

## Elwha Science Symposium Event—Online and In Person

*Getting scientists and the public together on the science of dam removal as part of river and reservoir restoration*

### Bottom Line

This symposium brought river restoration experts to share research results and inform the scientific community and the interested public to improve the understanding of the Elwha River Restoration Project, Washington.

### Better, Faster, Cheaper

While active participants need face-to-face interactions to share analysis and results and plan further research collaboration, online public events can help inform other interested parties from all over the world.

### Principal Investigator

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### Collaborators

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### Future Plans

Reclamation conferences can use this technology and these lessons learned for future conferences. Reclamation will continue to participate in Elwha adaptive management monitoring and research collaboration activities in the future.

### Elwha Science Symposium Event—Online and In Person

The Elwha Dam removal project in Washington is the biggest dam removal project in the world. When the Elwha and Glines Canyon Dams are removed, five species of Pacific salmon will be able to return to over 70 miles of pristine habitat. Salmon populations are projected to grow from 3,000 to nearly 400,000.

The project involves adaptively managing 34 million cubic yards of sediment stored behind the dams, requiring a myriad of scientific monitoring studies of biological, hydrological, sedimentation, and other aspects. Scientists and planners are using many unique field monitoring programs, analyses, and predictive tools. Since there has not been a project of this scale before, the opportunity to learn what happened to fish and sediment as a result of the project is unprecedented and is not likely to occur again in the near future.

Scientific collaboration and public understanding are crucial to learn how the reservoir and river are responding to the dam removal, along with how the real-time nature of the adaptive management program is working (and lessons learned). Mutual information sharing with these diverse audiences can be both in person and online.

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*Elwha Science Symposium in 2012. Photo by Barb Maynes from Olympic National Park, Washington.*

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## Conference Solution: Talking Face-to-Face and Online Application

To share research results and plan future research, this Science and Technology Program research project partnered with other key Federal agencies to plan and sponsor a symposium consisting of three components: online presentations (one for the general public and one for researchers), a fieldtrip, and 2 days of science workgroups featuring a mix of speakers and discussions.

About 200 people attended various events in person, with 100 attending the 2-day science conference. Online, 25 people participated in general broadcast and 34 in the scientific discussions. These online presentations allowed people to submit questions in real time for a broader range of participation.

The online portions used a remote broadcasting tool, Blackboard Collaboration. We found that the technology is readily available, but a person knowledgeable about the tool is needed to troubleshoot in real time. Microphones to capture speakers and local audience questions are needed, as well as an online monitor/moderator to integrate the online portion into the local discussion.

## River Restoration Solutions

Presentations and posters over the 2 days covered a wide variety of subjects to answer questions such as:

### Sediment Management

How will suspended sediments and sediment deposits change?  
How will intertidal coasts respond to sediment supply processes?  
How much sediment will remain in the reservoir and how much will travel downstream? How can we model and adapt to sediment transport?

### Woody Debris

What are the interactions between woody debris, fluid flow, and sediment transport?  
What are the baseline parameters of the large woody debris and how will this change?

### Riparian Vegetation

How will native and non-native species change above and below the dam sites?  
What role do birds play in spreading seeds?

### Salmon and Other Fish

How will fish move and spawn in the newly accessible mainstem and tributaries?  
How do, and will, fish use the nearshore of the Elwha River?

### Wildlife

How will the wider range of salmon affect other wildlife?

### Tributaries and Reservoirs

How will tributaries and the reservoirs change (e.g., incision, fish habitat, and suspended fines)?

### Economics

How do people value the use (birdwatching, sightseeing) and non-use (restoration regardless of visits) of the habitat restoration?  
How do we ascribe monetary values to the environmental, economic, and social import?

***“This conference allowed scientists and the public to share information that will help shape the future of Elwha River research. The online forum was efficient and easy to use, and was a huge time saver.”***

David S. Parks, M.S.  
Geologist/Wetland Scientist  
Forest Practices Division  
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## More Information

Conference:  
[www.elwharesearchconsortium.wildapricot.org](http://www.elwharesearchconsortium.wildapricot.org)

Elwha Project:  
[www.nps.gov/olym/naturescience/elwha-ecosystem-restoration.htm](http://www.nps.gov/olym/naturescience/elwha-ecosystem-restoration.htm)

Science and Technology Program  
Research Project:  
[www.usbr.gov/research/projects/detail.cfm?id=6959](http://www.usbr.gov/research/projects/detail.cfm?id=6959)



*Remains of Elwha Dam, February 14, 2012.  
Photograph courtesy of Ben Cody.*



U.S. Department of the Interior  
Bureau of Reclamation