NRCS Natural Resources Conservation Service
Washington

CONSERVATION Showcase

Classrooms become hatcheries as students raise salmon to learn about ecosystem

Students across Washington are receiving the education of a salmon's lifetime by raising them in their classrooms for release into local rivers.

After caring for, learning about, monitoring, and naming the salmon fry, it all comes down to "Release Day."

As the salmon grow, children learn about their lifecycle and habitat. They also learn the importance of a balanced ecosystem. This "hands-on" learning style is the centerpiece of the program "Salmon in the Classroom," started by the Washington Department of Fish and Wildlife. Local conservation districts help bring this program to life for area schools.

"It started out as an opportunity to deliver conservation education to the schools," says Rachel Little, Education and Outreach Coordinator with the Benton Conservation District. "The first year we had 350 students from six to seven classes involved. Now, we have over 1100 students participating from 20 schools in a tri-county area," she says.

One cup at a time the salmon fry are relocated to their new home the Yakima River.

USDA's Natural Resources Conservation Service (NRCS) is one of the partners that has made "Salmon in the Classroom" a success for the community since 2000, when the Benton Conservation District started with the program. The conservation district supplies the hatchery equipment necessary for salmon and obtains permits needed to raise and release them. NRCS provides conservation education and technical assistance to the students, teachers, and other partners on how to raise the salmon.

Continued page 2

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says Rachel Little

"NRCS assists Benton Conservation District on whatever needs to get done," says Barbara Bolick, NRCS Resource Conservationist. "We help pick-up eggs, deliver tanks and eggs to schools, along with setting up, running, and tearing down "Salmon Summit" on release day" she says.

The program begins each November, as teachers and students set up fish tanks and start chilling the water to 46-50 degrees Fahrenheit. Classrooms then add beneficial bacteria along with a filtering system to help start the nitrogen cycle, which stabilizes the water quality.

Students check the turbidity of the water by looking down through a sample. Learning the importance of clean water is an essential step in understanding the water cycle.

After the tanks are ready, students receive 500 salmon eggs from the Yakama Indian Nation fish hatchery. "Students carefully place the eggs in the gravel at the bottom of the tanks," says Mrs. Little. "Students then begin to monitor the development of the eggs and predict the hatch date based on when eggs are fertilized and the temperature of the water," she says.

According to Mrs. Little, students care for "their" salmon while learning about life histories and habitat requirements – documenting the developmental changes as the eggs hatch into alevins and become fry. "By becoming salmon stewards, these students are more aware of local waterways and more conscious and knowledgeable about water quality issues," she says.
As the alevins lose their yolk sacs and start swimming, they begin to search for food. "That's when the students feed them high protein food in small amounts,' says Mrs. Little.

Students learn that it takes many scales to cover the salmon sculpture, and that everyone must do their part for the environment.

As spring arrives, the salmon have grown and are ready for release into nearby rivers. Students prepare their salmon fry to be transported to the Yakima River were students will gather at "Salmon Summit" to release their salmon fry into the river. "Salmon Summit serves as a forum for natural resource experts to share their knowledge about salmon, water, and the environment with students," says Mrs. Little.

At the river's edge students line up to receive a small cup of a salmon fry from their class fish tank. One-by-one each student sets their salmon free. In a matter of hours, thousands of additional salmon are swimming in the Yakima River.

Some of the salmon are fitted with a Passive Integrated Transponder (PIT) tag to monitor their progress downstream.

Continued page 3

Hawks are among the predators salmon face in their life cycle. In the program, students learn the importance of a balanced ecosystem.

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According to Mrs. Little, almost 300 fish were fitted with the PIT tags, which are about the size of a grain of wild rice. "Already eight of the fish have been detected, swimming past McNary and John Day Dams," says Mrs. Little. "We look forward to seeing their return to the Yakima River in 2010."

The program has become a resounding success with schools, teachers, and students.

"I think teachers are talking with each other about the program," Mrs. Little says. "We now have a waiting list for schools to get a tank," she says.

"Salmon in the Classroom shows how powerful hands-on, realistic learning activities really are," says Deborah Madison teacher with the gifted program at Lewis & Clark Elementary. "I am impressed by what they (students) actually learned," she says.

Benton Conservation District receives hundreds of letters each year from students, parents, teachers, and program partners, praising the "Salmon in the Classroom" program.

"Our whole school was involved in watching the salmon change from eyed stage of the egg to the fry we released into the Yakima River," says student Whitney Salsbury. "It was an experience we will remember for the rest of our lives," she says.

Inside the giant salmon tent students get a sense of what Jonah felt like inside the belly of a whale.

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