

2016 SCIENCE TO POLICY SUMMIT

Speaker Biographies and Abstracts

The Honorable Earl Blumenauer

United States House of Representatives

Biography

A lifelong resident of Portland, Oregon, Congressman Earl Blumenauer (OR-3) has devoted his entire career to public service.

While still a student at Lewis and Clark College, he spearheaded the effort to lower the voting age both in Oregon and at the national level. He was elected to the Oregon Legislature in 1972, where he served three terms and Chaired the House Education and Revenue Committee in 1977-78. In 1978, he was elected to the Multnomah County Commission, where he served for eight years before being elected to the Portland City Council in 1986. There, his 10-year tenure as the Commissioner of Public Works demonstrated his leadership on the innovative accomplishments in transportation, planning, environmental programs, and public participation that have helped Portland earn an international reputation as one of America's most livable cities.

Elected to the US House of Representatives in 1996, Mr. Blumenauer has created a unique role as Congress' chief spokesperson for Livable Communities: places where people are safe, healthy, and economically secure. From 1996 to 2007, he served on the Transportation and Infrastructure Committee, where he was a strong advocate for federal policies that address transportation alternatives, provide housing choices, support sustainable economies, and improve the environment. He was a member of the Foreign Affairs Committee from 2001 to 2007, and vice-chair of the Select Committee on Energy Independence and Global Warming from 2007 to 2010. He is currently a member of the Ways and Means Committee and the subcommittees on Health, Social Security, and Trade.

Congressman Blumenauer's academic training includes undergraduate and law degrees from Lewis and Clark College in Portland.



The Honorable Suzanne Bonamici

United States House of Representatives

Biography

Congresswoman Suzanne Bonamici represents the First Congressional District of Oregon, which comprises the Northwest portion of the state.

Strengthening public education is one of Suzanne's top priorities and one of the reasons she got involved in public service. As a member of the Committee on Education and the Workforce in Congress, she is dedicated to giving educators and students the resources they need to succeed. Suzanne served a lead role in the passage of the bipartisan Every Student Succeeds Act (ESSA), which replaces No Child Left Behind and creates new K-12 education policies. She is also focused on making college more affordable and closing the skills gap. Suzanne is the founder and co-chair of the bipartisan Congressional STEAM Caucus, which aims to encourage innovation and creative thinking by integrating arts and design with Science, Technology, Engineering, and Math education.

Suzanne also serves as a member of the Committee on Science, Space, and Technology, and she is the top Democratic member on the Subcommittee on the Environment. From this position, she is working to address the causes and risks of global climate change, and to ensure that policy decisions are based on science.

Suzanne worked her way through college in Eugene, first at Lane Community College, and then at the University of Oregon, where she earned her bachelor's degree and law degree. Suzanne and her husband Michael have been married for thirty years. They have two grown children and a cocker spaniel named Charley.



Dan Opalski

US EPA Region 10 Director, Office of Water and Watersheds

Biography

Dan Opalski is the Director of the Office of Water and Watersheds for EPA's Pacific Northwest and Alaska Regional Office out of Seattle. In this capacity he leads EPA's Clean Water Act programs, including those focused on water quality standards, water quality assessment and impairment identification, total maximum daily loads and point source discharge permitting, for Alaska, Idaho, Oregon and Idaho. The Office of Water and Watersheds also oversees drinking water programs in all four states and implements drinking water requirements in Indian Country. Before assuming his current position in late 2012, Dan served for eight years as the Director of the Region's Office of Environmental Cleanup and for five years as Director of the multi-program Oregon Operations Office in Portland. Dan came to the Pacific Northwest after serving in various capacities in the Superfund program in EPA's San Francisco office from 1987 through 1999. He holds a bachelor's degree in civil engineering from Stanford University.



Catherine Corbett

Chief Scientist, Lower Columbia Estuary Partnership

Biography

Catherine joined the Estuary Partnership in 2008. She leads the Science Team and manages the habitat restoration, data management and monitoring programs. She led the Estuary Partnership to develop quantifiable habitat coverage targets and a strategic prioritization that improves regional investment in restoration. She facilitates the Science Work Group and coordinates monitoring and restoration activities with numerous partners in the lower Columbia River. She served as the Senior Scientist for the Charlotte Harbor NEP for eight years where she facilitated the development of resource-based water quality targets and managed an interagency monitoring network. Prior to that Catherine was a wildlife biologist in a national park in Morocco's Middle Atlas Mountains. She has published multiple manuscripts on seagrass in southwest Florida. Catherine holds a M.A. in International Development and Natural Resource Management from Clark University, Massachusetts and a B.S. in Zoology and Physical Geography Minor from Miami University.

Abstract

Warming water temperatures and changing precipitation patterns resulting from climate change are expected to have a deleterious impact on aquatic species throughout the Columbia Basin, including significant reductions in habitat for Pacific salmon, steelhead and trout. Summertime water temperatures in the mainstem lower Columbia River have increased steadily over the last several decades, with annual peak temperatures in July and August exceeding 20-21 °C and reaching as high as 24°C. The duration of these peak temperatures has recently extended into June and as late as September (e.g., summers 2015 and 2016). This period is coincident with adult sockeye, Chinook and steelhead returns to their natal streams for spawning, and peak outmigration of juvenile interior Chinook. These temperatures can cause behavioral changes such as delays in migration and can result in increased mortality or a variety of sub-lethal effects on physiology, disease susceptibility, and reproduction.

Many adult salmonids, especially steelhead, temporarily seek out thermal refuges, or pockets of cold water, when mainstem Columbia water temperatures are high. The University of Idaho has identified a series of cool water locations located along the migration corridor at tributary confluences with the mainstem between Bonneville and John Day dams, where cool-water tributaries draining the Cascade Range enter reservoirs. The thermal refuges that are most studied are located at tributary confluences in the Bonneville and The Dalles reservoirs. The most-used by adults (e.g., up to 70% of adult steelhead) among these have been Herman Creek and the Little White Salmon, White Salmon, and Deschutes Rivers. *These sites are often 2-7 °C cooler than the mainstem, and the cold water plumes extend far enough into the mainstem as to cue salmon into the sites.* Additional sites that may be thermal refuges for migrants include tributary confluence areas downstream from Bonneville Dam. However, no studies have been done to assess whether these sites are in fact colder than the mainstem or whether salmon use them as cold water refuges. The same is true for groundwater-based refuges in the mainstem or tributary deltas. This presentation will discuss the importance of thermal refuges and on-going work to identify their locations, their use by salmon and steelhead and potential restoration and protection actions to maintain them in the future.



Jan Newton

Principal Oceanographer, University of Washington and Executive Director NANOOS

Biography

Dr. Jan Newton is a Principal Oceanographer with the Applied Physics Laboratory of the University of Washington and affiliate faculty with the UW School of Oceanography and the School of Marine and Environmental Affairs, both in the UW College of the Environment. She is the Executive Director of the Northwest Association of Networked Ocean Observing Systems (NANOOS), the US IOOS Regional Association for the Pacific Northwest and Co-Director of the Washington Ocean Acidification Center. Jan is a biological oceanographer who has studied the physical, chemical, and biological dynamics of Puget Sound and coastal Washington, including understanding effects from climate and humans on water properties. Currently she has been working with colleagues at UW and NOAA to assess the status of ocean acidification in our local waters.

Abstract

The chemistry of the world's oceans is changing. The increase in anthropogenic carbon dioxide (CO₂) results in seawater becoming more acidified and this effect threatens the health of coastal ecosystems and industries that depend on them. Known as ocean acidification, the threat posed by the progressive lowering of seawater pH is compounded by climate change and by intensification and expansion of low dissolved oxygen conditions, or hypoxia. Decreased seawater pH has been shown to affect the survival of some marine organisms, such as larval crab and planktonic krill. Additionally, calcified organisms can be affected; marine species, such as oysters, clams, mussels, and planktonic pteropods, use ions dissolved in seawater to form calcium carbonate shells. As CO₂ has risen, the pH has dropped and the availability of carbonate ions has decreased, making it more difficult for these organisms to produce and maintain their shells. These conditions can result in lower rates of shell formation, dissolution of existing shells, and shell deformities. Scientists are concerned about impacts to species higher in the food web that prey on these organisms. As an example, reduced survival of crab larvae may not only harm the crab industry harvest, but it could also reduce the survival of juvenile Coho and Chinook salmon that rely on larval crabs as an important food source. Effects on the food web will be amplified with stress from coastal hypoxia and warming; conditions we are finding in Pacific coast estuaries, including the lower Columbia, through tidal exchange.



Lara Whitely Binder

Senior Strategist, Climate Impacts Group, University of Washington

Biography

Lara Whitely Binder is a Senior Strategist at the University of Washington Climate Impacts Group (CIG). Since joining the CIG in 2000, Lara has worked extensively with communities, organizations, and individuals in the Northwest to address the impacts of climate variability and change. Lara also assists the CIG with its strategic planning and efforts to disseminate information on climate impacts and risks to decision makers, and conducts research designed to support adaptation.

Abstract

Climate change is a global scale problem with significant implications for resource managers and communities in the Northwest. Regionally, warming temperatures are expected to result in lower winter snowpack, increased vulnerability to drought and forest fire, increased stress on salmon, sea level rise, and other impacts. Reducing the risk associated with these impacts will require 1) understanding what climate change means for the Northwest, and 2) taking steps to ensure the region is prepared for the impacts of climate change even as our society as a whole works on the important task of reducing greenhouse gas emissions. This presentation will provide an overview of climate change impacts to the Pacific Northwest with particular emphasis on changes affecting the mainstem Columbia.



Michael Karnosh

Ceded Lands Program Manager, Confederated Tribes of Grand Ronde

Biography

Michael began working for the Grand Ronde Tribe in 1996, shortly after earning his Bachelor's in Forestry from the University of Idaho. For over ten years he worked as a Tribal forester on the Grand Ronde Reservation. During this time he attended the evening program at Lewis and Clark Law School in Portland, earning his Juris Doctor with a Certificate in Environmental and Natural Resources Law in 2005.

In April 2007, the Tribe hired Michael as its first Ceded Lands Program Manager. The Ceded Lands Program represents the Tribe's environmental and sovereignty interests over nearly 14 million acres of ceded lands, usual and accustomed areas, and aboriginal homelands. It facilitates government-to-government consultation as well as partnerships with governmental and non-governmental organizations. The Ceded Lands Program has played a part in numerous habitat restoration projects and in the Tribe re-acquiring nearly 1,000 acres of conservation lands to date.

Abstract

Tribal Cultural Landscapes (TCLs) have been determined by and known to tribal peoples for millennia, but have been recognized only recently in the context of scientific analysis (Ball et al., U.S. BOEM 2015). The TCL concept, the basis for consideration of the Estuary as a TCL, and the potential impacts to this TCL associated with climate change will all be discussed.



Tony Grover

Director, Fish and Wildlife Program, Northwest Power and Conservation Council

Biography

Tony Grover is serving his 9th year as the Director of the Fish and Wildlife Program of the Northwest Power and Conservation Council. Prior to joining the Council, Tony was with the Washington Department of Ecology for 11 years, leading a contaminated site cleanup group in Yakima and as Regional Director in the Spokane office of Ecology. Earlier in his career he worked for the State of Montana, consulted on superfund cleanups and worked several years in various parts of north and east Africa and the Middle East for AMOCO production Company. Tony holds a degree in geophysics from Boise State University and did two years of graduate work in environmental engineering and hydrogeology at Utah State University. Tony's hometown is Townsend, Montana.

Abstract

Climate change and rising sea levels are an established fact. Criteria for selecting sites for habitat restoration in the lower river and estuary have not been updated in response to our emerging understanding of sea level rise. Uncertainty about the magnitude and timing of sea level rise coupled with a sometimes perverse aspect of human nature, folly, impedes quicker adaptation to this new knowledge. The use of fish wheels in the late 1800's provides an example of how ignoring changing conditions in the lower Columbia River has had catastrophic effects on salmon populations. Developing long term decision criteria, despite uncertainties, will produce better habitat restoration investments in the lower Columbia River.



Amanda Hanson

Research Scientist, Lower Columbia Estuary Partnership

Biography

Amanda joined the Estuary Partnership in 2014. She coordinates and implements aquatic ecosystem monitoring programs in the Lower Columbia River Estuary with multiple partners. This includes the Ecosystem Monitoring Program that characterizes tidal freshwater habitats and monitors salmon occurrence and health in those habitats. She also oversees monitoring of restoration projects that the Estuary Partnership sponsors, to measure success for future restoration. In addition, Amanda participates in regional monitoring for toxic and conventional pollutants, and regional scientific review on monitoring programs with federal, state, and local agency partners. Amanda has a M.Sc. Biology and a B.Sc. Environmental Science from Carleton University, Ottawa, Ontario.

