tanks and 149 are single-shell tanks.
- At least one million gallons of high-level radioactive waste has leaked into the soil and groundwater under the tanks. Sixty-seven tanks have been known to leak in the past, one double-shell tank has failed and is currently leaking waste into the space between the two shells of the tank.
- The leaked waste is a huge cleanup challenge, some of the waste has reached the groundwater.
- In addition to the waste inside the tanks, waste was also deliberately discharged to the soil. An estimated 120 million gallons of waste from the Hanford tanks were directly ejected into the soil.

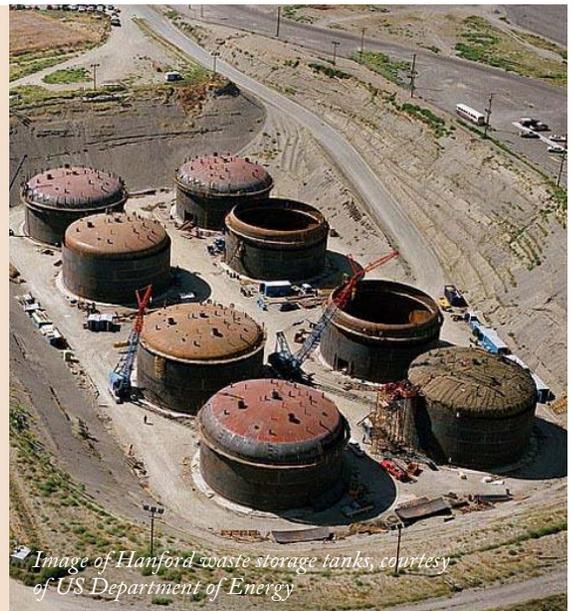


Image of Hanford waste storage tanks, courtesy of US Department of Energy

Recurrent Themes from the Columbia River Forum

In closing, the speakers returned the focus of the discussion to the Columbia River Gorge National Scenic Area, touching on some of the successes of preservation and economic development, the ongoing challenges, and the importance of collaboration to both the Scenic Area and the region.

Closing Remarks

Rachel Pawlitz
U.S. Forest Service

Buck Jones
Columbia River Inter-Tribal Fish
Commission

Bringing it all together

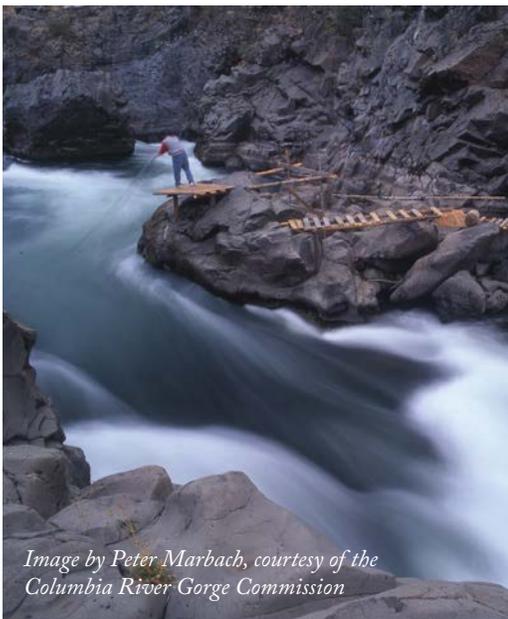
Throughout the forum several recurrent themes emerged from the day's detailed discussions of transportation infrastructure, water quality and water rights issues, environmental stewardship, and local and regional energy concerns.

- The Columbia River is a natural resource that is of critical importance to both local and regional economies, and is host to a complex mix of coexisting, and sometimes competing, land uses.
- This is a unique time for the Columbia River and the Columbia River Gorge National Scenic Area due to the Gorge 2020 Management Plan Review and Update Process, and the review of the Columbia River Treaty 2014/2024, both of which are currently underway.
- Due to the multi-jurisdictional nature of the area, several unique commissions, panels, agencies and other governmental and non-profit entities have emerged to enable more collaborative planning and management. Several of these organizations were represented by the forum panelists and presentations.
- Regional planning across multiple jurisdictions remains a complex practice, particularly where regulations differ between States and/or local jurisdictions. Such differences present many challenges, but also some opportunities.

"The tribe, federal and state agencies, environmental interest, and irrigation interests all worked together to find a way to share water for fish and irrigation; it was a win/win situation that stands today."

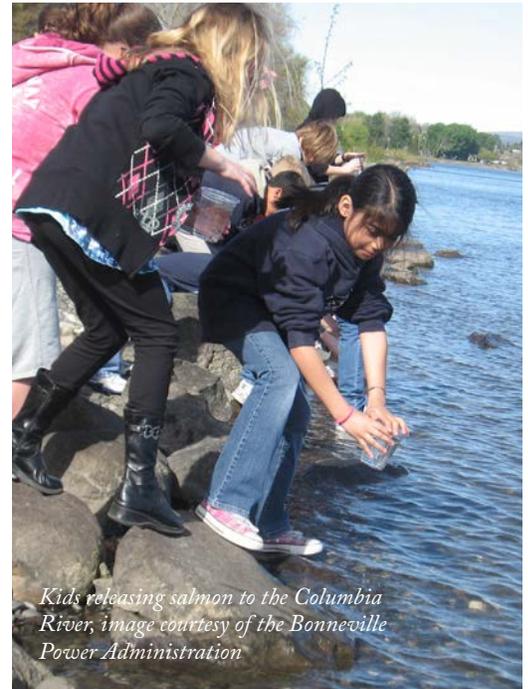
- Antone Minthorn

(Speaking on the Umatilla Basin Project, an effort in the 1990's to restore water and salmon to the Umatilla River.)



*Image by Peter Marbach, courtesy of the
Columbia River Gorge Commission*

- The federally recognized Tribes are a sovereign government with tribal treaty rights in the Columbia River Basin and are integral partners in natural resource management of the land they have lived on for 10,000 years. Their involvement has often led the way to more effective collaborations between the states and local jurisdictions and more impactful restoration in the rivers, streams, and lands guaranteed by treaty rights.
- Continued collaboration is essential to successful management of both the Columbia River and the Columbia River Gorge National Scenic Area. Strong relationships and open communication are critical to future success.
- Ports have played a key role in economic development and resource management along the Columbia River and throughout the Columbia River Gorge National Scenic Area. Continued engagement with Columbia River's ports will be essential to future success in the region.
- Conflicts remain between some economic uses of the area (freight corridor, energy, etc.) and environmental concerns. However, investments in the area's natural resources, such as the establishment of the National Scenic Area in 1986 and restoration driven by water quality and salmon habitat interests, have also had some economic benefits, such as the rise of recreational uses and tourism in the region.
- Discussions around both the water and the energy panels suggest a need and an opportunity for better integration of land use, and water management, and energy planning processes.
- Successful clean-up and permanent environmental management of the contaminated Hanford Nuclear site is fundamental to the public health and economic viability of communities along the Columbia River, and throughout the Pacific Northwest.



Kids releasing salmon to the Columbia River, image courtesy of the Bonneville Power Administration

Looking Ahead: Gorge 2020

“Gorge 2020 creates a focus on the future of the National Scenic Area, striving for effectiveness and efficiency in how we steward the resources and support the economy, while assisting private landowners, farmers and businesses in managing their lands. For the next two years, the Gorge Commission will be partnering with local communities, public agencies and four Treaty Tribes to design a Management Plan that will integrate our values, address pressing issues such as regional tourism and transportation, and create a path forward to guide resource decisions for the next decade.”

- Krystyna U. Wolniakowski
Executive Director
Columbia River Gorge Commission

Columbia River Forum Participants

The Forum had broad participation from a variety of public, private and non-profit entities. 59 different organizations were represented, from offices located in 28 cities in OR and WA. 35 participants were from OR, 27 from WA.

Public

- Bonneville Power Administration
- Business Oregon
- City of Bellingham
- City of Cascade Locks
- City of Gresham
- City of Madras
- City of Pasco
- City of Portland
- City of Prineville
- City of Richland
- City of Snoqualmie
- City of Stevenson
- City of the Dalles
- City of Vancouver
- City of Woodland
- Columbia River Gorge Commission
- Hiroshima City University, Hiroshima Peace Institute
- Mid-Columbia Economic Development District
- Oregon Department of Energy
- Oregon Department of Transportation
- Oregon Department of Aviation
- Oregon Department of Land Conservation and Development
- Oregon Parks and Recreation Department
- Umatilla County
- Klickitat County
- Hood River County
- Skamania County
- Southwest Washington Regional Transportation Council
- Washington Department of Transportation
- Washington Department of Commerce
- Washington Department of Ecology

Private

- CH2M Hill
- Cogan Owens Greene
- MAKERS Architecture & Urban Design
- Maul Foster & Alongi, Inc.
- Port of Camas-Washougal
- Port of Cascade Locks
- Port of Hood River
- Port of Longview
- SMARTGOV - Paladin Data Systems
- TDR & Associate- Land Use Planning & Facilitation
- Tenneson Engineering Corporation
- Van Ness Feldman LLP
- WHPacific
- WPN

Tribal

- Cowlitz Indian Tribe
- Quinault Indian Nation
- Umatilla Tribe
- Columbia River Inter-Tribal Fish Commission

Non-profit

- APA Oregon
- APA Washington
- Columbia Riverkeeper
- Northeast Oregon Water Association
- Oregon Solutions

Contact for more info:

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PaulaReeves@hotmail.com
360-701-1943

or

OR APA Chapter President: Jeannine Rustad, JD
jrustad@thprd.org
503-614-1206

For more details about the Columbia River Regional Forum, including slides from the panelists and speakers, please visit: :
<http://www.oregonapa.org/events/columbia-river-regional-forum/>

Thanks to the Columbia River Regional Forum planners.

Planning Committee:

Special thanks to the planning committee and panelists.

Moderators:

- Rick Sepler, AICP - City of Bellingham,
- Scott Kuhta, AICP - Washington State Department of Commerce,
- Alwin Turiel, AICP, PMP - Oregon Department of Land Conservation and Development

Keynote, opening, and closing remarks:

- Opening Remarks: Antone Minthorn and Krystyna U. Wolniakowski - Columbia Gorge Commission;
- Keynote: Dr. Robert (Bo) Jacobs - Hiroshima City University;
- Closing Remarks: Rachel Pawlitz - U.S. Forest Service and Buck Jones - Columbia River Inter-Tribal Fish Commission.

Event Coordination:

- Stephanie Kennedy - Total Event Connections

Report Authors:

- Hayley Pickus, MURP, MPH
- Katy Saunders, PLA - MAKERS Architecture + Urban Design

Columbia River Gorge Report Photographs

- Images by Peter Marbach, courtesy of the Columbia River Gorge Commission. Peter Marbach is a renowned fine-art landscape photographer who resides in Hood River, OR. Find his work at www.petermarbach.com.

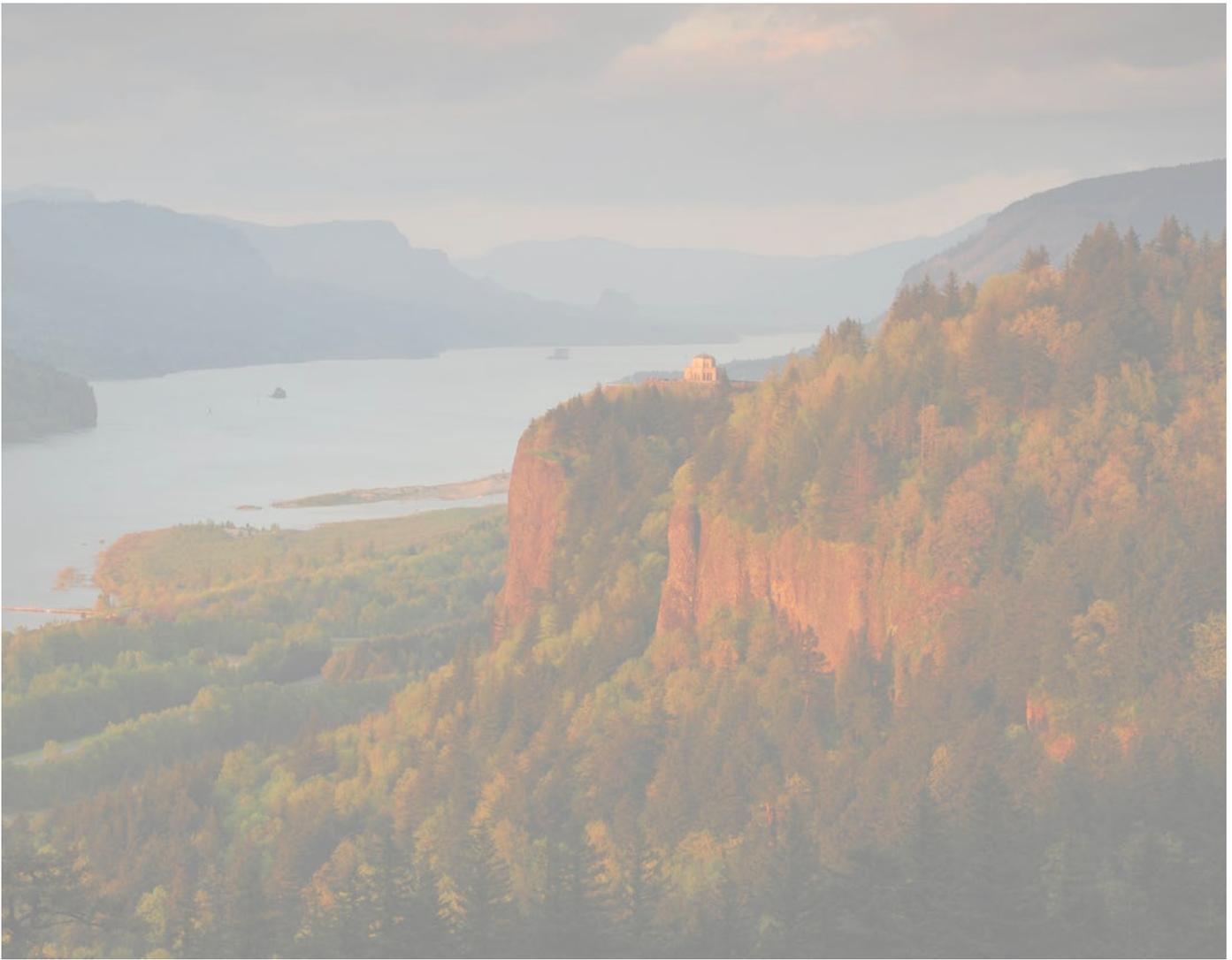
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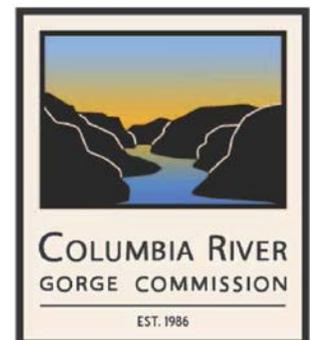


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