



# River of Power

*Wenatchee kids learn about the balance  
between fish and generation*

By Rick Steigmeyer



**S**arah Robertson's no fool. When Chelan County PUD engineer Jim White told Robertson and her fourth-grade classmates they could play in the solar-powered fountain he built at Rocky Reach Dam, she balked.

"I thought when you mixed electricity and water you could get electrocuted," said the 9-year-old Columbia Elementary School student.

White, senior engineer for Chelan PUD's SNAP alternative power program, congratulated Robertson for making a good point. One that should always be remembered. The single solar panel drew enough power from the sun to run a simple submersible pump even on a cloudy day, but it wasn't enough electricity to do anyone harm, he assured the students.

"How does the sun make things work?" asked Tomás Benjume, who was already squirting water from the fountain.

White explained how solar cells are made of silicon that absorbs sunlight and transfers that energy created as heat through wires that connect to the pump. The photo cell on top of the go-cart he showed off next transfers energy from the sun to recharge the cart's battery. It has never been plugged in nor used a drop of fuel in the three years he's been giving fourth-graders rides, White said.

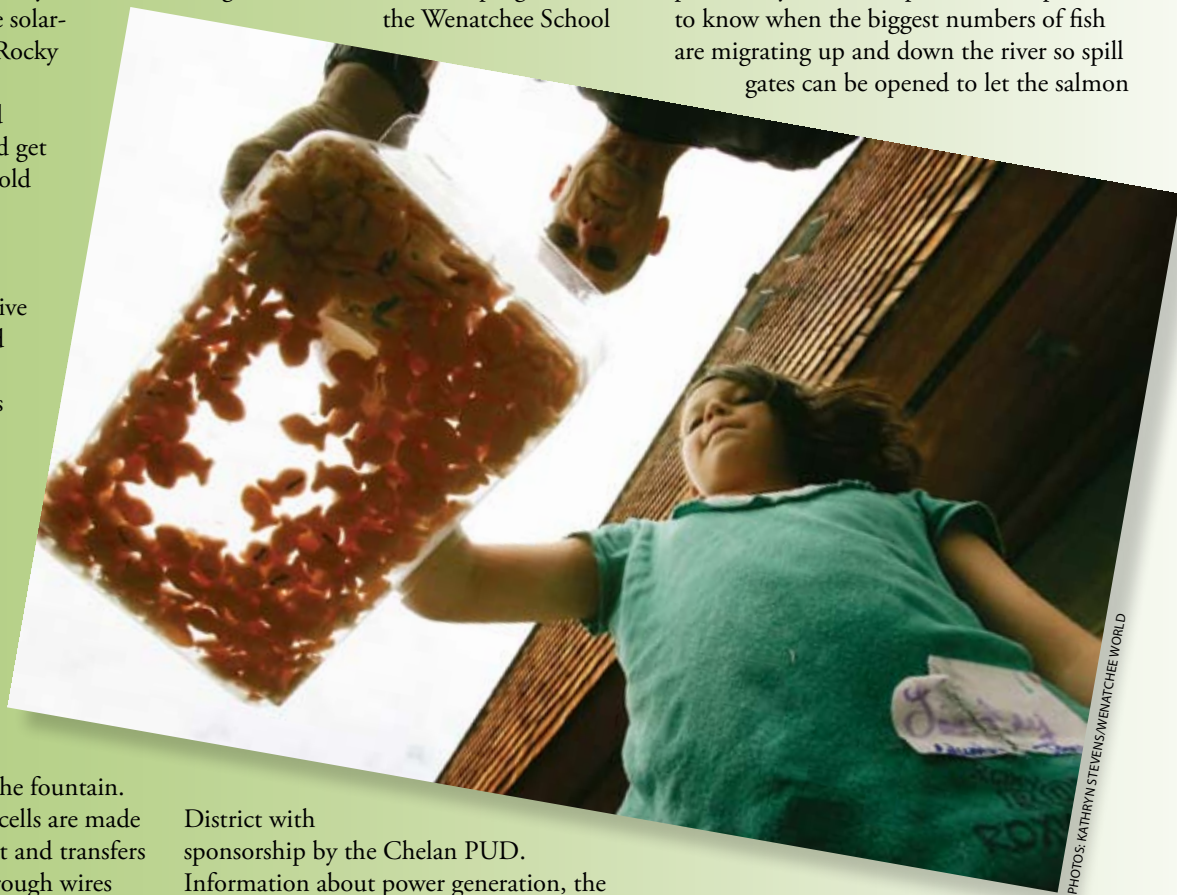
There were lots of heady questions and well-reasoned answers at the River of Power program this spring at Rocky Reach Dam.

More than 700 fourth-graders from a dozen elementary schools in Wenatchee, Entiat, Chelan and Manson took part in the program that offers hands-on workshops about the science of producing hydro power with the least possible impact to Columbia River salmon migration.

The students rotated between 10 stations in the park overlooking the dam and in the

dam's indoor science center.

The educational program is part of the curriculum at each of the seven Wenatchee elementary schools, according to Susan Ballinger, who coordinates the program for the Wenatchee School



PHOTOS: KATHRYN STEVENS/WENATCHEE WORLD

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District with sponsorship by the Chelan PUD. Information about power generation, the Columbia River and migrating salmon is integrated into math and social studies classes prior to the visit to the dam. About 175 kids participate each day of the four-day program.

"Hopefully, they come here with pre-knowledge and will say, 'Aha!' when they see what they learned in class put into action," Ballinger said.

She recruited substitute teachers, PUD employees and volunteers as instructors for each of the 10 stations.

This day, students learned about physics by pouring containers

of water, about fish species by drawing them with chalk and about Columbia River history by listening to a storyteller.

Substitute teacher Bob Bullis used Goldfish crackers to teach salmon math. He taught students how biologists estimate

the number of salmon coming through the dam at a given time. Salmon are diverted to fish ladders, chutes and through flood gates so they don't pass through the turbines that produce hydroelectric power. It's important to know when the biggest numbers of fish are migrating up and down the river so spill gates can be opened to let the salmon

through without damage, he said.

Lindsay Ortiz used a paper cup to take a sample of Goldfish crackers and pour them on a table where Lizzy Coonfield could count the total number of fish in the sample, as well as fish marked as captured and recaptured. The rest of the students from Columbia Elementary then used a simple math equation to estimate the number of fish in the entire pool.

"This is fun," Coonfield, 10, said after the workshop. When asked what it was that she learned she wasn't so sure.

"It can be a tough concept to grasp," Bullis said about his talk on fish tagging and estimating. "I hope they got the idea that there's a real line between generating power and saving the fish. It's a real dilemma." **C**

*Rick Steigmeyer is a reporter for The Wenatchee World. His story on the Chelan PUD's River of Power educational program first appeared in The Wenatchee World on May 30, 2008. Reprinted with permission.*