

Elwha Nearshore Update

A NEWSLETTER OF THE ELWHA NEARSHORE CONSORTIUM

October 2005

Welcome to the third quarterly *Elwha Nearshore Update* newsletter which summarizes current activities focusing on the Elwha nearshore. It is sponsored by the Elwha nearshore workgroup, an informal consortium formed in spring 2004 and dedicated to understanding and promoting the nearshore restoration associated with the Elwha dam removals. The newsletter provides updates on various activities since our Spring 2004 workshop, which focused on nearshore restoration associated with the upcoming dam removals. Proceedings from the nearshore workshop may be found on the Clallam Marine Resources Committee website, <http://www.clallammrc.org>.

The Washington Department of Fish and Wildlife provides workgroup and newsletter coordination, and partners with the Lower Elwha Klallam Tribe, Clallam Marine Resources Committee Olympic National Park, Puget Sound Action Team, and others in promoting the work and communication of the Elwha nearshore workgroup. For information on the Clallam MRC contact Joe Schmitt, committee chair, joes@armstrongmarine.com, and Cathy Lear, Clallam County, CLear@co.clallam.wa.us/ 417. 2423. For information on the Elwha Tribe, contact Matt Beirne, 360.457.4012 x12; beirne@elwha.nsn.us. For information on Elwha nearshore workgroup, or questions or comments about the newsletter, contact Anne Shaffer, Washington Department of Fish and Wildlife at shaffjas@dfw.wa.gov/ 360.457.2634. Information on the Elwha dam removals can be found at the Elwha webpage <http://www.nps.gov/olym/elwha/home.html>.

The previous newsletters, published in 2004 and 2005 and available on the Clallam MRC website <http://www.clallammrc.org>, provide details on a large number of proposed and funded efforts in the Elwha nearshore. This newsletter provides project updates for these efforts as well as summaries and contact information for new projects. All information in this newsletter is provided by project leads and includes individual contact information.

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Workgroup announcements

WE WILL BE HOLDING A WORKSESSION FOR ACTIVE MEMBERS OF THE ELWHA NEARSHORE CONSORTIUM TO UPDATE THE GROUP ON INDIVIDUAL WORK AND FINDINGS TO DATE, PROMOTE ADDITIONAL COLLABORATION AND EFFECIENCY, AND IDENTIFY PRIORITY GAPS. WE ARE AIMING FOR THE WEEK OF 9 JANUARY 2006, DATE AND LOCATION TO BE ANNOUNCED. RSVP TO ANNE IF YOU WANT TO PARTICATE.

Additional coordination

A number of larger coordination efforts focusing on the Elwha continue, including: NOAA had developed a pilot website dedicated to promoting coordination and collaboration of scientific data and projects from Elwha research. Richard Kang, SDM Program Manager, was working to extend the usage of the collaboration tool to a wider audience of interested researchers and collaborators. Unfortunately, there was a minor web page defacement on the SDM collaboration web page about 2.5 months ago with SQL injections from a hacker after being up without incident for over 2 years. Because of this, all collaboration web sites had to be taken down until NOAA IT Securities and Richard remove any future vulnerabilities. It looks like a major rewrite and test that will take several months. Our goal at this time is to rewrite the application, if this is practical and doable and correct any deficiencies. My deepest personal apologies to the group and others who are currently in need of our services. It is unfortunate that people will break your window for the fun of it but this is the situation. Contact: Richard Kang SDM Program Manager, OMI, Richard.Kang@noaa.gov/206-860-6786 or Chantrelle Nielsen nwfsc.sdm@noaa.gov

The Elwha Research Consortium. Western Washington University's Huxley College of the Environment and it's partner institution Peninsula College were awarded \$500,000 by the National Science Foundation's Research Coordination Networks grant program. This initiative establishes the Elwha Research and Education Consortium to serve a vital function to encourage and facilitate the development of more research and educational opportunities associated with the Elwha River Restoration project. Other members of the Elwha Research Consortium are Olympic National Park; Lower Elwha Klallam Tribe; the U.S. Geological Survey's Biological Resources Division; National Oceanic and Atmospheric Administration (NOAA) Northwest Fisheries Science Center and the Washington Department of Fish and Wildlife. **Contact:** Dr. Bradley Smith (PI), WWU Huxley College of the Environment (360-650-3521; Brad.Smith@wwu.edu);

Ongoing management issues

Elwha nearshore management issues include:

The Clallam County continues to promote dialog with citizens and Place Road landowners on the west levee. With dam removal and associated changes to the river and nearshore, the levee on the west side of the river will need to be altered to provide the current level of flood protection to landowners at the north end of Place Road. In the initial stages of discussion, neighbors, agencies, and the Lower Elwha Klallam Tribe are looking at the flood protection

options and how they may coincide with habitat restoration. Current contact for this dialog is Cathy Lear, Clallam County, 360.417.2361/CLear@co.clallam.wa.us

The coordination between Elwha nearshore habitat management and restoration continues to need leadership. Top priority items include coordination between the city of Port Angeles (proposing a new revetment for the Elwha bluffs); Nippon paper (who has a five-year maintenance program for applying additional armoring to the existing armoring along 9000 feet of shoreline along the Elwha bluffs), and CoE (that has a half dozen or so authorities for ecosystem assistance for drift cell maintenance and restoration). The city of Port Angeles has issued a MDNS for the proposed bluff revetment, and is moving forward independent of the Elwha restoration, including timeline. Current Elwha nearshore workgroup contacts for this are Matt Beirne, Elwha Tribe (457.4012 x 12/ beirne@elwha.nsn.us); Jeffree Stewart, 360.407.6521/ jste461@ECY.WA.GOV; Ian Miller, Surfrider Foundation 360 808 1103/fax 808-1103/imiller@surfrider.org; and John Cambalik, PSAT, 360-582-9132/fax: 360-582-9132 jcambalik@psat.wa.gov.

New and ongoing restoration activities by subject category

within Elwha nearshore -with updates to earlier newsletters if provided- include, by major category of the spring 2004 workshop (project titles underlined and in italic):

Physical Processes

MRC session representative: John Cambalik, Puget Sound Action Team, JCambalik@psat.wa.gov

Beach Profile Monitoring of the Elwha River Delta Coast

Contact: Matt Beirne and Larry Ward, Lower Elwha Klallam Tribe, 51 Hatchery Road, Port Angeles, Washington. 360.457.4012 ext 12 and 17 (beirne@elwha.nsn.us; lward@elwha.nsn.us) and Jim Johannessen, Coastal Geologic Services, Inc., Email: coastalgeo@comcast.net, Phone: 360-647-1845

Effects of Elwha Dam Removal on Nearshore Habitats **Update for October 1, 2005:** This is a U.S. Geological Survey (USGS) research project that seeks to: (1) Map the current status and future changes of the Elwha nearshore substrate, (2) Monitor and model the physical processes (waves, currents and sediment transport) of the river mouth region, and (3) Develop a conceptual model for nearshore sediment transport of Elwha River sediment.

During summer 2005 a number of field and research activities were completed. The third semi-annual nearshore and beach topographic surveys were completed at approximately 100 stations during September 2005. Unlike the large topographic changes observed at the river mouth during winter 2005 (where up to 40m of progradation was measured), very little topographic change was observed during summer 2005. The next semi-annual survey is scheduled for March 2006. 2) In September 2005 we conducted the first of many semi-annual beach grain-size analyses. We are testing the applicability of using digital camera photographic techniques to evaluate the grain-size of sediment on the Elwha beach ("Cobble Cam"). Methods include a combination of photography and detailed measurements of the size and shapes of individual sediment grains

within each photo. These data will be used for error and bias computations, which are important to future data collection efforts. In March 2006 we intend to complete a through photographic survey of grain-size along the topographic survey lines. Photographic analyses such as these may be the kind of activity of interest to citizen groups or students. If so, please contact Jon Warrick (see below) for more information.

In May 2005, we recovered two seabed stations deployed offshore of the river mouth that measured waves and currents with Acoustic Doppler Current Profilers (ADCPs). Data from these stations reveal that the tidal currents offshore of the river mouth are very strong (often >1m/sec) and induce net currents (i.e., currents that transport in a dominant direction, rather than simply back-and-forth).

The USGS received funding from Congress for fiscal year 2006 to conduct interdisciplinary research on coastal habitats in Puget Sound (CHIPS). The USGS is distributing these research funds by a competitive proposal call, for which a team (including Jeff Duda, Jon Warrick, Chris Konrad, Reg Reisenbichler, Guy Gelfenbaum and Elisabeth Graffy) has proposed to conduct estuary research in collaboration with the Lower Elwha Klallam Tribe's EPA-funded monitoring. Final decisions on the USGS CHIPS funding are expected in October 2005.

Data reports will be finalized during the fall and winter of 2006 for both existing and ongoing USGS activities. Data to be released will include beach topography/bathymetry, coastal current and wave measurements, and sonar mapping backscatter and bathymetry. Summaries of some of this data can be found in previous Elwha Nearshore Updates.

Contact: Jonathan A. Warrick, Coastal and Marine Geology Program, USGS, Pacific Science Center, 400 Natural Bridges Drive, Santa Cruz, CA 95060 USA, 831-427-4793/fax 831-427-4787/jwarrick@usgs.gov, webpage: <http://walrus.wr.usgs.gov/staff/jwarrick>.

Landslide Hazard Zonation (LHZ) of the Lower Elwha Watershed The goal of this project is to identify and characterize landsliding on non-Federal lands within the lower Elwha watershed contributing sediment to the Freshwater Bay-Elwha-Ediz Hook drift cell. A detailed landslide inventory constructed from aerial photograph analysis and field mapping will be used to estimate volumes and characteristics of mass wasting related sediment delivered to the lower Elwha fluvial stream network and marine nearshore over the period 1939 to present. Methodology used in the Elwha LHZ project is available at www.dnr.wa.gov/forestpractices/lhzproject/lhz-protocol.doc.

Timeline: This project is under way and the non-Federal component is expected to be finalized by September, 2005.

Contact: Dave Parks, Washington Department of Natural Resources, 311 McCarver, Port Angeles, WA 98362.: 360-4457.2570 ext. 225/fax: 360-452-4922/ dave.parks@wadnr.gov

Beach Profiling at Elwha River Delta

Contact: Jim Johannessen, Licensed Engineering Geologist, MS, Coastal Geologic Services, Inc., 360-647-1845/fax: 360-671-6654 coastalgeo@comcast.net,

Elwha Sediment Management and Monitoring Plan

Contact: Tim Randle, Sedimentation and River Hydraulics Group (D-8540) U.S. Bureau of Reclamation Technical Service Center P.O. Box 25007 Denver, Colorado 80225-0007; 303-445-2557/TRANDLE@do.usbr.gov.

Photographic Monitoring of the Central Straits Shoreline The Surfrider Foundation continues to work towards the full implementation of its photographic monitoring project. The goal of this project is to 1) build a database of high-resolution photographs of the shoreline around the Elwha River that can be used for before/after comparisons as well as provide a tool to assess short-term variability before the dams are removed; 2) educate the public about expected benefits to the shoreline from the dam removal and 3) provide a means for citizen involvement in the Elwha Dam removal and watershed and coastal restoration associated with the project. In addition to shore-based photographs, areal photo series" have been collected as frequently as resources allow. In order to capture some of the changes possible around the river-mouth during high-flow events we will attempt our next flight during or immediately after the first fall flood. This project is funded by the Puget Sound Action Team's SEED Grant Program and has been developed with the support and assistance of Dr. Rob Young of Western Carolina University, the Lower Elwha Klallam Tribe, WDFW, and the Clallam County MRC. **Contact:** Ian Miller, Washington State Field Coordinator, Surfrider Foundation 533 W. 10th St. Port Angeles, WA 98362, 360 808 1103/fax [808-1103](tel:808-1103)/imiller@surfrider.org. [website: www.surfrider.org/elwha](http://www.surfrider.org/elwha)

Habitat

MRC session representative: Anne Shaffer, Washington Department of Fish and Wildlife, shaffjas@dfw.wa.gov

An update: the federal Critical Habitat Designation for Puget Sound Chinook and Hood Canal Summer Chum was just published ('Endangered and Threatened Species; Designation of Critical Habitat for 12 Evolutionarily Significant Units of West Coast Salmon and Steelhead in Washington, Oregon, and Idaho' Federal Register: September 2, 2005 Vol 70 No. 170 :pp 52629-52858) The designation ends at the Elwha (thereby excluding a large area of the Elwha nearshore), but NOAA's response to comments states: "(Comment 60) Several commenters objected to the potential exclusion of all nearshore zones for this ESU and noted these areas have been identified by Puget Sound watershed planners and scientists as crucial for juvenile salmon. One noted that excluding these zones would run contrary to our 4(b) (2) approach since all of the Puget Sound nearshore areas were identified as high-conservation value areas. One commenter requested that we extend the designated nearshore zone westward to include all shallow waters in the Strait of Juan de Fuca. Response: We agree with the commenters' concerns and are going forward with designating nearshore areas as critical habitat for this ESU. The CHART also noted that additional nearshore areas west of the Elwha River may be essential for the conservation of this ESU, but based on the best information available at this time, we cannot conclude that the area is either occupied and contains the PCEs, or is unoccupied and is essential for conservation. If we determine that these or other nearshore areas warrant designation or revision, we will do so under subsequent rulemaking."

This position by NOAA emphasizes the need to describe nearshore salmon use in the area west of the mouth of the Elwha, not only for Elwha restoration, but salmon recovery in general. See the federal register for more details; <http://www.epa.gov/fedrgstr/EPA-SPECIES/2005/September/Day-02/e16391.htm>

An Integrated Approach to Restoration of Anadromous Salmonids and Their Habitat in the Elwha River Following Dam Removal. (The LEKT-UI-CSC Project) Update for October 1, 2005: 1) In July and August, 2005, Chuck Boggs from University of Idaho and Raymond Moses of the Lower Elwha Klallam Tribe developed appropriate acoustic telemetry methodologies for the 2006 field season tagging and tracking protocol in the Lower Elwha estuary and nearshore.

Establishing baseline biological and behavioral characteristics for juvenile salmon in the estuary and nearshore is one of the significant products of this partnership.; 2) In September NOAA Coastal Services Center met with National Park Service, Marine Sanctuaries, Clallam County, Port Angeles City, Washington State agencies and the Northwest Indian Fisheries Commission. The goal of these communications is to draw a broader characterization of the social and economic importance of the Elwha River in local and regional affairs; 3) Members of the LEKT-UI-CSC teams met in a one-day workshop to design a webpage that would include an online geodatabase with downloadable Elwha River GIS data, an online map library, and a broad range of historic and current information about the Elwha River, its people, and its changes over time. The Lower Elwha Tribal Council is contributing significantly to the design and content of this valuable information source for all science- and non-science- based interests in the Elwha River environs. The design of this web page is in its earliest development, and comments from Upper and Lower Elwha River partners are encouraged. Rough designs will be sent out later in the year.

Project Partners: University of Idaho, Fish Ecology Research Lab; NOAA Coastal Services Center; Lower Elwha Klallam Tribe and science advisors; the Elwha Nearshore Consortium; the Elwha Research Consortium (Olympic National Park); Washington Department of Fish & Wildlife; Peninsula College; NOAA Northwest Fisheries Science Center; Olympic National Park; US Geological Survey.

Contact: Nancy Wright. LEKT Fish Hatchery. 360.457.4012 x27 nwright@uidaho.edu
Or cell phone 208.596.2914. PO Box 2816. Port Angeles, WA 98362

Historical Changes to Estuaries and other Nearshore Habitats in Hood Canal and the Strait of Juan de Fuca This project is funded through the Bureau of Indian Affairs (Strait) and the Salmon Recovery Funding Board (Hood Canal). We used historical sources (mainly US Coast Survey maps, General Land Office notes/maps, and early air photos) and methods developed primarily by Brian Collins and colleagues at the University of Washington to characterize the major geomorphic (e.g. estuarine channels, spits, etc.) and vegetation features (e.g. salt marsh, wooded marsh, grassland, etc.) associated with estuaries and other tidal wetland habitat complexes in Hood Canal and the Strait as they were in the 1850 to early 1900s period. A historical delineation, based on the US Coast and Geodetic Survey topographic sheet (1907-08) of the Elwha River estuary and vicinity is available for download in GIS format from the Point No Point Treaty Council (PNPTC) website, www.pnptc.org. We have developed a contemporary (~2000-2004) air photo-based delineation of geomorphic and vegetation features in Strait and Hood Canal estuaries for comparison with the historical delineations (this contemporary delineation is available from PNPTC upon request). The historical and contemporary datasets are now being compared, along with interim period photos and maps, to give us an understanding of the nature and extent of habitat changes, and insights into alterations to physical processes (i.e. related to fluvial sediment deposition, hydrology, tidal erosion, wave sediment processes) responsible for the changes we see over time. The PNPTC collaborated with the UW Puget Sound River History Project on aspects of this project.

Timeline: A final draft of this project is due Dec. 31, 2005.

Contact: Steve Todd, Point No Point Treaty Council, 7999 NE Salish Lane, Kingston, WA 98346 360-297-6526 stodd@pnptc.org

Salmon and Steelhead Habitat Inventory and Assessment Project (SSHIAP) Staff with the Point No Point Treaty Council (PNPTC) are responsible for developing and maintaining various salmon habitat GIS datasets for the Salmon and Steelhead Habitat Inventory and Assessment Project (SSHIAP) in the Hood Canal and Strait regions, including the Elwha River. In addition to providing a characterization of stream geomorphic segments, fish barrier and distribution data in the freshwater systems, SSHIAP is developing a linkage of this freshwater

GIS data with the estuaries and along the nearshore. Using a model developed by Aundrea McBride of the Skagit River System Cooperative (SRSC), based largely on coastal geology, topography, and dominant physical processes, we have produced a draft delineation of coastal shoreforms in the Strait and Hood Canal regions. The PNPTC, Northwest Indian Fisheries Commission, and Aundrea McBride are currently assessing and validating this draft version. **Timeline:** Freshwater GIS datasets currently available; nearshore datasets are in development. **Contact:** Steve Todd, Point No Point Treaty Council, 7999 NE Salish Lane, Kingston, WA 98346 360-297-6526 stodd@pnptc.org

Elwha and Glines Canon Dam Removals: Restoration and Salmon Recovery of the Nearshore Central Strait of Juan de Fuca WDFW, Elwha Tribe, Olympic National Park, Clallam County, and NOAA have developed a framework for defining nearshore restoration response of the Elwha nearshore. This paper provides an overview of our approach to defining the nearshore monitoring strategy and priorities associated removal of the Elwha River dams. The strategy is based on a geomorphic classification and defines the general modeling parameters needed to define the degree of nearshore restoration that will occur and what, if any, additional restoration actions may be necessary to achieve salmon recovery. The framework is available [on the Clallam MRC website](http://www.clallammrc.org), <http://www.clallammrc.org>
Contact: Anne Shaffer, WDFW, 332 E. 5th Street, Port Angeles, Wa. 98362 360.457.2634/417.3302fax shaffjas@dfw.wa.gov.

Nearshore Central Strait of Juan de Fuca: an ecosystem assessment of salmonid use and priority restoration actions In this project the WDFW, Lower Elwha Klallam Tribe, NOAA and Peninsula Collage will define fish use within the central Strait nearshore, including: a) Species, populations, timing, and life history strategies of juvenile salmonids (including Puget Sound Chinook, Hood Canal Summer Chum, searun cutthroat, steelhead, and bull trout); b) How fish use nearshore areas. Priority habitats include lower rivers and estuaries, eelgrass and kelp beds, and sandy shorelines. Once fish use is defined we will then; c) Prioritize additional nearshore restoration projects. Funding decision is anticipated January 2006.
Contact: Anne Shaffer, WDFW, 332 E. 5th Street, Port Angeles, Wa. 98362 360.457.2634/417.3302fax shaffjas@dfw.wa.gov

Restoration of estuarine and nearshore habitat for ESA-Listed anadromous salmonids of the Elwha River following dam removal. The WDFW, UI, and Lower Elwha Tribe have submitted this work for NOAA funding. The goal of the proposed project is to initiate restoration program for estuarine and nearshore habitat used by anadromous salmonids following removal of two the dams in the Elwha River. The project focuses on conducting systematic surveys using CTD, ADCP, and underwater video technologies to assess estuarine and nearshore habitat in and near the Elwha River. Randomly selected sub-set of SCUBA observations will be used to verify results of video observations. The proposed study areas encompass subtidal nearshore Straits of Juan de Fuca between Crescent Bay in the west of Elwha River and Dungeness Spit on the east of Elwha, and the Elwha estuary to extent of tidal influence. Survey information will be coupled with acoustic telemetry to determine current habitat utilization and residence times for juvenile Chinook and chum salmon. Predictive models will be created to aid development of restoration actions. **Contact:** Anne Shaffer, WDFW, 332 E. 5th Street, Port Angeles, Wa. 98362 360.457.2634/417.3302fax shaffjas@dfw.wa.gov

Assessing Impacts of a Citizen Science Program for Evaluating and Interpreting the Nearshore Environment of the Central Strait of Juan de Fuca in Washington State

The Peninsula College, Western Washington University, and WDFW have partnered on this work, which if funded will develop and implement a Citizen Science program, via the nearshore consortium (coordinated by the Washington Department of Fish and Wildlife), an interpretive center (Arthur D. Feiro Marine Life Center), three local industry groups (Clallam County Economic Development Council's Marine Services, Education, and Tourism Industry Clusters), and three higher education institutions (Peninsula College, Washington State University and Western Washington University). The work will focus on the STEM fields of environmental science, oceanography, quantitative geography (GPS/GIS), and applied math to: Secure sorely needed data concerning habitat function of internationally-significant nearshore environments in the Strait of Juan de Fuca and the effects of Elwha River dam removal on these environments; Provide critical monitoring information for resource managers, scientists, and local stewards; Advance the field of Citizen Science by assessing the impact of training and participation in the program in the development of scientific literacy in volunteers; Provide innovative public outreach materials disseminating the products and processes of the research activities, and assess the relative influence of these outreach materials on public audiences.

Contact: Dr. Dwight Barry, PC (360-417-6586; [dwightb@pcadmin.ctc.edu](mailto:dwrightb@pcadmin.ctc.edu)).

Biological Communities

MRC session representative: Ed Bowlby, Olympic Coast National Marine Sanctuary, Ed.Bowlby@noaa.gov

Comprehensive Assessment of the Wetland Complex at the Mouth of the Elwha River.

The Lower Elwha Klallam Tribe has applied for a Wetland Protection Grant with the EPA to complete a comprehensive assessment of the wetland complex at the mouth of the Elwha River. Geological, chemical, and biological assessment work will provide data regarding current wetland conditions, as well as historical conditions (using sediment cores) prior to the construction of the Elwha River dams. The primary goal of the project is to develop a management plan for the wetland complex to effectively manage and monitor this system to maximize restoration benefits from the removal of the Elwha dams. A comprehensive evaluation of the biological (flora and fauna), physical (sediment/ topography), and chemical (nutrients) characteristics of the wetland complex at the Elwha River mouth will include sediment characterization, water quality analysis, vegetation surveys, nutrients, invertebrates, vertebrates, and GIS mapping.

Contact: Matt Beirne, Environmental Coordinator, Lower Elwha Klallam Tribe, 360-457-4012, ext 12.

The tribe submitted a NURP grant earlier this month. The primary objective of the proposed project is to develop a nearshore biophysical inventory of the seabed that is of sufficient resolution to be used for comparative change detection. The proposed survey would document seabed substrate, macro epiflora and macro epifauna. The primary hypothesis: the nearshore benthic community will become less sessile, more mobile, less diverse and more infaunal as a result of the Elwha River Restoration program. To test this hypothesis, towed video imagery will be collected at a number of nearshore sites and the classified data from this imagery will serve a pre-restoration bench mark. Subsequent, post-restoration surveys will be conducted to document change through spatial plots of species attribute data and through species richness/diversity indices for each site. The proposed program is designed to test the primary hypothesis through comparison of repetitive survey data. The sub-hypothesis can be tested by comparison of index

data among sites. There are several secondary objectives of the proposed project including coordination of proposed studies of the Elwha Nearshore and to combine different data types to develop a bottom-up (data driven) nearshore classification system.

Contact: Mike McHenry, Fisheries Biologist, Lower Elwha Klallam Tribe, 360-457-4012, ext 14. and John Harper (Coastal & Ocean Resources, Inc.).

Fisheries

MRC session representatives: Lyn Miller, Jamestown Tribe, Joe Schmitt, Clallam MRC, Pat Crain Olympic National Park, patrick_crain@nps.gov,

Shellfish Harvest Activities Associated with Elwha Dam Removals (ongoing management topics). WDFW Fish Program -Shellfish Management (Bob Sizemore and Don Rothaus) Developed field monitoring plan for Pinto abalone, red and green urchins, and geoduck clams. The plan is consistent with and complimentary to agency co-authored restoration framework. They also Conducted pilot field work in 2005 by establishing two index stations for Pinto abalone and red sea urchins on hardpan/sandy/boulder substrates. Additional Index stations may be added in 2006 and 2007. Habitat/shellfish collaborative field work may be needed to survey additional plant and animal species at the index stations.

Contact: WDFW: Michael Ulrich, WDFW, at 360-902-2737; Tribes: Doug Morrill, Lower Elwha Klallam Tribe, at 360-457-4012 ext. 18; or Kelly Toy, Jamestown S'Klallam Tribe, at 360-681-4641

Workgroup Directory

Workgroup participants actively working in nearshore. *Italic* are nearshore workgroup coordinators/key contacts

| Name | Affiliation | Email |
|---------------------|--|--|
| <i>Anne Shaffer</i> | <i>Washington Department Fish Wildlife</i> | shaffjas@dfw.wa.gov |
| <i>Joe Schmitt</i> | <i>Clallam Marine Resources Committee</i> | joes@armstrongmarine.com |
| <i>Cathy Lear</i> | <i>Clallam County</i> | CLear@co.clallam.wa.us |
| <i>Matt Beirne</i> | <i>Elwha Tribe</i> | beirne@elwha.nsn.us |
| <i>Brian Winter</i> | <i>Olympic National Park</i> | brian_winter@nps.gov |
| <i>Richard Kang</i> | <i>NOAA</i> | Richard.Kang@noaa.gov |
| Helen Berry | Washington Department Natural Resources | _elen.berry@wadnr.gov |
| John Cambalik | Puget Sound Action Team | Jcambalik@psat.wa.gov |
| Bill Eaton | Peninsula College | Bille@pcadmin.ctc.edu |
| Rob Elofson | Elwha Tribe | relofson@elwha.nsn.us |
| David Freed | WSU Beachwatchers | DFreed@co.clallam.wa.us |
| Brad Hanson | NOAA | Brad.Hanson@noaa.gov |
| Ian Miller | Surfrider Foundation | imiller@surfrider.org |
| Jim Norris | Menzies Project | jnorris@olympus.net |
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| Karen Steinmaus | Battelle | karen.steinmaus@pnl.gov |
| Jeffree Stewart | Washington Department of Ecology | jste461@ecy.wa.gov |
| Steve Todd | PtNoPt Treaty Council | stodd@pnptc.org |
| John Warrick | USGS | jwarrick@usgs.gov |
| Nancy Wright | University of Idaho | nwright@uidaho.edu |
| Rob Young | University North Carolina | ryoung@wcuvox1.wcu.edu |

Educational entities

A number of educational entities have received funding for Elwha proposals (not specific to nearshore). They include:

Western Carolina University, Olympic Park Institute, and Olympic National Park continue to implement the National Science Foundation funded grant entitled ‘*The Elwha Education Project (EEP): Increasing the Relevancy of the Geosciences for Native American Youth Through Participation in Environmental Restoration Projects on Tribal Lands*’ the intent of which is to develop a summer science education programs centered on the Elwha restoration and focusing on tribal kids. Contact: Rob Young, Associate Professor, Western Carolina University, Department of Geosciences, Cullowhee NC 27823, Tel: (828) 227-3822, Fax: (828) 227-7647 Tel in PA: (360) 457-0997 (ryoung@wcu.edu)

Peninsula College (PC) continues to implement the National Science Foundation’s Research Experiences for Undergraduates funded program to establish an undergraduate student research program at PC, linking students with faculty and agency scientists. This grant funds PC and Western Washington University Huxley College of the Environment students to conduct research projects associated with the Elwha River Basin ecosystems before and after removal of the dams. This includes the possibilities for terrestrial, freshwater, and nearshore projects. For more

information and full list of participants **Contact** Dr. Bill Eaton (PI), Peninsula College, 1502 East Lauridsen Blvd., Port Angeles, WA 98362, 360-417-6246, bille@pcadmin.ctc.edu.

Olympic Park Institute (OPI) continues to lead multi-day educational programs this summer and fall focused on the Elwha River Ecosystem and connections to the nearshore. The focus for this summer has been field testing a research and educational strategy to use with field science student groups, which includes 8-12th grade students and K-12 teachers. Two main focus areas are the ecological processes in the river and how those processes contribute to nearshore conditions. OPI is interested in strengthening our nearshore work and education, and would be interested in assisting with field work occurring between Freshwater Bay and Ediz Hook. **Contact** Darek Staab, OPI, 360-928-3720 ext. 23, dstaab@yni.org

Washington State University (WSU) Beachwatchers program is up and running in Clallam County. The first training session for citizen monitoring, which has included elements of the Elwha nearshore, will be completed in November 2005. Beachwatchers is an excellent resource for assistance in field monitoring. **Contact:** David Freed, WSU Beach Watchers, Clallam County 360-565-2619 DFreed@co.clallam.wa.us

North Olympic Salmon Coalition and Surfrider Foundation created an educational display titled, "The Elwha Dam Removal: A Nearshore Restoration" to be used at a variety of events and festivals around the North Olympic Peninsula. **Contact:** Ian Miller, Surfrider Foundation 360 808 1103/fax 808-1103/imiller@surfrider.org

Additional resources

Clallam Marine Resources Committee, WDFW, the Elwha Tribe, ONP Spring 2004 workshop focused on nearshore restoration associated with the upcoming dam removals. Proceedings from the nearshore workshop may be found on the Clallam Marine Resources Committee website, <http://www.clallammrc.org>.

The USGS and ONP sponsored a two day special session on the Elwha at the 2005 Puget Sound Research Conference. The sessions included both freshwater and nearshore presentations. Christopher P. Konrad USGS, and Jerry Freilech, ONP (253.428.3600 x2634 /fax 253.428.3614 /cpkonrad@usgs.gov) were session chairs. Proceedings and papers are available on the PSWQA webpage: psgb@engr.washington.edu.

The University of Washington published the proceedings of a two day workshop synthesizing Elwha research, education, and data management information and priority needs, including the nearshore. Proceedings are available thru the University of Washington. Contact: Scott Stolnack, University of Washington (sastol@u.washington.edu) / (206) 221-5406 or Stephanie Harrington, University of Washington (stephah@u.washington.edu).