

# 2013 SCIENCE TO POLICY SUMMIT

## *The Columbia River Treaty*

### A Treaty for Our Time, Implications for the Lower Columbia River

The Lower Columbia Estuary Partnership held its annual Science to Policy Summit Friday, May 10, 2013 at the Vancouver Hilton, in Vancouver, Washington. Over 120 community leaders representing diverse interests joined the Estuary Partnership to explore the Columbia River Treaty and its significance to the lower river and the Columbia Basin. Senator Jackie Dingfelder (OR), Representative Brad Witt (OR), and Representative Sharon Wylie (WA) co-hosted the event to demonstrate the importance of cross boundary dialog.

#### Background

The United States and Canada are in an intensive review of the Columbia River Treaty that could result in recommendations to change how the Columbia River is managed. The goal of Columbia River Treaty when it was approved by the United States and Canada in 1964 was to improve flood control and increase power generation. While the Treaty has no end date, either country can terminate or amend it beginning in 2024 by giving ten years written notice. Therefore 2014 is a critical point in time and an intensive treaty review process is underway in both the United States and Canada. In addition, the Treaty includes operations to assure flood control that will end in 2024 with potentially significant implications for the lower river. Leading the treaty review process is the Sovereign Review Team (SRT), which is comprised of tribal, state and federal agency representatives, including the US Army Corps of Engineers and the Bonneville Power Administration as Treaty co-coordinators.

#### Charge for the Day

The **Honorable Tim Leavitt, Mayor, City of Vancouver, Washington** welcomed the group to Vancouver, and talked about the importance of including the lower river in treaty discussions.

**Mary Lou Soscia, Columbia River Coordinator, United States Environmental Protection Agency**, gave the charge for the day: discuss the needs of the treaty in the context of today's values and create messages that will help those involved in treaty discussions craft a treaty for our time and for future generations.

#### The Science: Current Practices and Knowledge

The day began with presentations on science, advances in knowledge and Columbia Basin perspectives.

**John Shurts, General Counsel, Northwest Power and Conservation Council** - John provided treaty background to set the stage for the day's discussion. He described how the treaty primarily provided flood control and power generation. John discussed the mechanisms for treaty review and potential results if the treaty is terminated. These potential outcomes include Canada only providing flood control when "called upon;" US not sharing power generation revenue; and fluctuating water levels based on Canadian needs. John concluded by detailing the 2014 treaty review process and its importance, noting that it provides an opportunity to incorporate ecosystem, fish and wildlife needs, and to engage a greater range of stakeholders.

**Paul Lumley, Executive Director, Columbia River Inter-Tribal Fish Commission** - Paul described the history of the treaty and discussed tribes' dependence on, and connection with, the river and its species. He noted that development and operation of the Columbia River hydropower system has impacted species health and tribes' ability to use those species. Key tribal concerns with the treaty include lack of tribal representation during its development, projects built without fish passage

considerations, and treaty benefits that do not benefit tribes. Flow changes brought significant change to the Native American way of life, forever altering trade routes and their economy. Tribes' goals for the treaty review and the new treaty include tribal representation, ecosystem considerations, a restored spring freshet balanced with upriver tribal needs, restored salmon passage and runs, and tribal participation in the benefits derived from the hydropower system. Paul noted that the tribes remain concerned about the USACE's reluctance to consider relaxed flood risk management, which results in trade-offs for ecosystem benefits.

**Greg Fuhrer, Associate Director, US Geological Survey Oregon Water Science Center** - Greg delved into specific Columbia River flow regimes currently being modeled and discussed by Sovereign Review Teams. He described four scenario alternatives that allow teams to consider results and outcomes of different flow regimes. Greg then discussed the potential outcomes on the estuary, sedimentation regimes, water temperature, anadromous and resident fish, and climate change. He noted how each analysis was extremely complicated and that model outcomes from the scenarios depended in large part on the time of year, location, and ecosystem services deemed important.

**Catherine Corbett, Chief Scientist, Lower Columbia Estuary Partnership** - Catherine provided background on ecosystem based management and the concepts of measuring biological integrity and how they can be integrated into current treaty discussions. She described

the process of defining a vision, quantifiable targets for species and habitat, water quality, and ecosystem processes. She also discussed Estuary Partnership data, including the Estuary Partnership's habitat change analysis, and concluded by describing a series of considerations for treaty discussions, particularly focusing on the aspects of climate change.

**Matt Rea, Program Manager, US Army Corps of Engineers (USACE)** - Matt described USACE's flood risk management responsibilities, USACE studies based on "Iteration 2," and scenarios that incorporate climate change and a wide suite of different Canadian operations. He then described "Iteration 2" studies (full use of US storage, no use of Canadian storage, and the possibility of levee modification) and USACE study results to date. He outlined how two scenarios would increase flows in the US and have significant flooding risks as well as management issues associated with dry years. He noted

the USACE's primary goal of maintaining current low risk levels, and detailed the USACE's primary questions regarding the possible coexistence of ecological benefits and flood protection, the duration of the next treaty, and the flexibility of a new treaty.

**Maggie Skenderian, Johnson Creek Watershed Manager, Portland Bureau of Environmental Services** - Maggie discussed City of Portland flood management improvements in the Johnson Creek watershed and its





potential application elsewhere. The City completed concerted floodplain restoration to lessen flood risks and improve ecosystem process and functions. Maggie described the historic impacts to the Johnson Creek Watershed (development, a railroad berm, channelization) and the purposes of watershed restoration. A cornerstone of the Johnson Creek Restoration Plan was a “willing seller” program that purchased and restored 300 acres of flood prone property. This nearly eliminated flooding that previously plagued key portions of the watershed, resulting in savings of \$30 million over thirty years. She concluded by noting the potential role Columbia River tributaries, such as Johnson Creek, could play in flood risk management.

**John Fazio, Senior Power Systems Analyst, Northwest Power and Conservation Council (NPCC)** - John presented work conducted by the Bonneville Power Administration (BPA). The NPCC has monitored their work and provided an independent third party interpretation. He discussed the connection between flow levels and hydropower generation – noting flow is necessary to generate power. He detailed how small changes to flow regimes could have large impacts on the hydropower system’s ability to generate power and money and how some flow regimes being discussed could have future implications for regional power system reliability. He noted that most scenarios being considered in treaty discussions would result in less power and revenue generation, and therefore more reliance on other sources to meet the region’s energy demands; procuring non-hydropower sources could have cost and environmental impacts.

**What it Means in Different Parts of the Region**  
**Kindy Gosal, Director of Special Initiatives, Columbia Basin Trust (CBT)** - Kindy described Canada’s portion of the basin, noting that 15% of the basin was in Canada. That 15% provides 50% of the power used by British Columbia, which depends almost entirely on hydropower to meet its power needs. Kindy discussed the impacts of the treaty in Canada noting how dams flooded more than 500 square kilometers, impacted fish and wildlife, and that the dams’ operation does not provide the recreational benefits of US reservoirs because of significant annual

water level fluctuations. Kindy described the creation and work of the CBT, particularly their efforts to engage citizens and stakeholders in the treaty review process. He noted the importance of First Nations in the treaty review process, and suggested that treaty decisions should look beyond the boundaries of the international line.

**Keith Kutchins, Policy Analyst, Upper Columbia United Tribes (UCUT)** - Keith described the history, purpose and geography of UCUT. He discussed the “Columbia Basin Tribes Common View on the Future of the Columbia River Treaty” document which details the tribes’ lack of participation in the 1964 treaty and the treaty’s narrow focus on power production and down river flood control. He suggested that the tribal governments’ extensive expertise in cultural and natural resources need to be fully integrated into river management and the development of the next treaty; they want to work with all parties to overcome differences and to ensure that hydropower and flood risk management goals are accomplished in accordance with ecosystem needs. He concluded urging river operations be considered from the headwaters to the ocean, emphasizing that regional consensus was key for successful treaty negotiations.

**Taylor Aalvik, Director of the Natural Resources Department, Cowlitz Indian Tribe** - Taylor described the history of the Cowlitz Indian Tribe and the work of the tribe’s Natural Resource Department, which includes fish and wildlife restoration work in the estuary and Columbia River tributaries. He described the impacts of human and hydropower development on the river’s habitat, flow and species. Taylor said the Cowlitz Tribe prefers a new Columbia River treaty that improves the timing, size, and temperature of flows to help restore species and enhance the tribe’s restoration work. He noted the contentious nature of the Sovereign Review Team process and that now was the time to begin to develop a consensus regional recommendation. He concluded by encouraging everyone to work together in good faith for a treaty that would be good for fish and people.



## Participant Discussion

The primary objectives of the first treaty, signed in 1964 were low cost power, flood control and management, navigation and commerce. The treaty reflected the societal needs and goals at the time. Since that time societal values have changed and our understanding of natural systems – managing and living within them – has evolved. Today how we think about flood control and power generation has changed.

**We asked summit participants to identify today's values and discuss how these values might shape a new treaty, if crafted today. They offered this:**

- **We Value the Ecosystem as a Whole** - To an increasing degree, decisions about natural systems now consider the ecosystem as a whole; biological integrity is as important as power generation and flood control. Whole system integration – chemical, physical, biological, economic, recreational, and aesthetic – is the only way to assess the impacts of one area or action on another. We are more aware of the scientific ramifications of the timing of water releases, sediment budgets, navigation channel maintenance and contaminants. Ecosystem management considers the entire system: species, water, land and air. Today, we acknowledge that humans are part of the ecosystem.

Conservation and avoiding or mitigating impact are widely held values. The same principles and technology can be applied to water usage and development. Climate change is affecting Northwest ecosystems and its impacts will require flexibility to respond to the unknowns and need to be integrated into actions. Demands on the river today are greater than ever, including urbanization and increased irrigation for agriculture in eastern portions of the basin.

- **We Value Flexibility and Adaptability** - Governing today requires flexibility and the ability to adapt to future conditions, including climate change, increased population, and changing societal needs and values. Information about the river, especially the estuary, has grown tremendously; yet we are just scratching the surface. The current system will not be the same in twenty years. Investments in science to better understand the river and its condition should be paramount and on-going.

- **We Value Inclusive Governance** - Policy and decision-making are different today than in 1964. Tribal interests and non-federal entities have more authorities and we value public and diverse engagement. Education and communication are vital. Cooperative management and collaborative governance allows for a dynamic on-going process to vet issues and build broader support through participation.

- **We Value Low Cost Energy** - Low cost power is important to many Americans. Hydropower is a low cost energy option and a renewable. Low carbon energy sources can help address climate change. Diverse renewable energy sources and conservation are part of comprehensive energy policies that can relieve the pressure on dams as the primary long term power supplier.

- **We Value Flood Management** - Flood risk management (and public safety) is important especially as we build in the floodplain. Today, natural flood storage is an important flood control option and provides ecosystem benefits. Tying flood control to natural ecosystem function helps maintain salmon persistence and builds resiliency into the system: it restores natural flooding regimes and anticipates uncertainties, i.e., global warming, a major Cascade subduction zone earthquake, and future floodplain developments. Water releases from upstream dams can be structured to benefit the ecosystem and fish passage and inundate the floodplain more. Infrastructure, such as dikes, allow us to handle higher flows and may lead to a reduction in the need for upstream flood storage, but have a cost to maintain. Changing building practices and opening more floodplain creates increased storage within the system, reduces negative impacts on the ecosystems, and reduces the risk (and recovery costs) of catastrophic flooding. Johnson Creek in Portland demonstrates the success these approaches can have.

**We asked participants what messages we should share with the Sovereign Review Team to help protect the lower river for future generations. They offered this:**

The **treaty is a larger cultural discussion** that should not be constrained by decision points and timeframes as social norms change. It is a discussion about the treaty and it is a discussion about the future of the basin.



The **ecosystem is not adequately represented** in discussions. The USACE represents flood risk management and navigation; BPA represents power generation. Their missions and authorities do not include ecosystem-based management. The Columbia Basin is one integrated system - from headwaters to estuary. Actions in one area affect another. The impacts of the lower river on salmon in the upper watershed need consideration, particularly dams that cut off salmon runs into Canada. To have salmon in the basin, the estuary must be healthy and functioning: salmon use the estuary twice in their lifecycle. We need to value fish and the overall ecosystem as much as we value power or assess flood risk. Ecosystem-based management provides a framework that builds resiliency into the system so it can adapt to change (including climate change) and incorporate hydropower and flood risk mitigation. Ecosystem services need to be integrated into the treaty discussions.

The **treaty needs to be flexible and adaptable** to respond to changing conditions, advancing science and evolving values, and to provide more frequent intervals to revisit assumptions and needs. Change is coming (climate, invasive species) that will significantly affect environmental conditions and change aquatic assemblages, water temperatures, the timing and size of flows, local economies, navigation, and energy production. Societal values and needs evolve and the treaty needs to be able to be responsive to these changes.

An **inclusive, equitable and informed treaty review process is critical**. Education and more communication are critical and largely absent, especially in the United States. There was no public process in the 1950s and 1960s and not much now. Listening sessions are steered by regulators with a stake in the outcome. There are minimal discussions between upper and lower basin interests, and even less between the United States and Canada. Expanded discussion to include broad interests will allow work on difficult topics (salmon above Grand Coulee, removal of obsolete dams) rather than avoiding them. Information and science are essential: we need to model below Bonneville Dam to look at the whole river. Tribal sciences need to be respected. We need to provide for regulation equity so all entities, including private landowners, share in resource protection.

**Allow for alternative energy sources.** Energy conservation and alternative energy resources need further development and implementation to allow management of the dams to restore ecosystem function, mitigate for climate change, and potentially decommission dams in the future.

**Flood management needs to protect people, commerce, navigation and other interests and restore ecosystem function.** Increased flows need to maintain an acceptable level of flood risk management. Leadership is needed on the local level to incorporate environmentally sustainable flood controls. Options include moving some land uses out of the floodplain, adjusting flood insurance rates to reflect real risk, providing incentives to reconnect the floodplain, using federal funds for strategic levee modification, and purchasing lands from willing landowners to allow inundation. Pricing compensation needs to be based on today's values.

### Closing

Bill Bradbury, member of the Sovereign Review Team, wrapped up the day by thanking the attendees for the robust discussion and urged us to let this be the beginning of a long and inclusive discussion. He will carry the messages of the day to the SRT.

### Message of the Day and Next Steps

From these discussions, the Estuary Partnership Board of Directors, by majority, offer this to the Sovereign Review Team:

**To serve regional and national needs with long-term success, treaty discussions and the treaty are obligated to:**

- **Include the ecosystem on par with flood risk management and hydropower in a holistic way that considers the system from the estuary to headwaters.**
- **Reflect modern regional values, be flexible and adapt to new information to be resilient and sustainable.**
- **Have more balanced governance that uses a collaborative, open process with broad involvement.**

The ecosystem lacks adequate stature and is under-valued in treaty discussions. The current US Entities, the USACE NW Division Commander and BPA Administrator, carry out missions and authorities with expertise that comprehensively address, current and future power and flood risk management. Extending their missions to cover ecosystem function is unfair. Elevating an agency or department whose mission includes





ecosystem function to Entity status will bring equity to the three foci: flood risk management, hydropower operations and ecosystem function. Broader dialog with more diverse interests needs to be added to have the discussion and decisions reflect regional values and needs, including conservation, alternative energy, fish passage through upper dams, coordinated storage in Canada, non-structural flood management, the economy, tourism and recreation, strategic levee modification, navigation, commerce, industry, agricultural and cultural impacts.

To help advance these discussions, the Estuary Partnership will: Keep the focus on the ecosystem. We can keep interconnectedness of the system forefront in treaty discussions through our science and collaboration. We can provide a forum for further discussion. We can build on the partnerships developed at the summit to continue the dialog about the treaty and to manage and protect the Columbia River independent of the treaty.

Ex officio members of the Board and the Governor's office representatives recused themselves from discussions about the Estuary Partnership message to the SRT.

### The Estuary Partnership

The Estuary Partnership is a 501(C) (3) non-profit corporation serving a public interest: sustaining the viability of the lower Columbia River and estuary. We are one of the nation's 28 National Estuary Programs. The Estuary Partnership supports, coordinates and advances regional protection of the lower Columbia River from Bonneville Dam to the Pacific Ocean. The Estuary Partnership is scientifically-based using best available information to make decisions; we use an ecosystem-

based landscape approach to transcend human imposed boundaries; we provide a regional focus to unify, collaborate, and build on existing efforts, create partnerships, and fill gaps on this shared waterway.

We develop and manage habitat restoration projects, working with hundreds of partners to restore over 18,400 acres of habitat since 2000. We have developed a scientific framework to assure our investments in restoration are strategic and have assembled and developed extensive GIS data for the lower Columbia River and estuary. We monitored toxics in the lower river, published the only report on toxics for this region and host collection events to keep toxics from entering the river. We have provided 50,000 students with over 200,000 hours of instruction in outdoor education programs; helping over 1,500 teachers meet science benchmark requirements. Over 10,000 volunteers and students have planted over 47,000 native trees and shrubs to help protect riparian corridors and restore habitat.

The Estuary Partnership was created in 1995 by the governors of Washington and Oregon and the US Environmental Protection Agency when EPA designated the Columbia River 'an estuary of national significance.' They wanted a regional entity of public and private stakeholders to coordinate and advance scientific understanding and get on-the-ground results. The lower river has lost over 70% of wetland habitat and is contaminated.

**For more information about the Estuary Partnership, please visit our website: [www.estuarypartnership.org](http://www.estuarypartnership.org).**

