# Oregon Water Coalition
## Member Newsletter


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## Oregon Department of Agriculture: Turning it around in the Tillamook

Last November, on a typical grey and damp day along the northern Oregon Coast, a small boat made its way up the Wilson River- one of five rivers that drain into Tillamook Bay from an intensive agricultural area. Among the four people on the boat was Oregon Department of Agriculture Assistant Director Lauren Henderson, who hoped that he and his son could land a steelhead or Chinook salmon.

"Our fishing guide was very experienced on that river and knew it well," recalls Henderson. "When he found out I was from ODA, he was quick to tell me how much better things were on the Wilson. He said the river was much cleaner and that the surrounding dairies had done a great job of making improvements."

What a difference a decade or two makes. In the past, it was not uncommon for the guide to see spray applications of liquid animal waste on fields abutting the river on rainy days. Runoff would carry the manure right into the river, which partly accounted for high bacterial counts that violated clean water standards. But the Tillamook area, with its well-known dairies and scenic bay, has been cleaning up its act.

A unique but powerful partnership that includes private landowners, local organizations, and public agencies is making a measurable difference, backing up the fishing guide's anecdotal evidence with real data. The Tillamook may end up being a model for other Oregon watersheds that have water quality limited streams.

***Recognizing problems, discovering solutions***

People in Tillamook are fond of saying that their home is a "land of trees, cheese, and ocean breeze." It's an area of major dairy production as part of a watershed that includes fishing and other recreational opportunities as well as commercial oyster production in the bay. Twenty years ago, it was generally acknowledged that water quality in the five rivers was impaired to some degree.

"Fingers were pointed at the dairies," says Mitch Cummings of USDA's Natural Resources Conservation Service (NRCS). "Fecal coliform could have been coming from several sources including municipal systems, failed septic tanks, and wildlife. But there was no doubt that livestock was also a contributor."

Initially, a great deal of work was done by NRCS, the Tillamook County Soil and Water Conservation District, and other agencies to help dairies store manure so that it could be applied as a fertilizer to pastures at the proper times and rates. The first liquid manure tanks and dry manure storage buildings were installed 30 years ago, but it was a long, slow climb for the industry until several factors converged to bring about more rapid improvement.

In the late 1990s, the Oregon Department of Environmental Quality (DEQ) added more than eight miles of the lower Wilson River to the state's list of impaired waters under the Clean Water Act. The Wilson is protected for what is called recreational contact use.

"When someone is fishing, boating, or swimming, our standard is set at a level low enough that people won't get sick through contact with the water," says DEQ's York Johnson.

A collection of public and private interests began to find solutions. Combining voluntary efforts and regulation started making a difference in water quality, but it didn't happen overnight.

In 1999, what is now known as the Tillamook Estuaries Partnership began working with other entities to implement a plan filled with recommended actions that could help improve water quality. Other partners chimed in, including ODA, DEQ, the Oregon Watershed Enhancement Board, NRCS, Oregon State University, the Tillamook County SWCD, and the cooperative that represents the dairy farmers in the area.

"In the 1980s, water quality was limiting beneficial uses in the watershed," says Mark Wustenberg of the Tillamook County Creamery Association, makers of well-known Tillamook Cheese products. "For example, water quality was significantly impacting the local shellfish industry. Today, more area is approved for shellfish production and the frequency of closures has been reduced."

The state's Confined Animal Feeding Operation Program (CAFO) was well underway at this time and required annual inspections and an animal waste management plan on permitted facilities. Before regulations were put in place, dairies didn't have a lot of manure storage.

"They may have had up to 10 days of storage, but when it got full, the farmers had few options but to apply the manure to the land," says Wym Matthews, manager of ODA's CAFO Program. "Then OSU extension and the Oregon Dairy Farmers Association (ODFA) started providing outreach and education. Producers learned that if they put in manure tanks, stored the animal waste, and avoided putting it out during the wet season, there would be fewer runoff-driven bacteria events in the nearby rivers."

Technical assistance and funding from participating agencies provided a shot-in-the-arm for dairy producers who were beginning to understand the role they could play in water quality improvement. Adequate storage of manure was the first step. Properly managing that waste as a beneficial resource was next.

ODA's water quality program also worked to adopt a plan and regulations in the area to deal with water quality concerns from erosion, riparian areas, and other agricultural sources. As part of this effort, Tillamook County SWCD received funding from ODA to help landowners with water quality protection projects.

Between 2002 and 2007, landowners-including dairy farmers-implemented a number of best management practices in the lower Wilson River watershed. With the help of various agencies, landowners completed 20 riparian enhancement projects that included planting, fencing, and invasive species removal. Streambanks were stabilized, cows were kept away from riparian areas.

"I can't think of a single dairy in Tillamook that hasn't done something to address its animal waste handling over the past several years or make other improvements," says the NRCS's Cummings. "Whether it was a storage tank they built on their own or it was participating in some other program, most people made an effort to improve water quality on their farm and in their community." And the results speak for themselves.

***Dissecting the data***

For more than a decade, water quality monitoring has been routine on all five rivers-the Wilson, the Kilchis, the Miami, the Trask, and the Tillamook. But all the sampling in the world does no good without proper analysis. DEQ's York Johnson has closely examined the numbers every two years since 2006. When it comes to measuring bacteria in the water, those numbers are getting better.

"The data is exciting," he says. "The Wilson River came into compliance with water quality standards for recreational use in 2005. The Kilchis came into compliance in 2009. So we have two of the five major stream reaches that were on the list of impaired waters now meeting standards. That's a huge success."

Another river is moving in the right direction. Johnson uses the term "statistically significant decreasing trends," which really means bacteria levels are going down.

"The Tillamook River, while not yet meeting water quality standards for bacteria, is showing statistically significant decreasing trends at all its monitor sites," says Johnson. "If we can maintain the trends, pretty soon the Tillamook will also be in compliance."

The Trask and Miami rivers have more fluctuations with some decreasing trends at specific monitoring sites, but other sites are not consistently moving in that direction. Out of a total of 43 sites being monitored in the entire system of rivers, 22 are showing trends of improvement. Each of the five rivers has at least some areas of improved water quality.

Having solid data has encouraged landowners, including dairy operators, to keep up the good work and perhaps do more.

"It wasn't all doom and gloom from the start-we were able to show what is happening in the Wilson and Kilchis," says Johnson. "Once I was able to talk to people and tell them where we saw water quality improvements and where we still had problems, they were able to focus their efforts and concentrate on the issues they feel made the most difference. They took more ownership in the process and that's when we started to see improving trends."

Water quality monitoring remains important. Most everyone is optimistic that better management practices and handling of animal waste will continue to decrease bacteria levels in the nearby waters.

***A model of success***

Conservation systems that include manure storage, nutrient management, and riparian area restoration have reduced nutrient run-off from farmed lands adjacent to the Wilson and other rivers in the Tillamook area. There

is enough credit to go around to a wide circle of hard working partners that includes landowners.

Just since 2008, NRCS has documented 52 comprehensive nutrient management plans in the area, several thousand feet of riparian fencing to keep the cows away from the rivers, installation of 31 waste storage facilities, and systems to move manure to field locations where it is needed most. The Tillamook County SWCD has helped secure other federal funds to support similar projects.

"There have been millions of dollars of technical assistance and cost share assistance provided by USDA and other partners in the Tillamook," says ODA's Matthews. "Has there been a benefit from that investment? The answer is, absolutely!"

Another question is whether success in the Tillamook can be applied elsewhere in Oregon where agriculture intersects with the waters of the state. The Tillamook has a tremendous advantage of having so many partner agencies physically located right in the heart of the community. Synergy has brought about significant results. But other key factors can lead to success wherever water quality problems exist.

"Through ODA's CAFO Program, all dairies have a permit," says Jim Krahn of the Oregon Dairy Farmers Association. "CAFO establishes a system that if someone does not adhere to the regulation, they will be brought into compliance via regulation. An important key to success is regulation. Volunteer efforts will only achieve a certain amount."

However, the record shows that for the past two decades, Oregon dairy producers have taken a positive, proactive approach to improving water quality.

"The dairy industry statewide has supported major programs and efforts over the years to improve their management and reduce potential impacts they may have on watersheds," says OSU Extension Dairy Specialist Troy Downing, who has been in Tillamook for the past 15 years. "For Tillamook, it really has been this long term commitment from everyone involved that has allowed us to see water quality improvements over time."

It's a success story that has not reached its final chapter. There is room for improvement. "The infrastructure we have in place both from a voluntary and a regulatory standpoint, will continue to drive water quality improvements within the Tillamook watershed," says Wustenberg of the Tillamook County Creamery Association.

All the partners are committed to continuing an effort that has already shown results. Agencies agree that the biggest "pat on the back" goes to the livestock facility operators. They are the ones who ultimately implement the myriad of rules and systems.

"When I started with ODA 10 years ago, I got fairly regular complaints from fishermen who noticed dairies pumping manure that got into the rivers in Tillamook," says Matthews. "My phone still rings, but the calls from Tillamook fishermen have pretty much stopped."

*Bruce Pokarney, The Agriculture Quarterly*

## April-September basin runoff predicted to be the tenth best in 52 years

With the spring sun finally starting to impose its will on snowpack, it's clear the Columbia-Snake River basin will be enjoying a fully stocked water supply.

According to the latest NOAA National Weather Service forecast the second largest runoff volume since 1999 will flow past The Dalles Dam on the lower Columbia River this year during the April-September time frame – supplying water for power, irrigators, fish and recreation.

"This would be another solid runoff year for The Dalles," Steve King of NOAA's Northwest River Forecast Center said of the 2012 prospects.

The most recent NWRFC forecast says runoff as measured at The Dalles Dam will be 110 percent of the 1971-2000 average for the time period for the January-July period, which would be the 14th best total in the past 52 years during that time frame.

The runoff for April-September, 115.665 million acre feet is forecast to be 117 percent of average and the 10th best on the 52-year record. The 1999 total was 117.711 MAF, the eighth highest total.

A relatively wet late winter and spring continued into April with 141 percent of average precipitation in the part of the Columbia River basin above central Washington's Grand Coulee Dam, and 114 percent of normal for the October-April period, according to NWRFC data.

The area upstream of the lower Snake River's Ice Harbor received 113 percent of its average precipitation for the month of April, and is at 106 percent of normal for the

October-April season. That area includes the upper Snake in Idaho and parts of Wyoming and Nevada. Ice Harbor is in southeast Washington.

The area above The Dalles which takes in the Snake basin and mid- and upper Columbia soaked up 127 percent of its average April precipitation, and 110 percent for the season.

Precipitation thus far in May has been near average across the basin, with forecasts for below average in the coming weeks and months. The National Weather Service's Climate Prediction Center says the odds favor lower than average precipitation from May-July across the Idaho, Montana, Oregon and Washington.

The "La Niña" conditions, which have gotten credit to some degree for the past two years' wetter-than-normal winter weather in the Northwest, have subsided. La Niña conditions in the equatorial Pacific can favor wetter and cooler conditions in the Columbia basin.

"La Niña dissipated during April 2012, as below-average SSTs [sea surface temperatures] weakened across most of the equatorial Pacific Ocean and above-average SSTs persisted in the east," according to a May 3 CPC diagnostic discussion.

"… oceanic and atmospheric patterns indicate a transition from La Niña to ENSO-neutral conditions. The current and evolving conditions, combined with model forecasts, suggest that La Niña is unlikely to re-develop later this year," the CPC discussion says." A majority of models predict ENSO-neutral conditions to continue from April-June (AMJ) through the June-August (JJA) season.

"However, at least half of the dynamical models predict development of El Niño conditions by JJA. Still, from JJA onward there is considerable forecast uncertainty as to whether ENSO-neutral or El Niño conditions will prevail, due largely to the inability to predict whether the warmer SST will result in the ocean-atmosphere coupling required for a sustained El Niño event. The official forecast calls for ENSO-neutral conditions through JAS, followed by approximately equal chances of Neutral or El Niño conditions for the remainder of the year," according to the CPC. El Niño conditions tilt the odds in favor of drier, warmer wintertime conditions in the Pacific Northwest.

King, during a Tuesday "webinar" explaining the new forecast, said the available spring-summer water volumes were at this point in time relatively set, regardless of the next few months' precipitation totals.

"There are healthy snowpacks up there already" and the region "doesn't necessarily need more" in order to get a normal/average water supply.

The latest forecast predicts that the Snake River water supply will be about 95 percent of average for January-July. The forecasts take into account runoff to-date, soil moisture content, precipitation, snowpack snow-water equivalents and other factors, including near-term 10-day weather forecasts.

The upper Columbia is more amply stocked. The NWRFC forecast for runoff past Grand Coulee for January-July is 115 percent of average, which would be the 11th best total in the past 52 years.

In northwest Montana, the NWRFC predicts that Kootenai River flows past Libby Dam will be 121 percent of normal from April-September. The Kootenai ultimately empties into the Columbia in British Columbia.

In west-central Idaho, the forecast of for 115 percent of average flows into Dworshak Dam's reservoir from April-September

*Columbia Basin Bulletin, 5/11/2012*

## Governor nominates Pendleton attorney Lorenzen to replace Dukes on NPPC

Oregon Gov. John Kitzhaber announced this week that Pendleton's Henry C. Lorenzen has been nominated to serve on the Northwest Power and Conservation Council.

If confirmed next week by the state Senate, Lorenzen would in August replace Joan Dukes, who was in January elected to chair the Council. Dukes' most recent three-year term on the Council expired in January 2011 but she has continued to serve at the pleasure of the governor. Dukes, of Astoria, was appointed to the Council in 2004 by then-Gov. Ted Kulongoski.

The Council includes two appointees each from the governors of Idaho, Montana, Oregon and Washington. The advisory panel develops and maintains a regional power plan and a fish and wildlife program to balance the Northwest's environment and energy needs. The panel's work is funded by the Bonneville Power Administration,

which markets power generated in the federal Columbia/ Snake river hydro system.

Kitzhaber announced the submittal of 76 nominees for service on state boards and commissions, all subject to confirmation by the state Senate.

As previously announced, the governor also submitted three agency directors for Senate confirmation – Fariborz Pakseresht, Oregon Youth Authority director; Richard Evans Jr., superintendent of State Police; and James Bucholz, Department of Revenue director. The governor also submitted 29 names for reappointment to boards and commissions.

An attorney from a third-generation farming family, Lorenzen is a partner in the law firm of Corey, Byler, Rew, Lorenzen & Hojem, LLP, as well as president of H&C Lorenzen Farm, a 4,000-acre eastern Oregon wheat farm.

He is a past member of the boards of directors for the Oregon Historical Society, Oregon Public Broadcasting, and the Oregon East Symphony.

Lorenzen has been an Assistant U.S. Attorney in the Department of Justice, a member of the Oregon Fish and Wildlife Commission, a member and chair of the Oregon Environmental Quality Commission, and a member of the Oregon Law Commission.

The prospective Council member was also a member, 2003-2007, and president, 2004-2007, of the Oregon State Board of Higher Education.

He is also a licensed professional engineer and licensed certified water rights examiner in the state of Oregon.

"We're very excited to have someone of his caliber" available to fill the Council post, according to Tim Raphael, a spokesman for the governor's office.

Lorenzen received his bachelor of science degree in electrical engineering from Oregon State University, his MBA from Harvard University, and his law degree from the Northwestern School of Law of Lewis and Clark College.

*Columbia Basin Bulletin, 5/18/2012*

## Best summer Chinook run since 1980, record-breaking Sockeye return?

Projecting a large return of summer chinook and a record-breaking sockeye return, fishery managers this week announced 2012 summer and fall salmon fishing seasons on the Columbia River.

The seasons are based on results of this year's Pacific Fishery Management Council process, which involves tribal and non-tribal fishermen as well as state and federal entities. It included a series of public meetings, referred to as North of Falcon, in which fishery managers from several jurisdictions convene to plan salmon fisheries on the Columbia River and parts of the ocean off the Oregon and Washington coasts.

This year's projected return to the mouth of the river of summer chinook is expected to be 91,000 adult fish with the retention season currently scheduled to run from June 16 through July 1.

"If accurate, this projection of 91,200 adults would represent the highest return since at least 1980, and would be 135 percent of the 10-year average (67,500 adult fish)," according to the Jan. 20 Joint Staff Report compiled by the Oregon and Washington departments of fish and wildlife.

The high summer chinook forecast stems in large part from the fact that a record number of jacks – precocious fish that launch their spawning mission after only one year in the ocean – returned last year. Their older broodmates are expected to return in force this year and next. The top jack count Bonneville Dam – based on a record that goes back to 1960 was 51,451 last year. Next best was 37,416 in 2009, according to data compiled by the Fish Passage Center.

Summer chinook redds are found in the Columbia, Wenatchee, Okanogan, Methow, Similkameen, Chelan, and Entiat rivers in central Washington.

"There's a chance the season may be extended once we get a good look at what the actual return is," according to Steve Williams, ODFW deputy Fish Division administrator. "Until then, we're planning a conservative fishery to stay within the available quota."

Similar to last year, sockeye salmon retention will be allowed during part of the summer season with retention scheduled to open May 16-July 1 downstream of the Interstate 5 Bridge at Portland and June 16-July 1 above the I-5 Bridge.

The 2012 preseason forecast for the Columbia River sockeye run is for a record return of 462,000 adults to

the Columbia River, which includes 28,800 fish to the Wenatchee, 431,300 fish to the Okanogan, and 1,900 to the Snake River. Such a return would be 348 percent of the recent 10-year average.

The fall season begins Aug. 1, and includes the popular Buoy 10 fishery near Astoria and the fall "upriver bright" season in the main stem Columbia. The 2012 predicted run sizes and fishing season for chinook are similar to last year, though managers expect sport anglers will be allowed to retain chinook through Labor Day at Buoy 10. Managers are predicting coho returns will be down from last year but not enough to affect season length. The total preseason forecast of 651,300 Columbia River fall chinook is similar to the last two years' actual returns and greater than the 10-year average of 569,400, according to a Feb. 12 estimate released by TAC and the Washington Department of Fish and Wildlife.

That forecast includes an expected 353,500 adult "upriver bright" fall chinook headed for the mid-Columbia's Hanford Reach, the Snake River and other hatcheries and spawning areas above Bonneville. The URB return if realized would be the fourth largest return since record keeping began in 1964. Last year's actual return was 325,100 as compared to the preseason forecast of 398,200.

*Columbia Basin Bulletin, 5/18/2012*

## NW utilities forecast says 'gaps to fill' in next decade to meet peak loads

The Pacific Northwest Utilities Conference Committee's 'Northwest Regional Forecast' tells the story of how the region's electric utilities plan to keep the lights on over the coming decade.

The 2012 Forecast is a tale of steadily growing demand for electricity served by hydropower, energy efficiency, natural gas-fired generation and wind power.

Right now, the region uses roughly 22,000 megawatts of firm energy to meet annual demand and just over 38,000 megawatts to meet peak demand. And projections are for a steady but moderate rise over the next 10 years after taking into account what utilities expect to save through energy efficiency programs.

The peak demand, which refers to the highest spikes in usage, is a focus of this year's needs analysis. PNUCC sees that peak demand continuing to occur in the winter, when lighting and heating loads are greatest. Yet, summer demand is escalating as well and utilities are watching it closely.

Peak demand is an important yardstick for measuring what will be required to keep the lights on in the future. While the region's annual energy demand is being met, there are gaps to fill in the next decade to meet winter and summer peak loads, says PNUCC.

The forecast indicates that in the near term the region needs another 2,000 to 3,000 megawatts of firm resources capable of meeting the peaks. That means generators, like natural gas turbines, that utilities can call on at a moment's notice.

Hydropower still dominates the region's resource mix, providing much of the firm power needed as well as the flexibility to accommodate variable resources like wind.

Hydro, says the report, is critical to keeping the system stable and reliable. Utilities are relying heavily on demand-side management and offering a variety of programs to encourage efficiency.

Utilities also have additional natural gas and wind generation under construction or on the drawing board. Looking ahead, utilities have more than 6,500 MW of demand-side savings and generation planned to meet projected needs.

The full report is available at **www.pnucc.org/system-planning/northwest-regional-forecast**.

*Columbia Basin Bulletin, 4/27/2012*

## Oregon wants 'lethal tools' to reduce Salmon-eating Cormorant numbers

The state of Oregon is sending out word that it wants to have more management options in dealing with the double-crested cormorants -- including shooting the big birds – to control impacts on hatchery-produced and wild juvenile salmon that stream into estuaries along the coast.

The cormorants based at the Columbia River estuary's East Sand Island last year ate an estimated 22.6 million salmon that originated from hatcheries and spawning grounds upstream in Idaho, Oregon and Washington. Back at the turn of the century only a few thousand double-crested cormorants nested at East Sand. But the

number stair-stepped upward from about 5,000 in 1997 to nearly 14,000 in 2006 before leveling off, relatively. The population estimates in 2010 and 2011 were about 13,600, according to researchers.

Now federal entities are working with tribes and states to develop a management plan that would aim to reduce predation on salmon in the lower Columbia estuary. Any such plan would likely attempt to reduce the size of the colony, which stands in the way of 13 salmon and steelhead stocks that are protected under the Endangered Species Act.

Cormorant colonies along the Oregon coast are smaller. In 2009, an estimated 2,384 breeding pairs of double-crested cormorants nested at 22 colony sites along the Oregon coast, according to a research report prepared by Jessica Y. Adkins and Daniel D. Roby of the U.S. Geologic Survey's Oregon Cooperative Fish and Wildlife Research Unit at Oregon State University. That was judged a modest increase from the 2003 and 2006 estimates of 2,216 and 1,903 breeding pairs at 24 and 21 colony sites, respectively.

Overall, breeding numbers during 2003-2009 in coastal Oregon are lower than the 1988-1992 estimate of 2,939 breeding pairs at 19 colony sites, the report says.

There has long been commentary, anecdotal evidence, from fishers about the birds plundering hatchery produced fish, as well as wild, listed stocks, emerging from such coastal streams as the Alsea River. But fishery managers have no scientific data verifying the double-crested cormorants' impact on salmon along the coast, according to Lindsay Adrean, ODFW's avian predation coordinator.

For the first time this year ODFW obtained a permit for scientific purposes under the Migratory Bird Treaty Act to kill as many as 50 cormorants at coastal colonies in order to plumb their bellies "so we can learn for sure what these birds are eating."

The idea is to build a baseline that describes population and diet trends. The diet data will help evaluations of hazing's effectiveness, or if it is even needed at all. That data will also help measure the ripple effect of management actions at East Sand. Researchers at both ends are expected to be monitoring the movements of cormorants that might be displaced from the estuary island.

The state is also preparing an application to the U.S. Fish and Wildlife Service, which is charged under the act with protecting he birds, for a depredation permit that would allow the lethal removal of up to 285 birds in total annually from cormorant colonies in the Tillamook, Rogue and Umpqua rivers. The application would request authority for the taking of up to 10 percent of the breeding population at any one colony.

Adrean said such a permit would serve as an additional tool to supplement hazing activities and control bird populations.

"It's not birds against salmon. It's about finding a balance" that would allow both fish and birds to flourish, Adrean said. The birds wing in each spring to nest and spend the summer and most of the fall.

Meanwhile Oregon has commented in a process aimed at scoping out the details for a "supplemental environmental impact statement" that would ultimately be prepared by the USFWS. That EIS would lead to revised regulations regarding double-crested cormorant management.

Under current regulations, cormorant damage management activities are conducted annually at the local level by individuals or agencies operating under USFWS depredation permits, the existing Aquaculture Depredation Order, or the existing Public Resource Depredation Order. The depredation orders are scheduled to expire on June 30, 2014.

The revision would update an order issued in 2003 that allows the control of double-crested cormorants without a permit by certain government agencies in 24 midwestern and eastern states.

"The ODFW requests that Western DCCO issues be included in the NEPA process," according to comments signed by Oregon Department of Fish and Wildlife's Wildlife Division Administrator Ron Anglin.

The April 5 letter said the "ODFW is highly concerned about the negative impacts of DCCOs on fish resources in Oregon, and would like to maximize the State's ability to manage DCCO conflicts my improving the accessibility of lethal management tools."

"There is also concern regarding economic impacts due to the loss of hatchery production and the loss of the contribution of angling to local economies.

***Read more on this story, by following the newsblog links at oregonwatercoalition.org.***

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