Oregon Water Coalition
Member Newsletter

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New Oregon Water Coalition website receives November launch

Oregon Water Coalition's new web site launches in November and promises to deliver additional and more complete content to our members or anyone interested in the issues important to us.

The redesigned site brings all new functionality and a totally revamped look and feel to our internet home.

Improvements and upgrades include sliding jQuery-based presentation panels, a new integrated newsblog, separate blog and gallery presentations, lightbox viewing effects, semantic menus and more.

Unlike our monthly newsletter, occasionally edited for content, internet coverage will be unlimited by space and publishing deadlines. This will result in expanded and more timely coverage.

Our goal is to keep you informed of all the latest issues and developments in water, irrigation and agriculture throughout the Northwest.

Although our old address still works, we've shortened it to make it easier to remember. Now find us at:

oregonwater.org

Take a look this month. We hope you like what you see.

Oregon Water Coalition

Groups file suit, challenge water quality permit for NW's sole nuclear plant

Clean water groups have filed a lawsuit asking Washington's Thurston County Superior Court to overturn a state decision to renew a water quality permit for the Columbia River Generating Station, the Pacific Northwest's only operating commercial nuclear reactor.

In their petition the groups say the permit, which was issued Sept. 30 and effective Nov. 1, allows the discharge of waste water that is in violation of state water quality regulations and a water intake operation that poses direct harm to fish species such as salmon, including stocks that are listed under the Endangered Species Act.

They ask that the state court declare invalid the Washington Energy Facility Site Evaluation Council's recent decision to approve a federal Clean Water Act National Pollutant Discharge Elimination System permit for Energy Northwest's Columbia River Generating Station.

Such permits are issued for a five-year time period. The approval renewed a permit last considered in 2006.

The new permit does not comply with applicable requirements of state and federal law, the petitioners say, and thus should be vacated by the court. The conservation groups ask that the permit be remanded to the state agency for needed modifications.

The Columbia Generating Station is a 1,170-megawatt boiling water reactor that uses nuclear fission to produce heat, according to a fact sheet generated as part of the WEFSEC consideration process.

It produces eight to nine billion kilowatt-hours of electricity annually, representing 4 percent of the power consumed in the Northwest.

The facility is located on the Columbia River about 12 miles upstream (north) from Richland, Wash., and 351 miles from the river mouth.

The petitioners say the permit approval ignores expert advice from federal government scientists on potentially lethal impacts to threatened salmon.

Northwest Environmental Defense Center, Northwest Environmental Advocates, and Columbia Riverkeeper filed the lawsuit against the EFSEC. The permit also allows the nuclear plant to operate a cooling water intake structure.

The groups say EFSEC issued the permit over strong objections from fisheries experts at the National Marine Fisheries Service. The lawsuit also alleges that EFSEC's permit allows water pollution at levels that violate state

standards designed to protect public health, fish, and other aquatic species.

"Experts from the National Marine Fisheries Service sounded the alarm about how this facility may be killing and harming endangered salmon," said Marla Nelson, staff attorney for the Northwest Environmental Defense Center. "EFSEC's blatant disregard for this input demands judicial oversight."

The Columbia Generating Station draws 20 million gallons of water from the Columbia River every day to cool the nuclear reactor, according to the conservation groups.

In a series of letters, the National Marine Fisheries Service urged state and federal regulators to require modern water intake structures to protect threatened salmon from death or injury.

In Feb. 28 comments submitted regarding the proposed permit, NMFS said that it disagreed with the EFSEC's determination that cooling water intake screens represent the best available technology to minimize adverse environment effects.

"NMFS has extensive experience in fish exclusion and passage systems, has evaluated the CGS intake screen designs and supporting studies and has determined that they are notably out-of-date and would likely harm some of the juvenile salmon that encounter them," the NMFS letter says.

The EFSEC and Energy Northwest deemed the existing screens adequate.

In response to comments submitted by NMFS, Energy Northwest provided expert opinion supporting the existing intakes as best technology available (Energy Northwest, 2013)," according to a fact sheet prepared by EFSEC explaining its Sept. 30 decision.

"EFSEC must consider both opinions in the context of its authorities under the CWA and federal rule for 'minimizing adverse environmental impact.'

"No adverse environmental impact has been demonstrated…. EFSEC believes it has appropriately considered the potential risks identified by NMFS and EPA in the context of the BPJ [best professional judgement] analysis and its authorities under the CWA.

"EFSEC's best professional judgment determination is that the existing cooling water system intakes location, design, construction, and capacity represent the best technology available for minimizing adverse environmental impact and comply" with the CWA, the fact sheet says.

The petitioners say that both EFSEC and federal Environmental Protection Agency have refused to follow NMFS' advice.

Energy Northwest has not been required to study the impacts of the intake structures or to modernize the structures since they were designed in the late 1970s, according to a press release from the groups announcing the new lawsuit.

"This nuclear reactor is one of many sources of toxic chemicals that are contaminating the fish and wildlife of the Columbia River, including heavy metals from Hanford operations," said Nina Bell, executive director of Northwest Environmental Advocates.

"State and federal agencies give a lot of lip service to protecting Columbia River water quality and species but when it comes to actually restricting the polluters, these same agencies are nowhere to be found," she said.

The Hanford Reach supports some of the most productive spawning areas in the Northwest, including the largest remaining stock of wild fall chinook salmon in the Columbia River.

The fall chinook salmon that spawn and rear throughout the Hanford Reach, where the generating plant is located, are caught by commercial, recreational, and tribal fishermen all along the Columbia River and the North Pacific Ocean.

"People regularly eat salmon and other fish caught just offshore and downstream of Energy Northwest's facility," said Dan Serres, conservation director for Columbia Riverkeeper.

"This is why it is imperative that the state of Washington comply with the law and protect our region's strong fishing heritage."

The lawsuit, filed in Thurston County Superior Court, asks the court to invalidate Energy Northwest's water pollution permit. The conservation groups say that EFSEC failed to comply with multiple requirements of the Clean Water Act.

Columbia Basin Bulletin

Historic Coho season ends in Idaho, record 18,000 cross Lower Granite Dam

The historic, first-time-ever season for coho salmon in Idaho will end for the year Sunday, Nov. 16 in the Clearwater River basin.

The Coho season opened Oct. 17 on the Clearwater mainstem and Middle Fork Clearwater River from the mouth upstream to Clear Creek, and on the North Fork Clearwater River downstream from Dworshak Dam. The Clearwater, in west-central Idaho, flows into the Snake River at Lewiston-Clarkston on the Idaho-Washington border.

As of Nov. 2, anglers had kept 62 and released seven coho, for a total of 69 fish caught.

This new fishery resulted from the work of the Nez Perce Tribe which initiated a coho salmon hatchery program to restore coho to the Clearwater River basin.

That program has resulted in growing returns including this year's run, which is more than triple the previous high.

Through Nov. 10, a total of 17,931 coho salmon had been counted passing over Lower Granite Dam's fish ladder this year. The previous high count at the dam, which began operations in 1975, was 5,060 in 2011, according to data posted online by the Fish Passage Center.

That count is six times the 10-year average through Nov. 10, which is only 2,829. Before reaching Lower Granite on the lower Snake the fish must hurdle seven other hydro projects on the lower Columbia and Snake. Their turnoff into the Clearwater is near the head of Lower Granite's reservoir.

Nov. 17 marks the end of Idaho's fall chinook harvest season. The season ended Oct. 31 in the Clearwater River, a short stretch of the lower Salmon River and in the Snake River, except the reach from Cliff Mountain Rapids to Hells Canyon Dam, which closes November 17.

Fall chinook too have been plentiful, with 60,166 adult fish passing over Lower Granite this year through Monday. The 10-year average count through June 10 is 23,312. This year's total count is already a record. The previous high was 56,565 in 2013

As of Nov. 2, anglers had caught and kept 183 marked adults and 66 jack fall chinook and caught and released 561 unmarked fish in the lower Clearwater River. They caught and kept 604 adults and 382 jacks and caught and released 3,396 unmarked fish in the Snake River.

This year's steelhead return is slightly below the recent 10-year average, 157,614 through Monday as compared to 166,861. The portion of the run judged to be "wild" totals 49,891 through Nov. 10, which is ahead of the 10-year average through Nov. 10, which is 41,543. The wild tally is made up fish without a clipped adipose fin. Most fish released from hatcheries as juveniles have a clipped fin.

Columbia Basin Bulletin

Study highlights division between scientists, farmers over climate change

Crop producers and scientists hold deeply different views on climate change and its possible causes, a study by Purdue and Iowa State universities shows.

Associate professor of natural resource social science Linda Prokopy and fellow researchers surveyed 6,795 people in the agricultural sector in 2011-2012 to determine their beliefs about climate change and whether variation in the climate is triggered by human activities, natural causes or an equal combination of both.

More than 90 percent of the scientists and climatologists surveyed said they believed climate change was occurring, with more than 50 percent attributing climate change primarily to human activities.

In contrast, 66 percent of corn producers surveyed said they believed climate change was occurring, with 8 percent pinpointing human activities as the main cause. A quarter of producers said they believed climate change was caused mostly by natural shifts in the environment, and 31 percent said there was not enough evidence to determine whether climate change was happening or not.

The survey results highlight the division between scientists and farmers over climate change and the challenges in communicating climate data and trends in non-polarizing ways, Prokopy said.

"Whenever climate change gets introduced, the conversation tends to turn political," she said. "Scientists and climatologists are saying climate change is happening, and

agricultural commodity groups and farmers are saying they don't believe that. Our research suggests that this disparity in beliefs may cause agricultural stakeholders to respond to climate information very differently."

Climate change presents both potential gains and threats to U.S. agriculture. Warmer temperatures could extend the growing season in northern latitudes, and an increase in atmospheric carbon dioxide could improve the water use efficiency of some crops. But increases in weather variability and extreme weather events could lower crop yields.

Growers can manage the potential risks linked to extreme rain events and soil degradation by using adaptive strategies such as planting cover crops, using no-till techniques, increasing the biodiversity of grasses and forage and extending crop rotations, Prokopy said.

These strategies contribute to soil health and water quality and also help capture carbon dioxide, reducing the amount of greenhouse gases released into the atmosphere by agricultural systems.

Currently, agriculture accounts for 10-12 percent of the total human-caused greenhouse gas emissions globally.

Focusing on the causes of climate change, however, is likely to polarize the agricultural community and lead to inaction, said study co-author Lois Wright Morton, professor of sociology at Iowa State University. To foster productive dialogue, she said, scientists and climatologists need to "start from the farmer's perspective."

"Farmers are problem solvers," she said. "A majority of farmers view excess water on their land and variable weather as problems and are willing to adapt their practices to protect their farm operation. Initiating conversations about adaptive management is more effective than talking about the causes of climate change." The gap in views on climate change is caused in part by how individuals combine scientific facts with their own personal values, Morton said.

"Differences in beliefs are related to a variety of factors, such as personal experiences, cultural and social influences, and perceptions of risk and vulnerability," she said.

Prokopy advises scientists to "recognize that their worldviews may be different than those of farmers. Moderating communication of climate information based on that realization is key."

Climate science could also be better communicated by using intermediaries such as Extension educators and agricultural advisers to translate data in ways that are most relevant to growers, she said.

"Farmers are by necessity very focused on short-term weather, in-season decisions and managing immediate risks," she said. "They're thinking about when they can get in their field to do what they need to do, rather than looking 20 to 30 years down the road."

The study was published in the Bulletin of the American Meteorological Society.

The surveys were conducted as part of two large-scale projects, Useful to Usable and the Corn-based Cropping Systems Coordinated Agricultural Project, which aim to help farmers in the Midwest adapt to climate change. The projects were funded by the U.S. Department of Agriculture's National Institute of Food and Agriculture.

Columbia Basin Bulletin

Whooshh system known as 'Salmon Cannon' gets Popular Science award

Bellevue, Washington-based Whooshh Innovations has announced that its proprietary Whooshh Fish Transport System -- also known as the Salmon Cannon -- has won the prestigious 'Best of What's New Award' from Popular Science magazine.

Whooshh joins 100 other winners that were chosen from thousands of entrants, according to the magazine.

The award is the magazine's top honor, and each of the winners represents a revolution in its field, according to Cliff Ransom, editor-in-chief of Popular Science.

"For 27 years, Popular Science has honored the innovations that surprise and amaze us – those that make a positive impact on our world today and challenge our view of what's possible in the future, Ransom said.

Whooshh Innovations CEO Vincent Bryan III said the entire Whooshh team is "delighted and honored" to be among this year's big winners. He credited his entire development team with turning a great idea into "an elegant, simple, and sustainable solution for fish passage."

"We thank Popular Science for recognizing what both the

private and the public sectors are beginning to realize: that the Whooshh Fish Transport System is a viable and proven solution to many challenges surrounding the movement of fish."

The system is intended to move fish at the processing plant, farm site, hatchery, or dam through its patented transport tubes that use pressure differentials to "whoosh" the fish from one place to another --gently, quickly, efficiently and cost-effectively, Bryan says.

After nearly five years of investment in research, development, and testing, Bryan said, "We are now at the most exciting part of our journey that of launching a truly innovative product that has already begun to positively impact the major challenges of the century: food, energy, water, and the environment. Now both private interests and government agencies charged with delivering on these often competing interests and demands have a win-win solution, with a better, more flexible, and cost effective system that can be deployed quickly and economically."

Bryan cited three recent and significant successes for the Whooshh Fish Transport System:

- This past summer, the Washington State Department of Fish and Wildlife, using a 120-foot-long system, safely transported nearly 100 tons of live migratory hatchery-bound salmon from the Washougal River;

  The operation of the pressurized salmon cannon system involved at a Washougal River weir made it possible for WDFW staff to move hatchery and wild fall chinook salmon from the weir up the riverbank with minimal handling, according to Whooshh Innovations CEO, Vince Bryan III. Fish travel via the proprietary "Whooshh tube," a distance of 120 linear feet in approximately five seconds, and then exit into awaiting tanker trucks destined for the hatchery.

  Eric Kinne, WDFW Hatchery Reform coordinator, said the Whooshh fish transport tubes eliminate several steps for hatchery workers when moving fish from the center of the river to the waiting tanker truck, a process that can result in high stress to the fish.

  Bryan added that the Washougal installation is "a big step toward having fully volitional Whooshh systems installed in the future," enabling more fish to reach spawning grounds and hatcheries cost effectively.

- The Pacific Northwest National Laboratory, in an independent study funded by the U.S. Department of Energy, has just tested both a 40-foot and 250-foot Whooshh Fish Transport System, comparing it to the traditional fish "trap and haul" process associated with moving fish past barriers such as dams, and that are located in or on the banks of the river systems where fish ladders do not exist or do not work. Such study is necessary for the transport of ESA fish listed under the Endangered Species Act;

- At a major salmon processing plant in Norway, up to 25 tons of premium whole salmon are being transported through a 500-foot Whooshh system each day and new installations are being proposed in other major fish producing areas such as Alaska, Chile, Australia, and Vietnam.

For more information about the system and the company go to **whooshh.com**.

Columbia Basin Bulletin

Soil and water conservation districts take root in Oregon

Since the 1940s, Oregon's soil and water conservation districts have helped protect the state's natural resources through a variety of effective on-the-ground projects and programs that continue to stand the test of time.

Looking to the future, the tasks are large, the work has expanded, and the effort now relies on solid partnerships. Oregon voters will have a key role to play as district director positions will once again be on the November ballot.

"Successful on-the-ground projects made possible by funding and direction from the districts prove to all Oregon landowners that conservation is good business," says Oregon Department of Agriculture Director Katy Coba. "There is a high public expectation for clean water, environmental enhancement, and watershed protection. Districts are conservation leaders in each of their communities."

ODA oversees the state's 45 soil and water conservation districts (SWCDs).

"Districts are an essential component of the state's effort to address conservation needs, whether it involves soil, water, or fish and wildlife habitat," says Ray Jaindl, di-

rector of ODA's Natural Resource Programs. "They have played that role for nearly 75 years and relish the opportunity to provide assistance to landowners."

Locally elected SWCD directors and staff implement natural resource conservation programs across the state, providing technical assistance and finding financial aid to implement best practices to private landowners.

SWCDs have led the way in developing much of the on-farm infrastructure for Oregon's irrigated agriculture, and work with private landowners, state and federal agencies, and interested organizations to protect habitats for threatened and endangered species. Through it all, SWCDs seek to protect and enhance Oregon's natural resources while maintaining local economies.

"Districts are always looking for opportunities to protect the soil, protect the water, and provide habitat while maintaining the economic viability of Oregon agriculture," says Jaindl.

The Oklahoma dust bowl of the 1930s may not have produced agricultural crops, but it did spawn a national effort to dedicate resources for conservation. In 1937, President Roosevelt asked all state governors to promote legislation to form soil conservation districts within their states.

These districts were to be local and to serve as liaisons between federal agencies and private landowners. The Oregon Legislature did its part in passing enabling legislation and on February 10, 1940, the South Tillamook Soil Conservation District was established.

The 45 state approved soil and water conservation districts, which cover all parts of Oregon, include 289 elected directors, approximately 200 employees, and many hundreds of volunteers working to implement the latest science and technology, mixed with common sense, to protect and enhance Oregon's natural resource legacy.

From the beginning, SWCDs in Oregon have helped landowners design and build water retention structures, and improve farm irrigation systems to increase water use efficiency.

Districts help farmers and ranchers implement no-till farming practices to reduce soil loss from wind and water. They also help landowners plant and maintain grass waterways to collect and store any soil that moves from the fields before it can get into Oregon's streams. SWCDs often help landowners with grant proposals which, in turn, pay for the design, installation, and materials used for a conservation project. Materials can include fencing, piping, shrubs, trees, or seeds. In other cases, SWCD funds are used for outreach and education– paying for workshops that teach landowners a variety of ways to take care of the land and water that sustains agriculture.

While it appears districts are mainly focused on rural landowners, SWCDs play an important role in urban areas as well. Districts in populous Washington, Clackamas, and Multnomah counties have provided a number of programs and projects that may actually reach a greater number of people than those in rural counties.

There are a number of highly publicized political races and ballot measures in this November's general election. SWCDs rarely get the spotlight, but every Oregon voter has a chance to help shape their local district's future.

Once again, names will appear on the ballot as districts attempt to fill board positions. Many times, voters opt to leave that portion of the ballot blank, largely because they are not familiar with SWCDs or the candidates.

"Soil and water conservation district directors have been on the ballot for many, many years," says John Byers, manager of ODA's SWCD Program. "It's important to note that the general public has a say in how conservation is conducted in their community. I encourage everyone to look at the issues and pay attention to the candidates running for a district position."

Through the support of voters since 1998, Oregon is one of the few states that provides base funding for some soil and water conservation districts and watershed councils to lead conservation work in their communities.

This month, the annual meeting of the Oregon Association of Conservation Districts (OACD) will again meet jointly with the Network of Watershed Councils (NOWC) to continue looking for partnership opportunities.

Oregon's watershed councils only have about a quarter of the history of SWCDs, but share the role of improving watershed conditions in their local area. Both form the foundation for voluntary conservation work at the local level.

Oregonians who live in the city and those who live in rural parts of the state are all touched in some way by the work of SWCDs. "There are more than 3,000 counties in the United States and just about every one of them has a soil and water conservation district," says Byers.

Each district has a success story to tell. Projects aren't always visible to the public, but the list is growing as landowners take care of the land and water that takes care of Oregon agriculture and citizens of the state.

For more information, contact John Byers at (503) 986-4718 or your local SWCD.

Oregon Department of Agriculture

NOAA Fisheries: More Salmon disappearing, Sea Lions increasing

If the circumstantial evidence bears out, adult salmon returning from the ocean to the Columbia River Basin are being killed by seals and sea lions between the estuary and Bonneville Dam in alarming numbers, according to research by NOAA Fisheries.

The latest results, still considered preliminary, of research that began in 2010 show a steady increase in fish mortality over a five-year period that may be attributable to seals and sea lions.

Adjusted for other mortality factors including harvest, the effects of sampling gear on the fish captured for research, and detection efficiency at Bonneville Dam, 2014 average spring Chinook salmon survival was just 55 percent, down from 69 percent in 2013 and 82 percent in 2012. If the 2014 estimate is representative of the run at large, this means approximately 45 percent of the 2014 spring Chinook run died somewhere between the mouth of the river and Bonneville Dam.

"Even I have a hard time believing those numbers, but at least through 2013, estimates of fish mortality do fall within theoretical estimates of predation," lead researcher Dr. Michelle Wargo-Rub of the Seattle-based Northwest Fisheries Science Center told the Council's Fish and Wildlife Committee at its November 4 meeting.

She said fish mortality, and the number of sea lions in the estuary, have increased dramatically in recent years. NOAA research focuses on spring Chinook because that is the time of year when the sea lion population is largest in the river. Mostly males, the sea lions follow the spring-returning fish between March and May. Most of the sea lions then go to breeding grounds off southern California in the summer. Dr. Wargo-Rub and her research team catch and tag salmon in the estuary near Astoria. More than 2,200 salmon have been tagged since the research project began, and of those about 68 percent were determined by genetic testing to be destined for the river and tributaries above Bonneville.

Survival varies over the course of the run, Dr. Wargo-Rub said. It appears that a higher proportion of early-migrating fish die before reaching Bonneville Dam than fish that migrate later in the spring. Early returning fish also take longer to reach the dam and so are exposed to potential predation for a longer time, she said.

Committee Chair Phil Rockefeller, a Washington member of the Council, said that even if the 2014 numbers are adjusted, "the trend is such that we have a growing predation problem." He pointed out that the Council's Columbia River Basin Fish and Wildlife Program calls on federal agencies to use their authorities to reduce predation losses caused by seals and sea lions.

Committee member Bill Booth of Idaho said he found the NOAA research "quite disturbing," adding, "if predation is really 30-40 percent of the spring run over the last couple of years, and the region is directing more than half a billion dollars a year to fish and wildlife recovery, and nearly half of the spring run is being consumed by seals and sea lions, then we definitely have a problem."

Northwest Power & Conservation Council

Who would you like to hear speak at this year's Water Conference?

The Oregon Water Coalition would like to hear from you when it comes to speakers for our next Annual Membership Meeting and Water Conference in Hermiston.

Who would you like to speak? Please share your ideas as we make preparations for the 2015 winter event at the Hermiston Conference Center. We greatly appreciate all of your ideas and are excited to hear from you. Who knows, your speaker suggestion might end up being a perfect fit at this year's conference.

Email your suggestions to **speakers@oregonwater.org** and make your plans to join us on Tuesday, January 27 for full informative sessions, presentations and awards, and a luncheon event.

2015 Annual Meeting and Water Conference
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