



# HANDS ON THE LAND

A National Network of Field Classrooms Connecting Students, Teachers, and Parents to Their Public Lands and Waterways

## FEATURED SITE

At **Olympic National Park** you will find Pacific Ocean beaches, rain forest valleys, glacier-capped peaks and a stunning variety of plants and animals. Roads provide access to the outer edges of the park, but the heart of Olympic is wilderness; a primeval sanctuary for humans and wild creatures alike. The park offers a wealth of opportunities for teachers and students to begin their own discoveries of this unique place. Whether you're planning a park visit for your students, looking for lesson plans and resources, or hoping to have a ranger visit, we've got it.

Park partner [NatureBridge](#) offers a variety of residential environmental education and science learning opportunities at their Olympic National Park campus on Lake Crescent. Visit [www.nps.gov/olym](http://www.nps.gov/olym) for information.



Lower Elwha Dam removal on October 24, 2011.

## Demolishing Dams Building Student Stewards

The largest dam removal project in U.S. history is underway in Olympic National Park providing opportunities for students to engage in science inquiry and service learning. For 100 years the Elwha Dam and the Glines Canyon Dam blocked salmon returning to the Elwha River from reaching over 90% of their spawning grounds, greatly reducing the once prolific salmon runs. In mid-September 2011, contractors started the three-year process of simultaneously removing both dams in order to restore a free-flowing river.

Using a grant received from the National Park Foundation the park partnered with the North Olympic Skills Center to offer the Elwha Summer Field Course. Students measured sediment size, conducted water quality tests, counted juvenile salmon, designed an invasive weed pull, pulled hundreds of invasive plants, collected native seeds, worked at the park's native plant center, surveyed the coastline for dead seabirds, and learned from the numerous researchers and resource managers involved in the river restoration project. By completing the course students earned credit toward high school graduation and developed an appreciation for the complexity of Elwha River Restoration and an awareness of their role in protecting the natural world.

"Working at the native plant center really helped me put the Elwha Plant Revegetation Project into perspective. Some of the seeds that we collected and the plants that are grown here will be planted next to the mighty Elwha.... Eventually, there should be a beautiful, native, restored forest along the Elwha, that contributes to the Elwha Watershed ecosystem...and I've helped with this wonderful project."

2011 Elwha Summer Field Course Student

Dean Butterworth  
Outreach and Education Specialist  
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Students monitor Elwha River sediment.

## OLYMPIC PENINSULA HATCHERY PROVIDES LEARNING OPPORTUNITIES

Story by Lauren – Student writer  
North Olympic Peninsula Skills Center

Since the destruction of the Elwha Dams began in September, 2011, hundreds of thousands of juvenile fish have been placed in the new Lower Elwha Klallam Tribal hatchery ponds. Once the two Elwha dams are fully removed, which according to the National Park Service could take up to three years, the tribe will release as many as 3 million fish a year back into the river. Both the Tribe and the National Park Service who are heading up the \$327 million restoration project hope that the restoration will bring fish back into the river.



Only the lower five miles of the river has been available to spawning salmon since the first Elwha dam was built in 1913. The National Park Service has estimated salmon runs will reach 400,000 annually by the year 2039, which is much more than the 3,000 the river currently has each year.

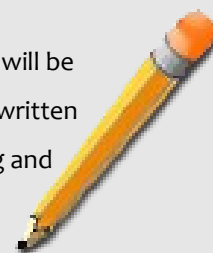
When Natural Resources 1 class toured the new hatchery, Larry Ward said that one of the long term goals of the hatchery is to put the hatchery out of business. This means that the natural population of salmonids will have been restored and that the hatchery will have done its job.

### CALLING ALL STUDENT WRITERS

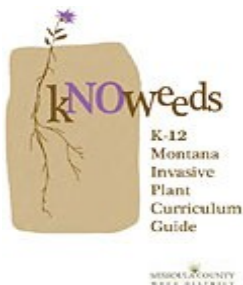
Hands on the Land will be accepting student-written articles for the blog and for our newsletter.

Learn more at:

[www.handsontheland.org/blog/submit](http://www.handsontheland.org/blog/submit)



## CURRICULUM HIGHLIGHTS



The kNOweeds K-12 Montana Invasive Plant Curriculum is designed to be a supplemental curriculum for teachers who want to integrate the topic of invasive weeds into their existing courses. This curriculum will provide teachers, educators, and weed professionals with an ecologically-based invasive weed curriculum that assists students in developing awareness, knowledge and skills that will result in responsible land stewardship in the state of Montana.

More information: [http://missoulaeduplace.org/weeds\\_curriculum.shtml](http://missoulaeduplace.org/weeds_curriculum.shtml)

## UPCOMING EVENTS



2012 NSTA National Conference, Indianapolis  
March 29-April 1, 2012

<http://www.nsta.org/conferences/2012ind/>

"At the Crossroads for Science Education"

Join teachers and scientists at the crossroads for science education during the NSTA 2012

Indianapolis National Conference on Science Education.

National Environmental Education Week  
April 15-21, 2012

<http://www.eeweek.org/register>

National Environmental Education Week (EE Week), the nation's largest environmental education event held each year the week before Earth Day, inspires environmental learning and stewardship among K-12 students.

For additional information, comments or questions, contact Hands on the Land, Ellen Reid,  
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