

SALMON RECOVERY

conference

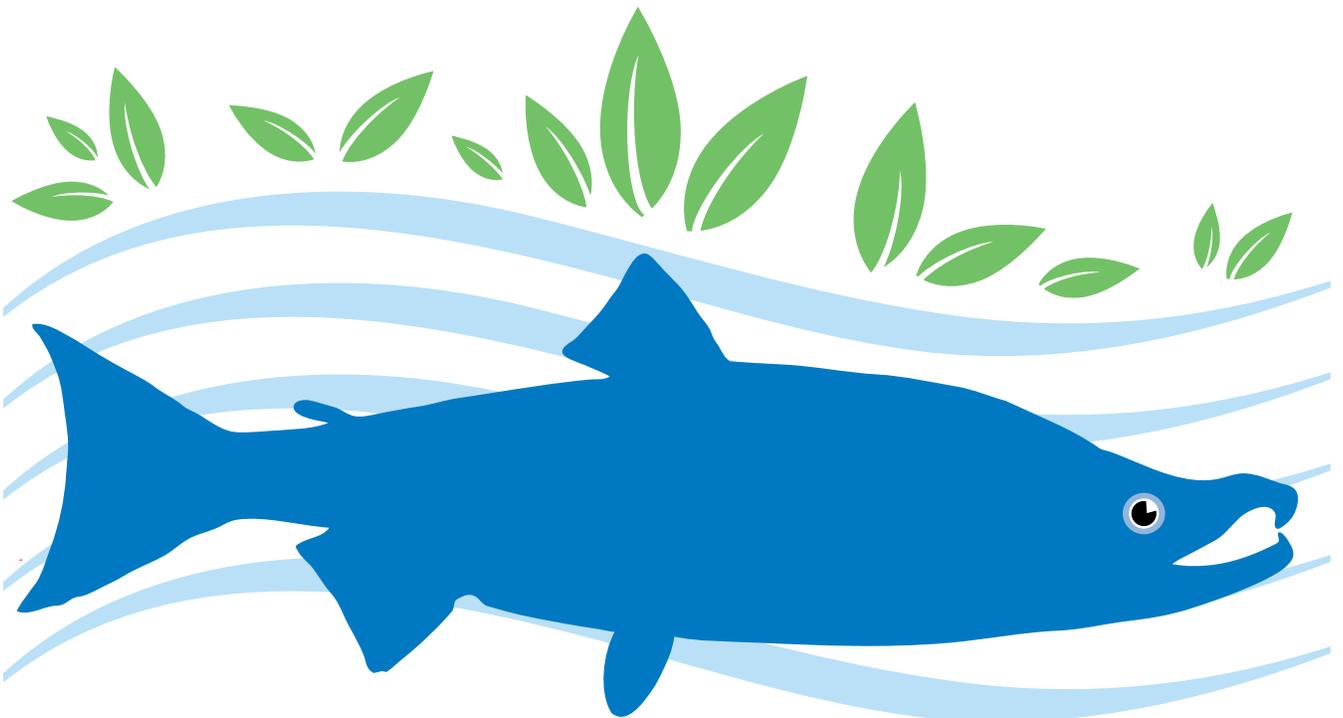
BUILDING BETTER PROJECTS

April 26 - 27, 2011

GREAT WOLF LODGE CONFERENCE CENTER
GROUND MOUND, WASHINGTON

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SPECIAL THANKS AND WELCOME

Welcome to the Salmon Recovery Funding Board's third biennial conference for grant recipients called Building Better Projects. The Salmon Recovery Funding Board would like to extend a special thanks to project presenters, panel members, and session moderators willing to share their expertise and lessons learned for the recovery of the Pacific salmon. Their contributions are what make this conference so successful.

Since 1999, the Salmon Recovery Funding Board has awarded more than \$460 million in grants and contracts for nearly 2,000 projects in 35 of the state's 39 counties. Grant applicants have contributed more than \$200 million, bringing the total investment to more than \$660 million.

With that funding, you've made a difference.

- You have removed more than 250 barriers to fish passage, opening up new habitat to salmon.
- Restored 1,280 miles of habitat along rivers, streams, and other water bodies, and 195 miles within streams and rivers.
- Restored more than 3,600 acres of estuarine habitat.
- Protected more than 33,229 acres of crucial salmon habitat.
- Created more than 3,700 green jobs in a variety of fields, from large equipment operators, to office workers, to engineers.

We have accomplished a great deal since beginning more than a decade ago. Today, we are taking a moment to celebrate our successes and to learn from one another about how to keep getting better. Enjoy the next two days!



WASHINGTON STATE
RECREATION AND CONSERVATION OFFICE

Salmon Recovery
Funding Board



SCHEDULE AT A GLANCE



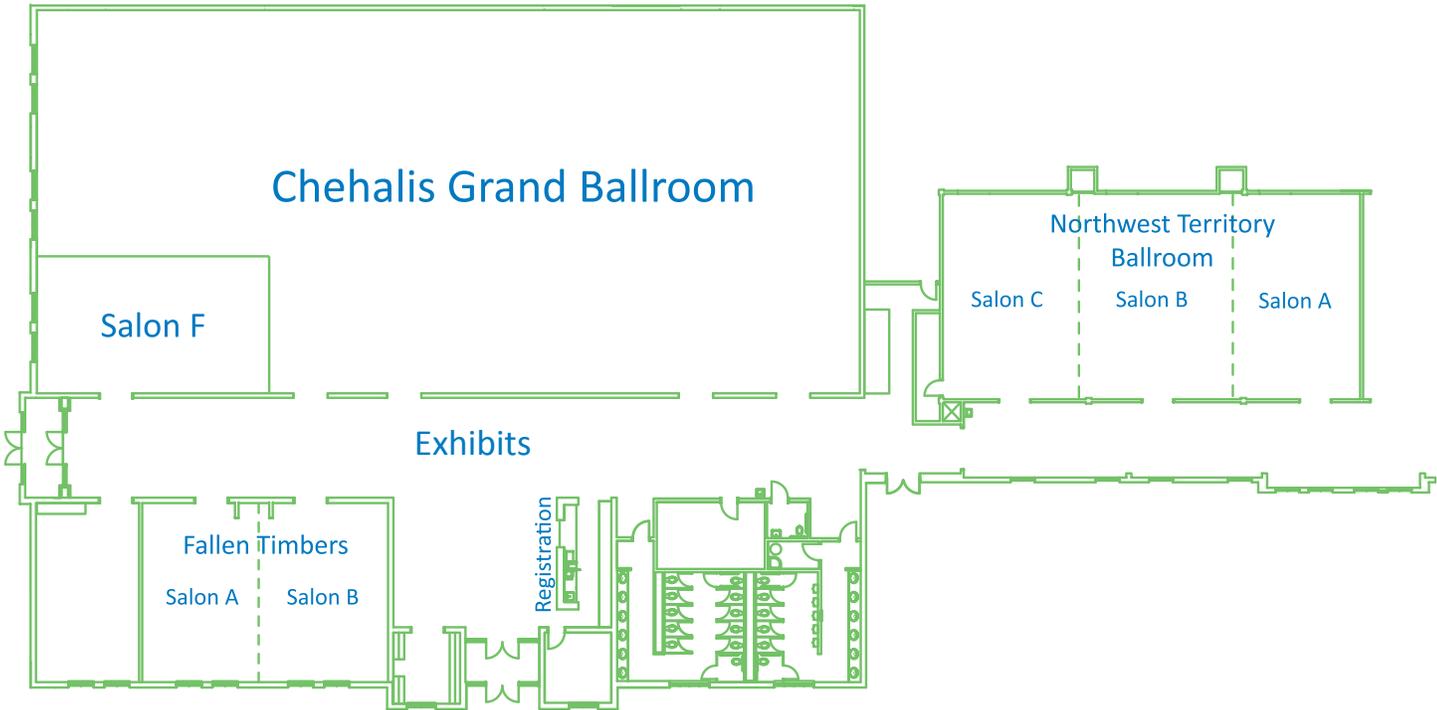
Tuesday, April 26

8:00	Registration and Exhibitors (open all day)					
8:00-9:00	Continental Breakfast – Chehalis Grand Ballroom					
9:00-9:30	Welcome and Morning Keynote – Congressman Norm Dicks – Chehalis Grand Ballroom					
	Marine Habitat Restoration	Fish Passage and Screening	In-Stream Restoration	Floodplain Connection and Restoration	Protection and Restoration Acquisition	Telling the Story
Room	NW Territory B	NW Territory A	NW Territory C	Chehalis F	Fallen Timbers B	Fallen Timbers A
9:45-12:00	Where Freshwater and Saltwater Collide: Large-scale River Delta Restoration	Rethinking Past Practices: Removing Dams and Other Barriers to Fish Passage	Large-scale Wood Projects to Recover Salmon	Working “Outside the Box (Channel):” Reconnecting Floodplains and Riparian Areas	Strategic Acquisition and Restoration Partnerships	Engaging Your Audience: The Impact of Film on Natural Resources
12:15-1:30	Lunch and Keynote: Will Stelle and Upper Columbia New Regional Video – Chehalis Grand Ballroom					
Room	NW Territory B	NW Territory A	NW Territory C	Chehalis F	Fallen Timbers B	Fallen Timbers A
1:45-4:00	Assessments and Restoration in the Marine Environment	Small Dam Removals and Fish Passage	In-Stream Wood Placement	Working “Outside the Box (Channel)” Reconnecting Floodplains and Riparian Areas Continued	Managing Projects with Multiple Goals and Partners	Engaging Your Audience: The Impact of Film on Natural Resources
4:00-5:00	Afternoon Break and Networking					
5:00-8:00	Dinner and Keynote: Tom Jay - Chehalis Grand Ballroom					

Wednesday, April 27

8:00	Registration and Exhibitors (open all day)					
7:30-8:15	Continental Breakfast – Chehalis Grand Ballroom					
8:15-8:45	Morning Keynote – Doc Hastings – Chehalis Grand Ballroom					
	SUCCESSFUL PROJECTS					
Room	NW Territory C	Fallen Timbers B	Chehalis F	NW Territory A	NW Territory B	Fallen Timbers A
9:00-11:15	Implementing Reach-based Restoration Priorities: On-the-Ground Example in Upper Columbia	Water: Something You Can Trust	Monitoring for Salmon Recovery: Approaches, Tools, and Integration	Back to the Future: Alternate Fishing Gear and Salmon Recovery	Planting Happens in the Middle of the Project, Not the End	Engaging Your Audience: The Impact of Film on Natural Resources
11:30-12:30	Lunch – Chehalis Grand Ballroom					
Room	Chehalis F	NW Territory C	Fallen Timbers B	NW Territory A	NW Territory B	
12:45-3:30	What Recent Fish Utilization Studies Tell Us about Salmon Habitat and Travel	Assessments: Laying the Ground Work for Successful Projects	Communicating Your Salmon Recovery Program	Climate Change: Implications for Salmon Recovery	How To: In-stream Restoration Issues	
3:30	Conference Wrap Up – Chehalis Grand Ballroom					

VENUE MAP



TUES.
WED.

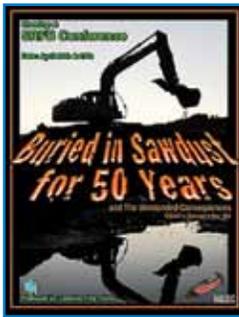
9:45 a.m. - Noon, 1:45 - 4 p.m.

9:00 - 1:15 a.m.



TELLING THE STORY

Fallen Timbers
Salon A



Leaping Frog Films
www.leapingfrogfilms.com

ENGAGING YOUR AUDIENCE: THE IMPACT OF FILM ON NATURAL RESOURCE ISSUES

A key salmon recovery challenge is informing and engaging an audience, whether it consists of local streamside landowners, decision makers, or watershed residents. Support from these individuals is critical to building on and maintaining the momentum and support for salmon recovery. RCO staff discovered a local series of three environmental films that captures the essence of compelling storytelling through video documentary. These films are an excellent example of how video storytelling can engage an audience, educate the viewer, and change perceptions and comprehension of overall marine species recovery efforts in Washington State. For salmon recovery to be successful, we need to continue to expand beyond the traditional methods of communicating and connecting with our intended audience.

Shelly Solomon, a filmmaker working in HD (bluray), and owner of Leaping Frog Films, will be on hand to share these films with you. Throughout Shelly's career as a biologist, she has been struck consistently by the fact that so much positive environmental work is being done but remains virtually unnoticed by the public at large. Shelly's perspective is that a better informed public will lead to a more engaged public. Shelly started Leaping Frog Films to "Get the Word Out" about these positive stories and recently received Sustainable Seattle's 2010 "Leadership in Sustainability in the Natural World" award for her film work.

The Salmon Recovery Funding Board is sponsoring these film showings and hope that everyone attending the conference will make time in their schedules for one of the four showings. Please join Shelly for three films, each of which depicts a different and unique restoration project. When taken together, these stories represent a cross section of the many and diverse projects, and various storytelling techniques used to depict them, being undertaken on behalf of wildlife and the environment across Washington State. This is a reoccurring session shown in the morning, afternoon, and for a special viewing after dinner on Tuesday, and the morning on Wednesday. We hope that everyone attending the conference will have the opportunity to view these films.

One of the films featured in this series, Buried in Sawdust for 50 Years and the Unintended Consequences, is an engaging, 30-minute film that tells the story of a Salmon Recovery Funding Board grant project on a Washington estuary, once a functioning and productive habitat, that was buried under 60 feet of milling waste for 50 years, and how a local salmon group (North Olympic Salmon Coalition) together with the community, came to its rescue.

Telling the Story with Films: Session Sponsorship



9:45 a.m. - Noon

TUES.



WHERE FRESHWATER AND SALTWATER COLLIDE: LARGE-SCALE RIVER DELTA RESTORATIONS

Moderator: Betsy Lyons, *Washington Department of Fish and Wildlife, Estuary and Salmon Restoration Program*

Salmon need to leave the main channel to take refuge, feed, and grow. Granting them access to critical off-channel habitats and preparing the habitat for their use is vital to salmon recovery. In this session, you'll learn about projects to reconnect and reshape side channels, to plant native vegetation in the floodplain, and to remove invasive species from riparian areas.

Smugglers Slough: A Work in Progress

Jill Komoto, *Lummi Nation*

The Lummi Nation's Smugglers Slough Restoration project seeks to reconnect a relict estuarine slough channel between Lummi and Bellingham Bays, by modifying hydraulic controls to allow water to flow across recovered wetlands. The reconnection will allow for fish passage from the Nooksack River into 7.8 miles of enhanced and created Smuggler's Slough channel that will flow through 382 acres of restored wetlands, and out into 1,600 acres of prime eelgrass habitat in Lummi Bay. To fulfill restoration objectives, 645 acres of property are planned for purchase (183 acres already acquired) on or near the Lummi Reservation. This presentation will provide an overview of the project, a lessons learned perspective from staff acquiring the project mid-construction, and future Nooksack delta restoration alternatives.

Quilcene Bay Restoration

Neil Werner, *Hood Canal Salmon Enhancement Group*

The Quilcene Bay Restoration Program is a multi-year, multi-project, long-term process to return Quilcene Bay to conditions similar to those in 1883. Few, if any, areas transformed by man remain that can be restored to full estuary, wildlife habitat, and tidal functions. Quilcene Bay Restoration represents a full suite of actions including fish passage, dike removal, fill removal, tidal channel reconnection, river re-meander, large wood placement, and riparian planting. The presentation will focus on process, purpose, and the results to date of the program as well as the many issues faced implementing a large program in a small, rural community.

Skokomish Estuary Restoration Phase 2: Nalley Island Dike Removal

Alex Gouley, *Skokomish Tribal Fisheries*

Rich Geiger, *Mason Conservation District*

The restoration of Nalley Island at the mouth of the Skokomish River was the second phase of restoring the Skokomish estuary at the great bend of Hood Canal. The goals of this ongoing effort are to restore proper river geomorphology, estuary and tideland habitat, and natural nutrient uptake. These functions are critical for recovering endangered fish, reducing flood impacts, and relieving low dissolved oxygen conditions in Hood Canal. The presentation will include the importance of Skokomish tribal history in developing the project, and challenges encountered in completing a large-scale restoration in an intertidal area in a limited time.

MARINE HABITAT RESTORATION

Northwest Territory Ballroom Salon B



TUES. 9:45 a.m. - Noon



Nisqually National Wildlife Refuge Estuary Restoration: The Return of the Nisqually Estuary

Jesse Barham, *Nisqually Wildlife Refuge*

Nisqually National Wildlife Refuge, working with key partners, Ducks Unlimited and the Nisqually Indian Tribe, has restored 762 acres of the Nisqually estuary by removing 4.5 miles of the 100-year-old Brown farm dike. This is the largest estuary restoration project in the Pacific Northwest, and combined with recent smaller restorations by the tribe, has resulted in the almost complete re-creation of an estuary. The project was identified as the top priority to recover Chinook salmon in the Nisqually watershed, and is a significant step in recovering Puget Sound. Project construction began in 2008 and the first tides inundated the site in the fall of 2009. This presentation will describe the planning and science behind the project, partnerships that helped to make the project a reality, design considerations, project construction, lessons learned during implementation, and ecosystem response after more than a year of restored tidal action.

FISH PASSAGE AND SCREENING

**Northwest
Territory Ballroom
Salon A**



RETHINKING PAST PRACTICES:

REMOVING DAMS AND OTHER BARRIERS TO FISH PASSAGE

Moderator: Jamie Glasgow, *Wild Fish Conservancy*

During the twentieth century, this country saw unprecedented growth. Land was cleared, homes were built, and roads were constructed to deliver goods and get us to and from work. Infrastructure was built to provide water to our growing population, protect them from floods, and provide irrigation to grow crops. Much of this was done without consideration of the needs of the then abundant salmon populations in the many affected waterways. As a result of this, hundreds of miles of productive salmon habitat were effectively eliminated for spawning and rearing salmonids. In this track, we'll see many creative solutions in which our salmon recovery partners have managed to correct these problems and provide access to waters that have not seen the presence of salmon for decades.

Restoring Salmonid Access to the Taneum Watershed

David Gerth, *Kittitas Conservation Trust*

Paul Tappel, *Fisheries Engineers, Inc.*

Salmonid access to the upper Taneum watershed and its abundant and productive aquatic habitat essentially ended after construction of irrigation diversion dams during the past 200 years. Fish passage barriers and modified flow regimes decimated the watershed's productivity. The Taneum Creek Fish Passage Project engineering designs combine dam removal with rough channel construction to restore passage past two crucial barriers: Bruton Dam and Taneum Canal Company Diversion. The two Taneum roughened channels were designed to mimic the natural creek with pools and riffles that promote salmon spawning and rearing, and were constructed from a range of streambed materials including large boulders up to 6 feet in diameter.

9:45 a.m. - Noon

TUES.



Hofer Eastside-Westside Complex: Touchet River Barrier Remediation in Walla Walla County

Mike Denny, *Walla Walla County Conservation District*

Larry Hooker, *Walla Walla County Conservation District*

For more than 100 years, the irrigation needs of farmers in Walla Walla County have been served by Hofer Dam on the Touchet River, a tributary to the Walla Walla River. This dam provided irrigation to more than 2,500 acres through an extensive ditch system. While this worked for farmers, it posed a serious problem to migrating salmon. Fish often became trapped and perished in the diversion channels. During the summer, excessive amounts of water diverted for irrigation could lead to insufficient flows resulting in high water temperatures and fish mortality. The Walla Walla County Conservation District took the lead in resolving these issues. Through broad based stakeholder planning and work with local partners, the conservation district helped irrigation districts build projects that met the needs of both farmers and fish while pumping thousands of grant dollars into the region and creating jobs in Walla Walla County.

Flood Control and Salmon Passage in the City: Physical and Computer Models Lead to Passage Designs

Brian Burns, *Tri State Steelheaders*

The Mill Creek Fish Passage Assessment identified passage barriers in a 6-mile section of the Mill Creek flood control channel in Walla Walla. The barriers are flow dependent, and vary by location in the channel. Hydraulic and fish energetics models used in the assessment were the basis for passage designs, which are now at the 30 percent level. A physical model study was conducted to test designs and verify their performance. This presentation summarizes the progress on the design process for improving passage.

Snyder Creek / Klickitat Mill Fish Passage Project

Will Conley, *Yakama Nation Fisheries Program*

The Snyder Creek/Klickitat Mill project involved restoration of fish passage through a defunct lumber mill in the lower half-mile of Snyder Creek. Work included converting a 2,000-foot-long concrete flume into a fishway, removing a low-head dam, and replacing two culverts with channel-spanning bridges. This presentation will focus on lessons learned from the variety of challenges associated with the project, including a high degree of personnel turnover, uncertainty about the presence of toxic compounds on a former industrial site, and the involvement of state, tribal, and local governments, a non-profit entity, and a private landowner.



TUES. 9:45 a.m. - Noon



IN-STREAM RESTORATION

Northwest Territory Ballroom Salon C



LARGE-SCALE WOOD PROJECTS TO RECOVER SALMON

Moderator: Lloyd Moody, Governor's Salmon Recovery Office

Remember playing in streams as a child. Fast forward 30 years and replace the sticks with tree root wads and logs from full grown trees, add in the excitement of rushing river water, and you have a normal day for many salmon recovery partners who are trying to create more complex in-stream habitat for salmon. In this session, you'll see how different partners improved salmon habitat through in-stream restoration actions, including placing large trees and root wads into rivers. You'll hear about the projects designs, construction methods, and the challenges overcome.

Greenwater River Restoration Project

Kristin Williamson, South Puget Sound Salmon Enhancement Group

This presentation describes reach-scale stream restoration efforts on the Greenwater River to rehabilitate processes lost due to a history of aggressive logging in the Greenwater Valley. Project actions will remove nearly a mile of forest road from the floodplain and install 16 engineered logjams in strategic locations to accelerate and maintain system-wide natural processes.

Elwha River Restoration

Mike McHenry, Lower Elwha Klallam Tribe

This presentation describes the efforts to restore floodplain habitats through in-stream work in the lower Elwha River. Restoration efforts have leveraged multiple funding sources during the past decade and have included dike removals, barrier corrections, plantings, and installation of numerous engineered logjams. Floodplain restoration has been designed to complement planned removal of two hydroelectric dams beginning in 2011, one of the largest dam removal efforts attempted to date. Restoration projects planned during and following dam removal also will be discussed.

Morse Creek Meander Reconstruction: Techniques and Lessons Learned

Rebecca Benjamin, North Olympic Salmon Coalition

Kevin Long, North Olympic Salmon Coalition

The Morse Creek meander reconstruction project reactivated a 1,600-foot meander bend and 13 acres of floodplain abandoned in the 1940s. Project construction included placing large woody materials, clearing the site, constructing engineered logjams, excavating a nearly half-mile channel, and diverting the stream into the reconstructed meander. Construction took place in a forested wetland that had established in the cut-off meander. Site conditions led to innovative logjam design and construction. The project was constructed successfully in 2010, but not without significant challenges and a 30 percent cost increase. The challenges encountered during construction demonstrate lessons about pre-project studies, project design, and construction contracting, oversight, and methods.

9:45 a.m. - Noon

TUES.



Hamilton Creek Restoration

Peter Barber, Lower Columbia Fish Enhancement Group

The Lower Columbia Fish Enhancement Group will discuss the past, present, and future restoration projects in the lower Hamilton Creek watershed. Similar to many of the tributaries entering the Columbia River Gorge, Hamilton Creek carries a high coarse sediment load. The sediment transport capacity decreases as the creek enters the Columbia Valley. To increase habitat complexity for chum, Chinook, coho, and steelhead, the enhancement group installed engineered logjams, which encouraged a multi-channel system, protected the Washington Department of Fish and Wildlife Hamilton Springs spawning channel, increased floodplain roughness and width, and increased pool-riffle ratios. The second restoration phase will include placing logjams in the lower Hamilton reaches and building a 400-foot connective groundwater channel to further restore the Hamilton Springs spawning channel.

WORKING OUTSIDE THE BOX (CHANNEL): RECONNECTING FLOODPLAINS AND RESTORING RIPARIAN AREAS

Moderator: Kay Caromile, Salmon Recovery Funding Board

Salmon need to leave the main channel to take refuge, feed, and grow. Granting them access to critical off-channel habitats and preparing the habitat for their use is vital to salmon recovery. In this session, you will learn about projects that reconnect and reshape side channels, plant native vegetation in the floodplain, and remove invasive species from riparian areas.

Hood Canal Knotweed Control and Riparian Enhancement Project

Mendy Harlow, Hood Canal Salmon Enhancement Group

The Hood Canal Salmon Enhancement Group is leading an effort to control invasive knotweed and replace it with native plants along five Hood Canal rivers. The work will improve spawning habitat for Hood Canal summer chum, which are listed under the Endangered Species Act. Knotweed is an aggressive, non-native plant that displaces native riverbank vegetation, increasing erosion, decreasing large woody material recruitment, and disrupting the food chain. This presentation will focus on the tools necessary for implementing a watershed-wide control effort for knotweed in multiple salmon-bearing watersheds and the creation of parcel-level planting plans following knotweed control.

Flood Fencing: A Method for Influencing River Morphology and Floodplain Dynamics (Case Studies)

Bob Aldrich, Snohomish County Public Works

Snohomish County has been employing a floodplain roughening technique for 14 years that uses staggered rows of live cottonwood. Recently, the County installed similar structures in the braided reach of the Skykomish River to encourage local and reach-scale sediment deposition to promote side channel development, limit channel avulsion, promote reach-scale channel aggradation, and create complex edge habitat. Several case studies will be presented to demonstrate results of the applications.

FLOODPLAIN CONNECTION AND RESTORATION

Chehalis Ballroom Salon F



TUES. 9:45 a.m. - Noon



North Meander Reconnection

Chris Nelson, *Snohomish County Public Works*

The North Meander Project reconnected part of a historic meander of the Stillaguamish River that was cut off by the U.S. Army Corps of Engineers between 1936 and 1937. Channel incision and levee construction since the 1930s further isolated the north meander, necessitating a complex feasibility, design, and construction approach. Snohomish County developed a plan and excavated the eastern portion of the north meander. The channel was reactivated by opening an inlet from Cook Slough and a new outlet to the Stillaguamish River to the north. The reconnected meander (now a side channel) is about a half-mile long and contains off-channel rearing and refuge habitat for anadromous salmonids as well as other species. The presentation will describe project design, construction, and monitoring results to date.



Reconnecting a River, Through the Woods and under the Trail

Pat Stevenson, *Stillaguamish Tribe*

Tracy Drury, *AnchorQea*

The Stillaguamish Tribe is implementing a suite of projects to restore Chinook salmon habitat and reconnect the Stillaguamish River to its floodplain. One such effort is the Blue Slough Channel Reconnection Project. This project reconnects about a half-mile of side channel slough to the north fork of the Stillaguamish River, which was cut off from the river by Burlington Northern Railroad in the 1930s. The goal is to provide spawning and rearing habitat for several listed stocks in the Stillaguamish watershed.

PROTECTION, RESTORATION AND ACQUISITION

**Fallen Timbers
Salon B**

STRATEGIC ACQUISITION AND RESTORATION PARTNERSHIPS

Moderator: Kat Moore, *Salmon Recovery Funding Board*

Sometimes acquisition alone isn't the end goal. In this session, you'll learn about three projects where acquisition and restoration groups worked together to complete large-scale conservation and restoration projects.

Ohop Valley Acquisition and Restoration Project

Lance Wineka, *South Puget Sound Salmon Enhancement Group*

Joe Kane, *Nisqually Land Trust*

The Nisqually Land Trust completed seven transactions between 2001 and 2008, conserving 272 contiguous acres. Ohop Valley is a part of this protected land, and its first restoration construction phase was completed in 2010. Construction culminated nearly 10 years of planning through a partnership with the Nisqually Land Trust, the Nisqually Indian Tribe, the South Puget Sound Salmon Enhancement Group, and others. The design transformed an agricultural ditch into a 1-mile, meandering stream that reconnects Ohop Creek with its historical floodplain in the valley. Nearly 50 small logjams (400 pieces of wood) were installed and 80 acres of the valley were planted with native vegetation. The project also decommissioned a dairy farm manure lagoon and removed more than 1 million gallons of manure. The next phase of the project is being designed.



9:45 a.m. - Noon

TUES.



Canyon Creek Acquisition and Restoration Project

Eric Carabba, *Whatcom Land Trust*

John Thompson, *Whatcom County*

Major flooding in 1989, 1990, and 1995 damaged homes and roadways on the alluvial fan of Canyon Creek, the second largest tributary of the north fork of the Nooksack River. Public agencies spent more than \$1.4 million in attempts to protect a small resort and neighboring residences with massive flood control structures. The flood project significantly restricted the natural floodplain of Canyon Creek, increased flows in spawning areas, restricted upstream fish passage, and reduced the area of spawning habitat on the alluvial fan. Whatcom County in partnership with Whatcom Land Trust through the Canyon Creek Acquisition and Restoration Project acquired 73 acres of spring Chinook spawning, holding, and rearing habitat at the confluence of Canyon Creek and the north fork of the Nooksack River to facilitate restoration. Whatcom County is implementing phased restoration to restore floodplain processes and habitat and improve fish passage.

Acquisition, Habitat Restoration, and Trail Development along Cowiche Creek in Yakima County

Margaret Neuman, *Mid-Columbia Fisheries Enhancement Group*

Douglas Mayo, *City of Yakima*

A multi-partner effort is underway to restore salmonid habitat and create a trail corridor along an urban-rural transitional section of Cowiche Creek. The project is the outcome of years of work by dedicated volunteers who envisioned a trail system linking the City of Yakima to Mount Rainier. The multi-year Cowiche Creek project requires balancing the needs and timelines of multiple landowners, non-profits, agencies, and grant funders. This presentation will describe the challenges and achievements of this collaborative project.

TUES. 1:45 - 4:00 p.m.



**MARINE
HABITAT
RESTORATION
TRACK**

**Northwest
Territory Ballroom
Salon B**



ASSESSMENTS AND RESTORATION IN THE MARINE ENVIRONMENT

Moderator: Mike Ramsey, Salmon Recovery Funding Board

In this session, you'll see examples of successful marine and estuary restoration projects, as well as, how fish utilization studies can help lead to restoration priorities and project identification. Most restoration projects are complex but sometimes they turn out to be more complex than imagined at the start. Come and learn from others who have succeeded before you and pick up a few pointers about scoping projects, avoiding controversy, and leveraging resources to make your project more successful.

**Are Juvenile Salmon Risk Takers or Risk Averse:
Strategic Use of Prey by Outbound Juvenile Chinook Salmon in WRIA2**

Russel Barsh, Kwiáht

The interplay between ocean climate and land climate demonstrates the importance of linking habitat protection and expansion of these two areas. After 3 years of monitoring two distinct nursery sites, scientists learned that juvenile salmon fall into two categories – risk-taking and risk-averse, when foraging. The size and arrival time of sandlance appears to play a major role in what salmon populations eat over the long-term while the timing of significant summer insect swarms significantly affects the quality of diet for juvenile Chinook as a whole.

Fort Columbia Tidal Reconnection Project

Amy Ammer, Columbia River Estuary Study Taskforce (CREST)

A coalition of partners have identified and successfully completed the Fort Columbia Tidal Reconnection Project. This project, which involved installation of a culvert under U.S. 101 during winter conditions, reconnected 96 acres of quality wetland habitat with the Columbia River estuary. The primary goal in reconnecting the wetland system is to restore a historic distributary wetland habitat with the tidal flats of the Columbia River. This presentation will cover the partnerships and challenges of constructing a restoration project in a highly complex environment that includes three different state agency ownerships, private landowners, multiple funding sources, and different yet complimentary goals.

**Anticipating the Social Dimensions of Estuarine Restoration:
The Wiley Slough Story**

Steve Hinton, Skagit River System Cooperative

The Wiley Slough Project on Fir Island near Conway is a dike setback project that sought to restore 157 acres of estuarine delta marsh to tidal influence. Completed in 2009, the project has demonstrated tremendous progress toward its goals. However, in the process of developing, designing, implementing, and following post construction, project partners have contended with a variety of ancillary issues in this complex project. This presentation explores some of the lessons drawn for the Wiley experience and explores the true meaning of "adaptive management."





Fisher Slough Freshwater Tidal Marsh Restoration

Jenny Baker, *The Nature Conservancy*

The restoration of Fisher Slough is a priority in the Skagit Chinook Recovery Plan and is intended to break a long-standing deadlock between agriculture and conservation interests over estuary restoration in the Skagit delta. The project goal is to maximize the area influenced by natural stream and tidal processes, allow for a broad range of ecosystem variability, restore estuarine habitat for juvenile salmon to the maximum extent possible, and improve flood protection and storage capacity for Carpenter Creek. Restoration activities include levee setbacks, installation of self-regulating floodgates, and removal of antiquated culverts and fish passage barriers. This presentation will focus on the community context and development of the project with our project partners (including Dike District 3, Drainage and Irrigation District 17, and Skagit County), progress to date, and some of the challenges that have been overcome.

SMALL DAM REMOVALS AND FISH PASSAGE

Moderator: Jamie Glasgow, *Wild Fish Conservancy*

During the twentieth century, this country saw unprecedented growth. Land was cleared, homes were built, roads were needed to deliver goods and get us to and from work. Infrastructure was built to provide water to our growing population, protect them from floods, and provide irrigation to grow crops. Much of this was done without consideration of the needs of the then abundant salmon populations in the many affected waterways. As a result of this, hundreds of miles of productive salmon habitat were effectively eliminated for spawning and rearing salmonids. In this track, we'll see many creative solutions in which our salmon recovery partners have managed to correct these problems and provide access to waters that have not seen the presence of salmon for decades.

Family Forest Fish Passage Program

Rick Kuykendall, *Washington Department of Natural Resources*

The Family Forest Fish Passage Program is a partnership between the Washington Department of Natural Resources, Department of Fish and Wildlife, and the Washington Recreation and Conservation Office. The program helps small forest landowners correct fish barriers associated with forest roads on their land. The program has funded the correction of 232 barriers, opening more than 500 miles of habitat throughout the state since 2003. This presentation will detail accomplishments and future goals, provide information on how organizations can get involved in managing these projects, and discuss opportunities for reaching out to the family forest owner – a key partner in salmon recovery.

Restoration of Fish Passage in Preacher's Slough, A Tidally Influenced Side Channel of the Chehalis River

Birdie Davenport, *Washington Department of Natural Resources, Natural Areas Program*

Lonnie Crumley, *Streamworks Consulting, and Chehalis Basin Fisheries Task Force*

This project restores fish passage and hydrologic connectivity between the upper end of Preachers Slough and the Chehalis River. Preacher's Slough provides critical side channel habitat for juvenile salmonids in a unique forested estuarine wetland, the Chehalis River Surge Plain. The fill, which completely blocked the slough, was removed and replaced with an 80-foot concrete bridge.

FISH PASSAGE AND SCREENING

**Northwest
Territory Ballroom
Salon A**



TUES. 1:45 - 4:00 p.m.



Dam Removal and River Restoration on the North Fork Hoquiam River

John Koreny, HDR

Removing a dam poses many challenges, not the least of which is how to handle all that water. In this presentation, you'll get a close-up look at the removal of a 100-year-old water supply diversion dam on the north fork of the Hoquiam River. The dam was in a state of disrepair and blocked fish passage to 5 miles of prime fish habitat in a protected watershed. The City of Hoquiam decided to remove the dam and restore about a quarter-mile of river channel. But just how to do that posed a challenge. The riverbed downstream was steep, generating concerns that the newly unleashed river would erode the riverbed. Project partners came up with an alternative to raise the bed at one end, widen the floodplain, and lower the bed at the other end. The presentation will show the construction methods, the results the following winter, as well as the benefits of using designs that help natural processes.



LeClerc Creek Priority Watershed Restoration: Salmon Recovery Funding Board and Beyond

Ray D. Entz, Kalispel Natural Resources

LeClerc Creek in Pend Oreille County is one of the high priority watersheds for bull trout and westslope cutthroat trout recovery within Water Resource Inventory Area 62. In 1994, the Kalispel Tribe and several agencies and stakeholders prioritized actions to improve habitat for native salmonids. This presentation will describe the timeline and project associations, as well as future partnerships and actions that continue to increase connectivity and restore habitat for native salmonids in the LeClerc watershed.

IN-STREAM RESTORATION

Northwest Territory Ballroom Salon C

IN-STREAM WOOD PLACEMENT

Moderator: Lloyd Moody, Governor's Salmon Recovery Office

In this session, you'll see how different partners improved salmon habitat through in-stream restoration actions, including placing large trees and root wads into rivers. You'll hear about how the projects were designed, construction methods, and the challenges overcome.

Hancock Springs Restoration

John Jorgensen, Yakama Nation

This presentation will focus on the use of primitive restoration methods, the process of effectively using hand tools when excavators cannot be permitted, and how a spring creek destroyed by livestock and devoid of native fish was transformed into a major Chinook and steelhead producing tributary.

How Much Wood Could a Wood Chuck Chuck?

Steve Martin, Snake River Salmon Recovery Board

Salmon recovery partners know that large wood is invaluable at maximizing in-stream habitat complexity, promoting floodplain connection, and encouraging natural development of complex side channels. In the Snake River Salmon Recovery Region, large wood can be very challenging and expensive to buy. Lessons learned from a responsibly designed wood chucking experiment in the Tucannon River will be discussed.



Results and Challenges of Restoring Fluvial Processes and Aquatic Habitat in the Alluvial Fan of Newaukum Creek

Todd Hurley, *King County Department of Natural Resources and Parks*

The King County Department of Natural Resources and Parks placed large, full-spanning logjams in Newaukum Creek near its confluence with the Green River near Auburn. The project was intended to re-establish channel complexity, channel-floodplain connections, and off-channel rearing habitat for salmonids. Significant floods in the winter of 2009 engaged the jams, elevating the streambed and water surface. The resulting increase in channel length, channel complexity, and floodplain connectivity dramatically expanded availability and quality of aquatic habitat. While the transformation of the alluvial fan had a substantial, positive influence on habitat, it also posed challenges in maintaining existing land uses. This presentation will discuss the physical effects of the full-spanning logjams, the resulting aquatic habitat response, and challenges of process-based restoration on partially developed alluvial fans.

Wood: It's What's for Habitat

Patty Charnas, *Kitsap County Department of Community Development*

In 2004, the main stem of Chico Creek in central Kitsap County was supported for restoration by the Salmon Recovery Funding Board. The restoration project design, completed in 2007, called for restoration to occur in phases from downstream to upstream. The project was to create larger, new stream meanders, a broader floodplain, and a more fish-friendly waterway. One of the most notable project design features was the installation of more than 180 pieces of wood: alongside, over, under, and atop the restored Chico Creek stream bank. Affectionately coined "salmon condominiums" during project construction, the search and acquisition-by-donations and the installation of large amounts of wood was a key element in the project's goal of improving the habitat for Chico Creek to restore and maintain the most productive, natural salmon stream in the west Puget Sound.



**WORKING OUTSIDE THE BOX (CHANNEL):
RECONNECTING FLOODPLAINS AND RESTORING RIPARIAN AREAS CONTINUED...**

Moderator: Marc Duboiski, *Salmon Recovery Funding Board*

Salmon need to leave the main channel to take refuge, feed, and grow. Granting them access to critical off-channel habitats and preparing the habitat for their use is vital to the salmon recovery. In this session, you will learn about projects that reconnect and reshape side channels, plant native vegetation in the floodplain, and remove invasive species from riparian areas.

Lower Tolt River Floodplain Reconnection Project

Jon Hansen, *King County Department of Natural Resources and Parks*

King County, in partnership with the City of Seattle, implemented the Lower Tolt Floodplain Restoration Project to restore natural river processes, reconnect isolated off channel habitats, and improve fish and wildlife habitat along the lower half-mile of the Tolt River. The project included removal of 2,460 feet of levee, construction of a setback levee and revetment to maintain flood protection, placement of engineered logjams and large woody materials to diffuse energy and encourage the formation of desired habitat features, and floodplain planting. The project also includes installation of a trail, parking, and other recreational amenities to maintain access and offset impacts to existing uses.

**FLOODPLAIN
CONNECTION
AND
RESTORATION**

**Chehalis
Ballroom Salon F**

TUES. 1:45 - 4:00 p.m.



Creating Habitat and Adjusting to Rivers and Wildlife

Mike Kane, *Chelan County Natural Resources Department*

Chelan County has implemented a variety of floodplain reconnection projects on rivers. This presentation looks at two separate projects, one implemented on the Wenatchee River in 2009 and one on Nason Creek in 2007, to create habitat in historic floodplains and channels. By looking at these projects a couple years after construction, we will review the monitoring results and the changes in geomorphology and function, including the intended and unintended consequences of habitat creation in developed floodplains. In other words, how we are learning to not be surprised by what beavers do.

Habitat Improvements from Armor Removal in the Green River

Josh Latterell, *King County Department of Natural Resources and Parks*

In 2009, King County removed 50-year-old rock armor and a small amount of fill from the riverbank of a large natural area along the Green River upstream of Auburn. The project goal was to restore a complex, dynamic channel with productive and self-sustaining habitat. Fill removal reconnected floodplain refuge habitat. Within two years, armor removal allowed the channel to migrate laterally, creating new habitat. Wood loading increased as channel migration exhumed an intact cottonwood bole buried under an old river terrace, and initiated a new apex logjam by undercutting a mature cottonwood tree.

Dosewallips Estuary Restoration

Micah Wait, *Wild Fish Conservancy*

The Wild Fish Conservancy, in partnership with the Washington State Parks and Recreation Commission, is conducting a multi-phased restoration of the lower Dosewallips River and estuary in Dosewallips State Park. Project elements include dike and revetment removal, engineered logjam construction, and native plant restoration. Project efforts have focused on restoring the natural processes and structures that were present historically in the reach, while working with State Parks to safeguard park facilities. The final phase of the project may include the removal of a long stretch of revetment and levee adjacent to a major park road and a number of campsites. To better understand how the restoration could affect this park infrastructure, the Wild Fish Conservancy undertook a modeling effort using data collected via an Acoustic Doppler Profiler (ADP). Data from this effort will be presented along with results from previous restoration phases.



**PROTECTION,
RESTORATION
AND
ACQUISITION**

**Fallen Timbers
Salon B**

16



MANAGING PROJECTS WITH MULTIPLE GOALS AND PARTNERS

Moderator: Kat Moore, *Salmon Recovery Funding Board*

More often than not, salmon recovery groups are working with a variety of partners and funding sources to complete conservation projects. In this session, you'll learn how salmon recovery groups are navigating projects with multiple funding sources, partners with diverse goals, and multiple landowners. Come hear how these groups have put the pieces of their conservation puzzle together.



Navigating the Complexities of Acquiring a Riparian Conservation Easement

David Gerth, *Kittitas Conservation Trust*

Appraisals of fair market value for protection of riparian and shoreline properties frequently produce sticker shock. Conservation groups can be in direct competition with land developers for these highly prized and desirable lands. The Hundley property in northern Kittitas County is 431 acres of riparian forests, ponds, wetlands, and shorelines that are bisected by the Yakima River for 1.3 river miles. After five years of discussions, negotiations, and coordination among Kittitas Conservation Trust, Yakama Nation, Washington Department of Fish and Wildlife, Washington Recreation and Conservation Office, and Bonneville Power Administration, a conservation easement was purchased in late 2010.

Conservation Amidst Diverse and Sometimes Conflicting Stakeholder Interests

Cherie Kearney, *Columbia Land Trust*

Columbia Land Trust owns and manages 3,000 acres including an 18-mile old haul road along the Klickitat River. The Klickitat River is wild, scenic, and important habitat, and everyone has an opinion on the best uses of it. Is it habitat for fish and wildlife? Access for hunting and fishing? Protection of private property rights? Native American fisheries and traditions? Open grazing? Public trails? Does public mean locals or does it have to include Portlanders? In a county that champions private property rights and rugged individualism, it's tough to know whose rights prevail.

Twin Rivers Ranch Acquisition: Balancing Salmon Protection with Agricultural Use

Laurence Reeves, *Capitol Land Trust*

The 125-acre Twin River Ranch is at the head of Oakland Bay in Mason County, between two salmon bearing streams. With more than a half-mile of estuarine shoreline and nearly 1 mile of salmon bearing streams, the property is ideally suited for salmon habitat preservation. However, the farm also has a long history of agricultural use: as a dairy, a cattle ranch, and most recently for hay production. This presentation will focus on the challenges we had conserving this spectacular property using different funding sources, maintaining a life estate with residential and agricultural structures, and the ongoing issues around managing former agricultural properties.

Partnering to Save Land – The Risks, the Rewards, the Cautions

Nikki Fields, *Washington State Parks and Recreation Commission*

Ann Welz, *The Trust for Public Land*

After more than a decade of effort, State Parks finally succeeded in acquiring and protecting the 112-acre Scott property on Harstine Island. The property, which includes forested uplands, a half-mile of beach, and four streams, was once slated for 16 homes. Why did State Parks (just barely) succeed this time after earlier failures? Why did it partner with The Trust for Public Land, and how was this partnership structured? How did State Parks overcome the challenges of dealing with a landowner group comprised of three generations of one family? How did it balance the differing objectives of their multiple funding sources and their community partners with the State Parks' mandate for recreation and conservation? And while success is sweet, what cautions would they give you before you consider embarking on a similar journey?

WED. 9:00 - 11:15 a.m.



Northwest
Territory Ballroom
Salon C

IMPLEMENTING REACH-BASED RESTORATION PRIORITIES: ON-THE-GROUND EXAMPLE IN THE UPPER COLUMBIA

Moderator: *Derek Van Marter, Upper Columbia Salmon Recovery Board*

The Upper Columbia Salmon Recovery Board and partners have established an adaptive management framework for the implementation of tributary habitat actions in the upper Columbia River. The framework is designed to monitor and assess the results of habitat actions, and make changes either to overall recovery strategies or to details of on-the-ground implementation, based on those results. This presentation will show how the region is using its collaborative process to facilitate funding towards high priority projects, and foster inter-sub-basin coordination. The presentation will provide an overview of the regional process, describe the scale of the funding being facilitated, explain a mechanism for using funds to target high priority actions, detail the kinds of activities occurring on a reach scale in two different sub-basins, and explain the symbiosis between monitoring efforts and adaptively managing the recovery plan.

Speakers:

Mike Rickel, *Cascadia Conservation District*
Jennifer Molesworth, *Bureau of Reclamation*
Casey Baldwin, *Washington Department of
Fish and Wildlife*

James White, *Upper Columbia Salmon
Recovery Board*

Fallen Timbers
Salon B

WATER: SOMETHING YOU CAN TRUST

Moderator: *Lisa Pelly, Washington Water Project of Trout Unlimited*

Part 1 lays the foundation for understanding the basics of water law and how water rights work in Washington State. This presentation will provide the basic tools for understanding what a water right is, what it provides, and importantly what it doesn't. Information will include how water rights are established, how they are maintained, and tools for determining the extent of a water right. Water law can be very complex and the goal of the workshop is to provide sufficient background to understand the key concepts of water law and water rights, provide help with understanding what questions to ask when confronted with a water right, and to understand the answers provided.

Part 2 provides background information on Washington State's Trust Water Rights Program established for statewide use by the Legislature in 1992. The Trust Water Rights program is used to ensure water rights are protected for in-stream flow and from relinquishment. Water rights can be protected in the Trust Water Rights Program on a temporary or permanent basis, by donation or gift. This program provides an important link for ensuring in-stream flows are enhanced through programs with willing water right holders.

Part 3 brings the all-important issue of how to fund water right transactions together with land transactions. Washington Water Project has partnered with multiple land trusts, conservation districts, The Nature Conservancy, and others conducting transactions that protect water on the land and for in-stream flow. They will provide examples of projects and show creative tools for funding and ensuring linkage between water and land on conservation easements and land acquisition.

Speakers:

Lisa Pelly, *Washington Water Project of Trout Unlimited*
Mary McCrea, *Cascadia Law Group*



9:00 - 11:15 a.m.

WED.



MONITORING FOR SALMON RECOVERY: APPROACHES, TOOLS, AND INTEGRATION

Chehalis
Ballroom Salon F

Moderator: Ken Dzinbal, *Forum on Monitoring Salmon Recovery and Watershed Health*

Monitoring is a key element of success in salmon recovery and habitat restoration. This panel will focus on recent and emerging results from several monitoring programs, and their implications for improving project development, planning, and implementation (i.e. adaptive management).

Speakers

Jennifer O'Neal, *Tetra Tech EC*

Correigh Greene, *Northwest Fisheries Science Center*

Philip Roni, *National Oceanic and Atmospheric Administration's Northwest Fisheries Science Center*

Mara Zimmerman, *Washington Department of Fish and Wildlife's Wild Salmonid Production Evaluation Unit*

Kenneth Pierce, *Washington Department of Fish and Wildlife*

BACK TO THE FUTURE: ALTERNATE FISHING GEAR AND SALMON RECOVERY

Northwest
Territory Ballroom
Salon A

Moderator: Sara Laborde, *Washington Department of Fish and Wildlife*

A key component of salmon recovery is addressing the risk of hatchery fish on spawning grounds. There are three innovative projects in the state testing and implementing alternative fishing gears to enable anglers to catch marked hatchery fish while protecting and releasing wild fish. The Confederated Tribes of the Colville Reservation, the Nisqually Indian Tribe, and the Washington Department of Fish and Wildlife will present and discuss how they are using fishing techniques of the past such as purse seines, beach seines, trap nets, and fish wheels to improve our chances of recovery.

Speakers:

Joe Peone, *Confederated Tribes of the Colville Reservation*

Michael Rayton, *Confederated Tribes of the Colville Reservation*

David Troutt, *Nisqually Indian Tribe*

Craig Smith, *Nisqually Indian Tribe*

Patrick Frazier, *Washington Department of Fish and Wildlife*

Eric Kinne, *Washington Department of Fish and Wildlife*

Lars Mobernd, *Hatchery Scientific Review Group*

Steve Smith, *Hatchery Scientific Review Group*

PLANTING HAPPENS IN THE MIDDLE OF THE PROJECT, NOT THE END

Northwest
Territory Ballroom
Salon B

In this session, instructor Susan Buis will cover the basics of planning and implementing a riparian vegetation restoration project. At least briefly, the following topics will be covered: Site assessment, planning and design, site preparation, installation, establishment and maintenance, monitoring, and adaptive management. Emphasis will be on components that frequently lead to project failure, such as poor reference site selection, inadequate site preparation, sub-standard plant materials, and lack of establishment activities like weed control and irrigation. Updates to the "Washington Stream Habitat Restoration Guidelines" will be discussed so that participants will know where to go for more detailed information.

Speaker:

Susan Buis, *Washington State Department of Transportation*



WED. 12:45 - 3:30 p.m.



**Chehalis Ballroom
Salon F**

WHAT RECENT FISH UTILIZATION STUDIES TELL US ABOUT SALMON HABITAT AND TRAVEL

Moderator: Mike Ramsey, Salmon Recovery Funding Board

South Puget Sound Beach Seine Assessments

Scott Steltzner, Squaxin Island Tribe

This presentation provides the second-year results from assessments that used beach seines in the inlets and passages of south Puget Sound. A specific emphasis is placed on exploring the use of pocket estuaries that are hypothesized to be used by fry migrant Chinook.

Bainbridge Island and Nearby Near-shore Salmon Observations, 2002 to 2010

Doris Small, Washington Department of Fish and Wildlife

Paul Dorn, Suquamish Tribe

The Suquamish Tribe has collaborated with partners to understand the distribution, timing, origin, health, and habitat utilization of juvenile salmonids along west central Puget Sound near-shore habitats. Our observations support the hypothesis that this habitat is used highly by salmonids and other fish species. This multi-year assessment is designed to inform and prioritize near-shore protection and restoration efforts.

Habitat Associations of Juvenile Salmon, Forage Fish, and other Species in the San Juan Islands

Kurt L. Fresh, National Oceanic and Atmospheric Administration's National Marine Fisheries Service

As part of efforts to identify potential protection and restoration actions in this area, we examined the effects of several, large-scale habitat attributes, notably sub-region, geomorphic type, and location on abundance and presence of salmon and forage fish in the San Juan Islands. The presence of juvenile Chinook salmon in shoreline areas was related to geomorphic habitat type and location in the landscape, notably whether the site was on the exterior perimeter and was open passage (as opposed to an embayment). Pocket beaches were the most important geomorphic habitat type for Chinook salmon and a wide variety of other species such as chum salmon and juvenile herring. Implications of these results for restoration and protection in San Juan County's (WRIA 2) are considered in a subsequent talk by Eric Beamer.





Genetic Analysis of Unmarked Juvenile Chinook Salmon in Near-shore Habitats of the San Juan Islands

David Teel, *National Oceanic and Atmospheric Administration's National Marine Fisheries Service*

Information on salmon habitat use at the stock or population group level is needed to address the unique recovery needs of threatened or endangered populations. In this study, we used genetic stock identification methods and an internationally standardized DNA database to estimate the origins of unmarked juvenile Chinook salmon occupying near-shore habitats in northern Puget Sound. This presentation will describe the stock compositions of juveniles sampled in 2008 and 2009 in multiple areas and habitats in the San Juan Islands. We also will compare these results with the origins of juveniles sampled in other Puget Sound regions. Implications of these results for restoration and protection in San Juan County's Water Resource Inventory Area (WRIA) 2 are considered in a subsequent talk by Eric Beamer.

WRIA 2 Habitat-based Near-shore Fish Assessment: Conclusions and Applications for Salmon Recovery Planning and Implementation

Eric Beamer, *Skagit River System Cooperative*

An important gap in our ability to develop comprehensive recovery plans for Puget Sound salmon is the lack of information on origin of juvenile salmon and their use of habitat in areas distant from natal rivers where multiple populations may be found. Protecting and restoring habitats in these areas, as well as near natal streams, can be an important part of the recovery of some salmon populations. One such area is the San Juan Archipelago where salmon populations from several, major north Puget Sound rivers and Canadian sources may co-mingle. In addition to mixtures of juvenile salmon, local and regional forage fish populations may depend on near-shore habitat within the San Juans. Contributing to healthy forage fish populations is an important part of the WRIA 2 (San Juan) Salmon Recovery Plan. In this talk, we synthesize key findings from the previous two presentations into map-based applications aimed at illustrating the answer to these basic questions:

- When are juvenile salmon and forage present in the San Juans?
- Do these species associate with specific near-shore habitat types and regions within the San Juans?
- What is the origin of juvenile Chinook salmon in the San Juans?

We use these results to evaluate and update the existing hypothesis and strategies of the WRIA 2 (San Juan) Salmon Recovery Plan and shape geographic and habitat type priorities for restoration and protection.

WED. 12:45 - 3:30 p.m.



Northwest
Territory Ballroom
Salon C

ASSESSMENTS: LAYING THE GROUND WORK FOR SUCCESSFUL PROJECTS

Moderator: Paul Devris, R2 Resource Consultants

As resources become increasingly scarce, strategic planning and prioritization of projects is crucial to maximizing salmon recovery investments. This session will present multiple planning processes and methodologies in use throughout Washington State to select, prioritize, and design successful salmon recovery projects. Lessons learned from case studies will be presented to help ensure relevant information is gathered to promote future project success.

Resources for Planning Successful Projects – RiverRAT and SHRG

Peter Skidmore, Skidmore Restoration Consulting

Planning for successful restoration projects requires substantially more attention to assessment and pre-design exercises than typically is allotted in recent restoration planning paradigms. Two sets of complementary resources that provide a framework for a robust and comprehensive planning process in the Pacific Northwest include the “River Restoration Analysis Tools (RiverRAT)” and the “Washington Stream Habitat Restoration Guidelines (SHRG).” RiverRAT recently was developed by the National Oceanic and Atmospheric Administration’s National Marine Fisheries Service and the U.S. Fish and Wildlife Service to facilitate critical, consistent, and thorough evaluation project proposals and provides a framework for project development. SHRG was developed through the Washington State Aquatic Habitat Guidelines Program, a multi-federal and state agency program, to provide guidance on restoration planning and specific restoration techniques. Originally published in 2004, SHRG recently has been updated to reflect a holistic restoration planning approach and to integrate with RiverRAT. This presentation will provide an overview of both resources with an emphasis on how they can be used for restoration planning.

A Discussion of Restoration Assessments in Three Large Rivers: Case Studies

Bob Aldrich, Snohomish County Public Works

Snohomish County began preparing reach-scale assessments in large rivers in the confluence reach of the Snohomish River (3.5 miles). The objectives of the original assessment were to develop a repeatable, quantifiable protocol that could be used in other rivers to identify areas of river process. It was thought that by identifying these river process areas, it would aid identifying and prioritizing sites for riparian and in-stream restoration. Although primarily geomorphic in nature, the assessment identifies areas of channel change, sediment aggradation and scour, avulsion risk, particle size distribution, and historic channel locations. These can be considered dynamic processes, and hence causative agents in habitat creation and alteration. Since the initial assessment, the County has funded an assessment in the lower Skykomish River (14 miles), while the Salmon Recovery Funding Board has funded assessments of the braided reach of the Skykomish River (8.4 miles) and the lower Stillaguamish River (12 miles). Using the same approach, the Washington Department of Ecology funded a risk analysis on the Sauk River (26 miles), demonstrating the flexibility of the assessment protocol. Subsequently, the results of the assessments on the confluence reach of the Snohomish, braided reach of the Skykomish, lower Stillaguamish, and lower Sky have all been carried through to the project development and construction level. Case studies are presented.





As Salmon Recovery Progresses, Better Tools Lead to Better Projects

Steve Martin, *Snake River Salmon Recovery Board*

During the early years of salmon recovery in the Snake River Salmon Recovery Region, recovery projects typically involved a single landowner and could be implemented in a single phase. While the conventional site-specific projects were strategic in location, category, or type, and led to improved conditions, restoring and protecting channel processes at the reach scale will be required to maximize salmon recovery investments. The presentation will offer perspectives on the tools (partnerships, priorities, funding sources, and assessments) that are leading to more comprehensive salmon recovery efforts at the reach scale.

Which Restoration Project Should we Build First? A Practical Way to Combine Good Judgment with Hard Facts to Make Better Decisions

Josh Latterell, *King County Department of Natural Resources and Parks*

Virtually all project sponsors face difficult, high-stakes decisions when choosing which restoration projects to build first. These decisions are difficult for many reasons. For example, many projects identified in basin plans and watershed assessments have good concepts but vague descriptions. Choosing between two or more projects that each have good potential requires more detail. A second reason is that, as projects get larger and more complex, their effects (intended and unintended) become more difficult to predict. The problem is compounded by close proximity to population centers, which means the tolerance for risk and uncertainty is lower than a similar project in a different setting (such as timberlands or rangelands). King County is working through these challenges by linking an alternatives analysis to the results of reach-based effectiveness monitoring. The alternatives analysis requires an interdisciplinary team to propose basic project design alternatives, and to consider whether projects 1) deal with root causes of habitat decline, 2) affect key fluvial processes and their physical drivers, and 3) cause tangible changes in habitat. A key step is to predict site conditions after 10+ years. Concurrently, we are monitoring project effectiveness at reach scales to improve our understanding of how large rivers respond to levee setbacks, riparian plantings, and logjam placement. Our monitoring is intended to link directly into future project selection (and design) by improving our ability to accurately predict outcomes. This is an important step toward wisely investing public dollars and capitalizing on limited opportunities to restore the viability of fall Chinook salmon.



WED. 12:45 - 3:30 p.m.



Fallen Timbers
Salon B

COMMUNICATING YOUR SALMON RECOVERY PROGRAM

Moderators: Jennifer Johnson and Brian Abbott, *Washington Recreation and Conservation Office*

Are you looking for innovative ways to reach your salmon recovery audience? Tired of your old school approach that seems to get limited results with landowners, the public, and decision makers? If you want to look toward future and chart a new course for communicating your recovery program, then this session is for you. This session will examine how the Habitat Work Schedule (HWS) is being used to communicate salmon recovery implementation progress. There will be three different examples demonstrated by salmon recovery organizations on their use of the Habitat Work Schedule as a tool to communicate their salmon recovery program. Presenters will show how they use the Habitat Work Schedule conceptual projects to develop, display, and form an implementation schedule, how the work schedule is used to develop and roll up restoration metrics and actions, how salmon habitat goals are tracked and communicated, and how recovery plans, plan management needs, and implementation of actions are tracked and communicated at multiple scales. The second half of the session will focus on specific examples of how professional video is being used as a tool to promote local programs or tell a complete project story. Experts in video production will be on hand to answer your questions and explain how powerful a well conceived message can help take your program to new heights and get the recognition it deserves.

Habitat Work Schedule

Bob Warinner, *Skagit Watershed Council, Washington Department of Fish and Wildlife*

Kris Buelow, *Snake River Salmon Recovery Board*

Derek Van Marter, *Upper Columbia Salmon Recovery Board*

Telling the Story: Video Examples

Jennifer Goodridge, *Chelan County*

Jeff Ostenson, *Howell at the Moon*

Capital Land Trust

Eric Erler, *Capitol Land Trust*

Telling the Story Through Film

Shelly Solomon, *Leaping Frog Films*

Betsy Peabody, *Puget Sound Restoration Fund*

Puget Sound Partnership

Rae McNally, *Interactive Communications Program Manager*



12:45 - 3:30 p.m.

WED.



CLIMATE CHANGE: IMPLICATIONS FOR SALMON RECOVERY

Moderator: Sara Laborde, *Washington Department of Fish and Wildlife*

Adapting Salmon Habitat and Management Strategies to Climate Driven Environmental Change

What are current expectations for how fish habitat conditions will change in the future? What do these predicted changes mean for salmon and steelhead population vulnerability? How and where should habitat and salmon managers adapt their strategies to ensure persistence and resilience of these species?

Speakers:

Ingrid Tohver, *University of Washington*

Pete Bisson, *U.S. Forest Service*

Gordie Reeves, *U.S. Forest Service*

Tim Beechie, *National Oceanic and Atmospheric Administration's Northwest Fisheries Science Center*

Daniel Schindler, *School of Aquatic and Fishery Sciences, University of Washington*

**Northwest
Territory Ballroom
Salon A**

HOW TO: IN-STREAM RESTORATION ISSUES

Moderator: Kelly Jorgensen, *Salmon Recovery Funding Board Review Panel*

An interdisciplinary panel of speakers will present on emerging in-stream restoration topics including river safety, biological considerations for in-stream projects (food web and fish response), and hydraulics of habitat. The final half-hour will include an interactive case studies discussion about the nuances of bank protection and habitat enhancement projects, the importance of habitat forming processes, and how to tip the balance on those projects towards restoration funding success.

EMERGING CONSIDERATIONS FOR IN-STREAM WOOD PROJECTS

Updates to Stream Habitat Restoration Guidelines

Kay Caromile, *Salmon Recovery Funding Board*

The 2004 Stream Habitat Restoration Guidelines (SHRG) are being updated to reflect current information, best management practices, and topical concerns. One of these concerns is the risk to public safety associated with in-stream structures. This talk will provide a brief overview of the updates being made and how public safety concerns are being addressed.

**Northwest
Territory Ballroom
Salon B**

WED. 12:45 - 3:30 p.m.



In-Stream Wood: Thoughts from a Recreational Rafter and Restoration Practitioner
Will Conley, Yakama Nation Fisheries Program

This presentation will draw on the experience of the speaker who has floated more than 3,000 miles as a recreational rafter and placed more than 2,000 pieces of large woody materials in rivers as a restoration practitioner. While some woody materials in rivers have the potential to be hazardous, most of it is not. “Safety” and “hazard” are buzzwords that, while sometimes appropriate, frequently are used to stimulate political action and cause good science to be trumped. The presentation will emphasize a thoughtful approach to woody materials in rivers, put risk into context, and cover hazard assessment and hazard mitigation.

Conceptual Model for Assessing Public Safety Related to Habitat Improvement Projects

Leif Embertson, GeoEngineers, Inc.

The speaker will present a conceptual model developed for the Lummi Nation that assesses the safety risk to recreationists of large woody materials and engineered logjams in rivers. Federal, state, local, and tribal agencies and private citizens are placing wood in rivers and streams to restore vital channel processes and salmon populations. While placement of large woody materials is an important component of restoration strategies, many Western Washington rivers and streams also host recreational activities, including whitewater kayaking, rafting, and fishing, whose participants traditionally view large woody materials in rivers as an extreme hazard. During this project, GeoEngineers developed a resource bibliography, guidelines for risk factors specific to reach and structure categories, and a conceptual model to evaluate the public safety risk associated with 20 logjams in the south fork of the Nooksack River in Whatcom County.

Should I be Concerned? Screening Projects Using RiverRAT

Janine Castro, U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration's National Marine Fisheries Service

The Project Screening Matrix is one of several tools that comprise the River Restoration Analysis Tool Project (RiverRAT) – a broad federal effort to more efficiently and effectively evaluate stream management, engineering, and restoration proposals. By identifying the project impact and stream response potential associated with a proposed project, this screening tool helps reviewers characterize the relative risk to natural resources and stratify review time and intensity for various project types. The principle underlying the screening matrix is that stream projects should do no lasting harm to aquatic habitat on-site, upstream, or downstream, and that short- and long-term negative impacts will be avoided where possible, minimized to the greatest extent, and mitigated where necessary.



12:45 - 3:30 p.m.

WED.



Discussion on Hydraulics of Habitat

Marjorie Wolfe, *ESA Adolfson/PWA Associates Inc.*

Designing effective salmon habitat requires an understanding of hydraulic forces from a micro to reach scale, including the full range of flows over time. The outdated model of using a single design flow is effective only for limited time periods. This presentation describes how to embrace uncertainty to prepare adaptable restoration designs. This approach involves learning from the river by understanding both form and process to achieve specific project objectives. The evolution of natural in-stream wood habitat is explored to describe the diversity of habitat designs.

When and How Fish Use Habitats Created by In-stream Structures

Roger Peters, *U.S. Fish and Wildlife Service*

This presentation will discuss the use of wood as a component of in-stream restoration projects and the influence of these projects on fish. A description of the trends in the use of wood in habitat restoration projects will be provided. The influence of these projects on fish distribution and abundance will be summarized. Finally, fish use habitats created by in-stream wood introductions will be provided. Examples will be provided that show the temporal and spatial distribution of juvenile salmonids near engineered logjams in western Washington Rivers.

Supporting Food Webs with Large Wood Projects

George Pess, *National Oceanic and Atmospheric Administration's Northwest Fisheries Science Center*

Placing logjams and large woody materials in rivers and streams is a widely used and relatively well-studied restoration technique for increasing habitat complexity. The presenter will discuss a study that tested the hypothesis that periphyton biomass and aquatic invertebrate density were higher on engineered logjams than on inorganic substrates in two large Pacific Northwest river systems. We show that adding wood to reaches with little or no naturally occurring wood increased overall habitat surface area and thereby the potential for increased productivity relative to reaches with low levels of wood. Finally, wood supports a unique community of invertebrates that are often overlooked in studies but may be contributing substantially to overall biological diversity.

CASE STUDY: PANEL AUDIENCE MODERATED DISCUSSION

Case Studies in Large Wood Projects

Tom Slocum and Steve Toth, *Salmon Recovery Funding Board Technical Review Panel*

The Salmon Recovery Funding Board's Manual 18 lists several criteria for evaluating the benefit and certainty of funded projects, including that the main focus of the project must be for habitat restoration and not a secondary need such as bank stabilization or protection of property. Project sponsors sometimes struggle when trying to balance restoration of ecological processes with the desires of landowners. This presentation will showcase studies of recent in-stream project proposals to stimulate discussion of this intriguing balancing of interests among practitioners in the audience.



KEYNOTE SPEAKER BIOGRAPHIES



KALEEN COTTINGHAM

Governor Chris Gregoire appointed Kaleen Cottingham director of the Washington Recreation and Conservation Office in 2007, building on a distinguished career that has blended law and environmental policy. Kaleen has worked for three governors, serving as natural resources policy advisor, legal counsel, and a member of the Pollution Control and Shorelines Hearings Board. She also served the elected Commissioner of Public Lands as both deputy commissioner and supervisor, leading the Washington Department of Natural Resource's strategic direction and policy initiatives on a wide variety of natural resources issues and managing the daily operations of the department. She has a bachelor of science degree in forest resources from the University of Washington and a law degree from the University of Puget Sound law school.

NORM DICKS

Norm Dick was elected to Congress in November 1976. Educated in Bremerton area schools, Norm graduated from the University of Washington in 1963. He received his law degree from the University of Washington School of Law in 1968 and later that year joined the staff of Senator Warren G. Magnuson. He currently serves as the top-ranking Democratic member of the full Appropriations Committee, as well as the ranking Democratic member of the Defense Appropriations Subcommittee. The environment has always been a high priority to Norm, who has served on the Interior Appropriations Subcommittee during his entire tenure in Congress. In 1984 he was responsible for a key addition – the Clearwater area – to the Washington Wilderness bill and he has consistently succeeded in funding other critical additions to national parks and roadless areas in Washington State. In the late 1980s and early 1990s he was involved in the regional effort to develop a response to the listing of the northern spotted owl, which resulted in reductions of timber harvesting on federal lands. During the Clinton-Gore Administration, he worked with federal agencies to assemble a program of federal assistance to affected forest workers and timber communities, which has totaled more than \$1.2 billion in the past six years and which continues today. He also worked to bring federal assistance to the West Coast states to address the listings of threatened salmon runs.

DOC HASTINGS

Doc Hastings first joined the U.S. House of Representatives in 1995. After graduating from Pasco High School, Doc studied business administration at Columbia Basin College and at Central Washington University. He ran his family's small business, Columbia Basin Paper and Supply. Before serving in Congress, he served eight years in the Washington State Legislature. During his time in the House of Representatives, Doc led efforts to open new markets for local farmers; started the ongoing feasibility study for new water storage in the Yakima basin; got the federal government engaged in finding a solution for the Odessa sub-aquifer; brought the House Agriculture Committee to central Washington to hear from local farmers and ranchers as Congress developed the farm bill; proposed and passed a law to protect the survivor benefits for families of soldiers killed in action; worked to enact fair trade agreements that benefit Washington State; fought attempts to ban local doctor-owned hospitals; and remains a strong defender of dams and a proponent of nuclear power. Doc founded the bipartisan Congressional Nuclear Cleanup Caucus to promote the cleanup of nuclear waste sites like Hanford. At the start of the 112th Congress, Doc was selected by his colleagues to serve as the chairman of the House Natural Resources Committee, which has jurisdiction over most federal land use and water policies, including national forests, national parks and monuments, wilderness areas, national scenic areas, Indian reservations and Bureau of Land Management lands. The committee also oversees the Bonneville Power Administration, Bureau of Reclamation irrigation projects, endangered species recovery, and federal hydropower projects.



KEYNOTE SPEAKER BIOGRAPHIES



DONALD “BUD” HOVER

Bud Hover is an Okanogan County commissioner and chair of the Salmon Recovery Funding Board. Bud grew up in Issaquah and attended Washington State University on a football scholarship. He graduated from Washington State University with a bachelor of science degree in agriculture education, forestry, and range management. Upon graduation, he was drafted by the Washington Redskins in 1978 and played professionally in the National Football League for three years and in the Canadian Football League. In addition to his work on the county commission and Salmon Recovery Funding Board, he also serves as president of the Board of Okanogan County Energy and president of the board of directors for Okanogan County Electric Coop. He is a member of the Upper Columbia Salmon Recovery Board, Washington State Association of Counties’ Legislative Steering Committee, National Association of Counties Public Lands Steering Committee, and the Washington Timber Counties Group.

TOM JAY

Tom Jay has been an active member of the Northwest Art Community since 1966, when he built the first bronze casting facility for Seattle University. He went on to supervise and construct casting facilities at the University of Washington. Upon graduation, with a master of fine arts degree from the University of Washington in 1969, he established Riverdog Fine Arts Foundry, which cast, in addition to his own work, sculptures for such notable northwest sculptors as Tony Angell, Hilda Morris, Phil Levine, Richard Kirsten, Louise McDowell, George Tsutakawa, Everett DuPen, Ann Morris, John Hoover, Marvin Oliver, Larry Anderson, Gizel Berman, Doug Granum, Barry Herem, Clayton James, Jeff Day, and others. Currently he works in partnership with his wife, Sara Mall Johani, casting their own work at The Lateral Line Bronze Casting Studio. In addition to sculpting and casting their own work and fulfilling commissions, they teach a sculpture class called “Sculpture Revealed,” which takes the student from sculpture phase to the finished bronze casting. Tom was the crew leader on the successful 10-year Wild Olympic Salmon/North Olympic Salmon Coalition summer chum stock restoration project on Salmon Creek in east Jefferson County and volunteered in other salmon restoration projects in the Chimacum Creek and Discovery Bay drainages.

WILLIAM W. STELLE, JR.

Will Stelle is the regional administrator for the Northwest Region of the National Oceanic and Atmospheric Administration’s (NOAA) National Marine Fisheries Service and the West Coast salmon coordinator. Before joining the Obama Administration, Will was a partner at the law firm of K&L Gates. His practice concentrated on projects involving complex federal and state environmental regulatory challenges, specializing in freshwater and marine issues habitats and endangered species. He served as NOAA Fisheries Service northwest regional administrator for 6 years, where he managed the listings of salmon and steelhead populations under the Endangered Species Act in Washington, Oregon, Idaho, and California. Before settling in the Northwest, Will held a variety of policy positions dealing with a range of environmental and natural resource programs in Washington, D.C. He served as the associate director for natural resources with the White House Office on Environmental Policy overseeing federal forestry and natural resource policies. Before that he was special assistant to the Secretary of the Interior where he helped develop and implement major changes to western federal land management under the Northwest Forest Plan. Will has bachelor of arts degree from Boston University and law degrees from the University of Washington School of Law and the University of Maine Law School.

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Since 2003, the National Fish and Wildlife Foundation (NFWF) has partnered with the Washington State Salmon Recovery Funding Board to award grants through the Community Salmon Fund, which provides funds for habitat restoration projects that engage communities and broaden local support for salmon recovery.

To date, 251 grants have been awarded over \$8 million in funding through the Community Salmon Fund program, and these funds have been leveraged by an equal amount of matching contributions from the grantees, resulting in more than \$16.3 million on the ground for salmon habitat restoration.

NFWF is an independent 501(c)3 charity that was established by Congress in 1984 to protect, restore, and enhance the nation's fish, wildlife, plants, and habitats. NFWF's conservation partnerships connect federal and state agencies, key industry leaders, concerned private citizens, and nonprofit leadership from the international to the local level. The results speak for themselves: Since its establishment, NFWF has funded 11,034 projects, leveraging \$724 million in federal and non-federal funds to a total on-the-ground investment of \$1.8 billion.

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