

CDFW Fish Academy - Teaching Kids to Be Good Environmental Stewards

BDR Interpretive Services Event took place on May 3, 2013



It is not every day that kids visit the Don Clausen Fish Hatchery at Warm Springs and learn about the salmon life cycle by actually playing the part of a salmon or one of the habitat elements that either help or hinder its journey. That's exactly what 48 students from Santa Rosa schools experienced at the *2013 CDFW Fish Academy*. The program taught students, through a series of interactive activities, how human activity affects salmonids and the aquatic environment and how people as caretakers can restore ecosystems. Four CDFW staff and six

volunteers with cooperating classrooms made the day a success!

Designed to teach students about conservation through interactive learning, *Fish Academy* is a science-based program of the CDFW Hatchery Education Program (HEP). "What makes this Academy unique," said David Moore, Interpretive Services Supervisor for Bay Delta Region, "is in giving students an opportunity to participate in active learning at the site of the hatchery and its environs." The teachers whose classes were invited to partake in the one-day pilot program had previously participated in the HEP classroom program at their own school site.

"The presentation was outstanding. The presenters were excellent. The students really enjoyed it and learned a lot."

3rd Grade Teacher

"In addition to the outdoor classroom provided by the Don Clausen Fish Hatchery," continued Moore, "the *Fish Academy* offered our interpretive services staff the opportunity to quantify what kids had learned in advance by use of the newly installed Smart Board at the Lake Sonoma Visitor Center. With the gathering of information about what concepts students knew in advance of the training as well as afterward, we determined that the percentage of student correct answers appearing in the 80th percentile or better actually doubled by virtue of event participation! The collection of this data is important because it will help us to streamline and focus future program efforts, and get the most bang for our buck!"

Following the first round of Smart Board questions, students broke into groups and engaged in a variety of learning activities. Some headed outdoors where they gained an understanding of salmon life cycles and adaptation by engaging in active lessons specially created to simulate the arduous life's journey of a salmon. Others went to indoor stations where they learned about water chemistry, conducting experiments to determine pH levels and the effects of pollutants on aquatic life.

"Kids learned that fish need clean water to survive," said Judy Rosales, Interpretive Scientific Aid. "If the pH is too high or too low, the viability of the habitat is compromised. By adding common household products to a universal indicator, students got to see firsthand how various 'pollutants' affect the water and the critters that live there."

Then, using a watershed diorama, students learned about direct connections that human activities have on aquatic habitats and their effects on our ecosystems. They learned how some elements enter the watershed, affect the waterways, and may eventually be carried out to the ocean.

After the morning activities kids were treated to a pilot tour of the demonstration stream restoration site. Guided by four NRVP volunteers the students learned how a simple, off-stream migration passage was transformed into a healthy, productive salmonid stream and how the various restoration techniques employed serve to protect fish and help them survive. Walking the stream bank culminated the day's activities and allowed students to make a concrete connection between the fish and the water resource, and to understand how human resource management activities are a necessary component of conservation and stewardship.



Julianne Lorenzen, Interpretive Scientific Aid, designed the Smart Board activity based on learning concepts embedded in *Fish Academy's* activities. Lorenzen leads the HEP classroom program and was responsible for coordinating the day's activities with teachers of the participating schools. She was central in coordination of the education content and team scheduling for the day's events.

Joining the Hatchery Education Program staff in bringing off a successful day were a variety of talented contributors including CDFW scientific aid / SCOE science specialist, Mike Roa; CDFW interpretive sci aid/current State Parks interpretive specialist Lisa Gurian; and brand new program volunteer Suzanna Mayo, who brought her organizational savvy and much-appreciated Spanish language speaking skills to the program.

Special thanks to wonderful assists from NRVP volunteers John Mellquist, Leroy Sims, Lary Behtel, and Mark Lille. We couldn't have done it without them!

The Fish Academy site, of course, is hosted by the U S Army Corps of Engineers who allowed us to use the facility, its grounds, the classroom and the Smart Board.

