

STRIKING A BALANCE BETWEEN ENERGY AND THE ENVIRONMENT IN THE COLUMBIA RIVER BASIN

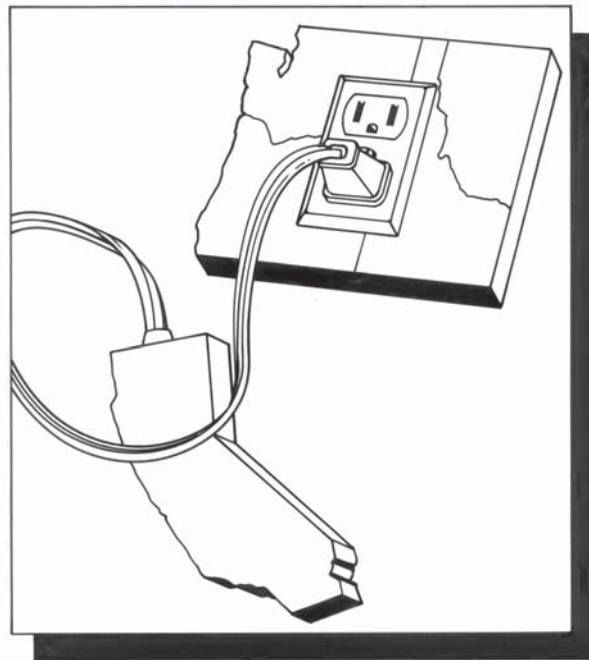
CALIFORNIA'S RENEWABLE ENERGY POLICIES AND THEIR IMPACT ON THE NORTHWEST

Three Pacific Northwest states have adopted renewable portfolio standards, but it may be that our neighbor to the south, California, will end up having the biggest impact on the region. California's renewable energy policies are some of the most aggressive in the nation, and the state has worked for many years to develop its own renewable resources. It's now reached the point where California utilities have to look outside the state to satisfy their renewable portfolio goals.

Renewable energy credits enable utilities to purchase the environmental benefits of renewable energy wherever it's generated. Most of California's utilities would like to use RECs as much as possible because it expands their market and could also eliminate some of the transmission costs to deliver the power from outside the state.

"We're already seeing 'the California effect,'" says Jeff King, senior resource analyst at the Council. "Roughly 50 percent of the wind power that was developed in 2008 and 2009 in the Northwest was either owned by California utilities or is contracted to them. In addition, RECs in excess of Northwest needs are being sold to California utilities from projects owned by or contracted to Northwest utilities."

It's a trend that's expected to continue into the future, says King, where we'll see California taking an increasing proportion of the Northwest's renewable resource



generation to meet its own renewable targets. But what happens to the electricity if it doesn't go with the REC? There's concern that it could end up in the Northwest power market, depressing power prices, increasingly leading to negative power prices and curtailment of wind generation during periods of high runoff and low electricity demand.

"Many of these issues," says King, "have a positive side and a negative side." Low power prices can be beneficial to Northwest utilities that are resource short and need to purchase energy. But the same low prices mean reduced power sales revenue for utilities with an ample supply of resources.

An increase in renewable energy development in the region is a good thing from

the perspective of renewable resource developers, and for landowners who lease their land to wind power developers. It also benefits counties, usually in rural areas where a lot of wind farms are sited, by expanding their property tax base and increasing their property tax revenue.

On the other hand, notes King, we're seeing controversies arise from the aesthetic and environmental impacts from expanded resource and transmission development in the region.

For the consumer, a lot will depend on the business practices and philosophy of the consumer's utility. Northwest utilities that are fairly

(Continued on page 2)

INSIDE: SPECIAL 30 YEARS OF ENERGY EFFICIENCY ACHIEVEMENTS

WHAT'S INSIDE

Notes From the Chair	3
Steve Wright Praises Council's Plan	3
N.W. Q & A: Montana Governor	
Brian Schweitzer	4
NEET Taskforce	7
Council Approves Chief Josph. Hatchery	8
States Hope Prevention Programs Will	
Halt The Spread of Invasive Mussels	9
30 Years of Energy Efficiency	Insert

CALIFORNIA'S RENEWABLE ENERGY POLICIES AND THEIR IMPACT ON THE NORTHWEST

(Continued from page one)

aggressive in developing renewables on their own and selling RECs to California are able to generate revenue that may reduce electricity costs. It also puts them in a good position when it comes time to meet their own targets. For utilities that wait until they have to purchase renewable energy, they may find themselves in a situation where competition from California for those resources has driven up prices.

Since in the Northwest, wind generation is the leading renewable now and in the foreseeable future, there's also the question of who pays the cost to integrate it into the power system. Its variable nature means it needs flexible reserve capacity to keep the system in balance. To date, the region has relied on surplus capacity reserves, mostly hydropower, to provide integration. As this surplus is fully used, additional system flexibility will need to be developed. A point of concern is to make sure that the costs of providing additional system flexibility and the impacts of integration on the rest of the system are fully accounted for and equitably allocated. This includes allocating carbon impacts. "It's a complicated combination of policy and technical issues that needs further analysis," says King, who will be working on an assessment of all these issues for the next several months. CQ

BPA: WORKING TO INTEGRATE CALIFORNIA WIND INTO ITS SYSTEM

Currently, less than 15 percent of the wind energy capacity connected to the Bonneville Power Administration's transmission system serves Bonneville customers. In fact, the largest recipient of Northwest generated wind energy and related renewable energy credits is California. By the end of the year, Bonneville expects that almost half of the wind capacity on its system will be owned by or under contract to California utilities. This is forcing Bonneville to find creative ways to accommodate California's demand for renewable energy while ensuring that the Northwest energy system remains operationally and economically efficient.

Over the last several months, Bonneville has initiated or investigated several actions, like building new substations and reinforcing existing transmission, to increase its system's capacity to integrate the large amount of wind energy coming on line in the Northwest.

Bonneville has also proposed expanding Northwest-California transmission capacity and limiting the use of renewable energy credits, except for wind developers helping to address transmission system challenges.

While Bonneville is working hard with wind developers and California utilities to find agreeable solutions, it also has shown that it is willing to make tough decisions. In 2009, Bonneville imposed a new, mandatory requirement on its transmission customers that allows the agency to curtail wind project output or temporarily halt transmission schedules to other transmission balancing authorities when the hydropower reserves set aside to balance wind approach depletion. Meanwhile, Bonneville is working with the California Independent System Operator and other parties to increase the supply of power reserves to balance the increasing amount of wind power in the West.

In comments to the California Public Utilities Commission in May, Bonneville warned, "If these other strategies do not bear fruit, BPA will be forced to curtail wind output with increasing frequency." These curtailments, if they occur, "will degrade the operating economics of wind projects with resulting negative impacts on California consumers and the state's ability to meet its RPS targets."

Bonneville also expressed concern to the California commission about the potential impact on salmon and steelhead if Columbia River hydropower increasingly is used to balance wind power transmission to California.

Quarterly Quote

**"It is the
greatest advantage
to enjoy
no advantage
at all."**

Henry David Thoreau

BONNEVILLE ADMINISTRATOR PRAISES ENERGY EFFICIENCY, CARBON CONTROL IN SIXTH POWER PLAN

Energy efficiency, carbon control and wind-power integration are critical issues for the future of the Northwest electricity system, Steve Wright, administrator of the Bonneville Power Administration, told the Council at its May meeting in Portland.

Wright praised the aggressive energy efficiency in the Council's Sixth Northwest Power Plan and also the plan's focus on reducing greenhouse gas emissions from the region's power supply. The plan guides Bonneville's future resource acquisitions to meet demand. According to the plan, the Northwest can meet 85 percent of new demand over the next 20 years with energy efficiency, which has no emissions, and the remainder with renewable energy and a small number of new gas-fired plants.

"Energy efficiency is job one, and there is a lot of work to do," Wright said. "Our staff estimates that 50 percent of the actions or goals in the plan will require new programs."

Wright said he was pleased that the power plan recognizes carbon-emissions control as a major issue for the future of the power supply.

"Carbon changes everything," he said. "The cost of carbon is roughly equal to the cost of the legacy hydropower resources in the region so we start at a huge cost advantage compared to the rest of the country."

Integrating large amounts of intermittent wind power into the regional power supply will be difficult—Wright called this "the great operational and engineering challenge of our time"—as will expand-



ing the region's high-voltage transmission system to incorporate new wind power while keeping consumers' electricity costs low.

"We need to get this right," he said. "Today we have 3,000 megawatts of wind power on our system and our limit right now is probably 4,000. But we are put-

ting tools in place to increase that amount. My sense is that this is what the public wants, and we serve the public so we need to keep working on this, and if we get to the point where we just can't take on any more then we need to tell the public that."

Wright also said the unusually low runoff in the Columbia River Basin this year will reduce Bonneville's revenue from surplus hydropower sales by some \$300 million or more. He did not predict this would lead to higher rates for consumers in the near term, but if 2011 also is a low-runoff year, Bonneville would have to take action to replenish its cash reserves, he said.

See a video of the entire presentation at: <http://www.youtube.com/user/nwcouncil>



Notes From the Chair



It's no secret that wind generation has become a more visible component of the region's energy portfolio. What's less well known is that a significant portion of that resource is going to California to satisfy their ambitious renewable energy goals. The lead story examines this trend, its implications for the Northwest, and what steps are being taken to address any resulting problems.

Energy efficiency, which is the number one resource identified in our power plan, gets some special treatment as we share almost 30 years of achievements in a special section.

And, after a lengthy planning process, the Confederated Tribes of the Colville Reservation received the Council's approval to build a new salmon hatchery to help restore salmon to the upper Columbia River watershed. The hatchery is to be built downstream from Chief Joseph Dam and will provide new harvest for both tribal and non-tribal fishers.

I'm also pleased to note that Montana Governor Brian Schweitzer, who has made clean energy a focus of his administration, is our featured interview. He covers a wide range of important issues, from Montana's efforts to advance energy efficiency to the preservation of the North Fork watershed.

A handwritten signature in white ink on a green background, which appears to be the signature of Brian Schweitzer.

NORTHWEST Q&A: MONTANA GOVERNOR BRIAN SCHWEITZER

Governor Brian Schweitzer is a farmer and rancher who held no elected office prior to being elected as the first Democratic governor to serve Montana in 20 years.

The grandson of Montana homesteaders, he grew up on a cattle ranch in the Judith Basin. Governor Schweitzer went on to earn a bachelor of science degree in international agronomy from Colorado State University, and later earned a master of science degree in soil science from Montana State University.

He worked overseas on agricultural projects and has visited 37 countries across the world. Governor Schweitzer oversaw the building of major irrigation projects and the construction of the world's largest dairy farm in Saudi Arabia.

With his unique global perspective, Governor Schweitzer is a leading national voice on developing clean and green American energy.

Q The Council's regional power plan identifies improved energy efficiency as the highest priority because of its low cost, low environmental impact, and high job creation potential. What is Montana doing to make sure that the energy efficiency identified in the plan is being acquired by government, utilities, and consumers?

Energy efficiency provides the best homegrown defense against high energy prices and it produces the quickest results. Energy-efficient houses keep us warmer while saving money, especially for those who are forced to choose between food and medicine or heat. Energy-efficient cars make citizens less subject to the supply



disruptions associated with hurricanes and international politics, and an energy-efficient state provides good paying, clean-energy jobs. Shortly after taking office in 2005, we announced the Warm Homes Warm Hearts program, which used Youth Conservation Corps workers to weatherize thousands of low-income and senior houses across the state.

State government will continue to focus resources on energy efficiency through both direct assistance to Montana's lower income families and support of industries, businesses, and practices that promote energy efficiency. We already have a good start with our state facilities. Montana was one of the first states to adopt a renewable energy portfolio (15 percent by 2015), having done so in 2005. It was also one of the first states to adopt the new energy-efficiency building codes.

We also launched the 20 x 10 initiative in 2008 with a goal of reducing natural gas and electricity use in state government facilities by 20 percent by the end of 2010. The reduction will come from a

combination of investments in building renovations, changes in building operations, and improvements that individual employees make in their daily work. In addition to the energy savings from state facilities, state government agencies have been charged with applying a Montana CAFE (corporate average fuel economy) standard moving the state vehicle fleets to achieve an average of 30 miles per gallon or better, with the exception of industrial vehicles and pickups needed for state work. To date, our overall CAFE achievements are 31mpg, and when we exclude industrial and pickup mileage, our current CAFE is 33 mpg. Many agency and motor pool vehicles are being replaced as they wear out with hybrid vehicles or other high-efficiency cars. Schools, universities,

businesses, and communities have been encouraged to join in the effort. Montana is leading by example, and Montana is making a difference.

There are opportunities to increase energy efficiency and create good jobs along the way. Consumers are benefitting from state tax credits for home energy improvements and rebates on appliances. About 9,000 rebates are expected to be provided to consumers that replace old refrigerators, freezers, washing machines, and clothes washers in the next few months. Local governments are also benefitting with 56 grants to be awarded this spring. The grants are primarily for upgrading lighting, replacing heating systems, and other building retrofits. Recycling grants were made available to 15 local government or private recycling companies to reduce the energy to manufacture new products. Individual consumers and small businesses are benefitting from an additional \$1.2 million available for small, renewable-energy system loans, and a few businesses will get grants to adopt new

renewable energy technologies. The state has also recently upgraded a portion of its school bus fleet to new, energy-efficient, low-emission buses.

Q Montana is an energy-rich state, with large amounts of hydropower, wind power, natural gas, and coal. What role will these resources play in the region's energy future?

Montana is blessed with abundant energy resources. In addition to our great rivers and streams, we have the nation's largest reserves of coal and some of its best wind resources. Our farms, ranches, and forests can support a strong biofuel industry. Montana has abundant oil and natural gas. In fact, Montana is one of just a couple of states to increase oil production in the last few years, largely because of oil found at the Bakken Formation in Eastern Montana. In the past 5 years, Montana has gone from 50th place among states in terms of wind energy production to the top 15. To ensure that Montana becomes one of the top 5 wind energy producing states, it has begun to address its transmission issues. Montana permitted one transmission line for wind energy in 2009, and it is working on more transmission line applications to serve other planned wind farms in the state. We need to enhance existing energy resources and create new, diversified energy development that is compatible with our existing quality of life. We need to continue to look at ways to make traditional energy projects like coal cleaner using new technologies, including carbon sequestration, while also looking toward the future. Montana is leading the way in helping wean our nation of its addiction to foreign oil.

In addition to being renewable, resources like wind, ethanol, and bio-diesel reduce or eliminate carbon dioxide and other pollutants common to conventional energy projects. Developing these resources

"The state will continue to focus substantial efforts and resources on promoting energy development that is cleaner, greener, and American-made."

*Brian Schweitzer
Governor of Montana*

will play a vital role in helping the nation meet the target of 25 percent renewable energy by the year 2025. The state will continue to focus substantial efforts and resources on promoting energy development that is cleaner, greener, and American-made.

One of the success stories in the Pacific Northwest is our leading role in energy efficiency, but we cannot rest on our laurels. Energy efficiency is the most cost-effective manner to meet our goals of energy independence and reduced carbon emissions, while keeping our energy rates low and our local economy competitive. Those who believe we have maximized our investments in energy efficiency do not have faith in American ingenuity. New technologies are always developing, progressing, and becoming more cost-effective. Therefore, we must continue to demand more efficiencies to retain our economic edge.

Q You recently signed an agreement with British Columbia to protect the North Fork of the Flathead from future development. Can you discuss the importance of this not only to Montana, but to the Columbia Basin as a whole?

The North Fork of the Flathead and the British Columbia Flathead on the other side of the border is one of the most pristine areas in the world. While much of the Montana portion is protected, it was important to get some certainty that there would be some protections on the Canadian side as well. Some of the proposals that were considered on the Canadian side would have had extreme impacts on fish and wildlife, including species like bull trout and west slope cutthroat trout.

The Council weighed-in on this issue a couple of years back when it sent a letter of concern about one of the mining proposals at the time. In the letter, the Council discussed obvious concerns associated with water and general environmental quality. The Council also expressed concern about the potential impact to bull trout and west slope cutthroat trout and other aquatic species that have benefited from ratepayer money through the Council's Columbia River Basin Fish and Wildlife Program. Although the worst damage would occur in the upper Flathead, the impact to bull trout would be felt throughout their migratory habitat, and the drainage as a whole would be further compromised. Economically, ratepayer investments for bull trout and cutthroat trout could have been lost, and more work would then have to be done to recover that investment.

It has been a pleasure to work with Premier Campbell and others in British Columbia to retire industrial uses in the North Fork watershed. Maintaining quality relationships with our Canadian friends is only going to get more important with issues like the Columbia River Treaty up for discussion soon. *(Continued on next page.)*

Q The Council is tasked with protecting, mitigating, and enhancing fish and wildlife in the region affected by the inundation, construction, and operation of hydroelectric dams. How do you feel ratepayer monies should be spent in this regard?

The Bonneville Power Administration ratepayers in the region, including the electrical cooperatives in Montana, deserve to know that their money is being well spent. I think utility folks appreciate everything our region has to offer, including our great lands and fish and wildlife. They want to do what they can to conserve and enhance these resources. Above all, they want to make sure ratepayer money is spent wisely and efficiently.

To Montana, that means projects that get the most bang for the buck, projects that meet scientific muster, and projects that are consistent with the Power Act and the Council's fish and wildlife program. Projects can come in a number of different forms, including habitat work, hatcheries, land acquisitions or conservation easements. The main, and most simple, question that needs to be answered from my perspective is: Will it help the fish and wildlife? Having said that, I know there are some projects that will be research projects or projects that we think will help, but will need to be monitored and evaluated to make sure. We should never, however, get to a point where we are taking away money from projects that we know help fish and wildlife on the ground to give to projects that are solely based on research, monitoring, and evaluation.

There also needs to be constant reminders that the Council and BPA should look at all fish and wildlife affected by the hydrosystem. That includes resident fish in the blocked areas and in Montana. I know the funding focus in the past, and largely still these days with the biological opinion projects, is on the endangered salmon in

“... funding for resident fish like bull trout and endangered Kootenai River white sturgeon should always remain a significant part of the Council's program.”

*Brian Schweitzer
Governor of Montana*

the Columbia Basin. However, Montana is also affected, and funding for resident fish like bull trout and endangered Kootenai River white sturgeon should always remain a significant part of the Council's program.

Q Montana has been engaged in the NOAA Fisheries Biological Opinion litigation, largely to protect its interests at Libby and Hungry Horse. As part of this process, Montana also signed an accord with the Bonneville Power Administration for over \$15 million to protect key land in the Swan Valley. What are your thoughts on this process?

Montana has no anadromous fish and hoped to avoid anadromous fish litigation, but it was clear to me that although the litigation involves endangered salmon, the operations of the entire federal hydro-system, including Hungry Horse and Libby Dams, were at stake. We understand the cultural and economic importance of salmon in the Columbia Basin. We will do everything we can to assist in the recovery of healthy salmon and steelhead runs. What we do not support is the recovery of those fish at the expense of our resident fish. Nor are we willing to shoulder an inordinate

burden in comparison to the other states or parties affected by the federal facilities.

For many years Libby and Hungry Horse dams were operated in a way that created poor conditions for resident fish above and below the dams. The erratic water releases devastated habitat. More troubling was the fact that water released in the name of flow augmentation for salmon was shown to have little or immeasurable benefit to salmon in the lower Columbia. We are pleased that science is finally being considered, and that stable operations for Libby and Hungry Horse, similar to those in the Council's fish and wildlife program, are included in the biological opinion. We believe these operations benefit resident fish and wildlife, including endangered white sturgeon and bull trout, while still providing benefits downstream.

Lately, regional collaboration has been great, and most of the states and tribes in the region are on board with a plan to help the salmon.

In terms of the accord with BPA, we are excited about the opportunity to preserve and protect pristine land and bull trout habitat in the Swan River drainage acquired as a result of the Montana Accord. These acquisitions and conservation easements will connect the most promising bull trout habitat while providing contiguous, multi-resource management in one of the last truly wild regions of Montana.

We are pleased with the collaborative work the Confederated Salish and Kootenai tribes, Montana Fish, Wildlife & Parks, and others have done through the Council's program in regard to protecting and restoring habitat. I hope BPA continues to recognize the importance of these projects in Montana, and that the Council continues to inspire the region to work together to achieve common goals. 

NEET: ENERGY EFFICIENCY IS MAKING PROGRESS IN THE NORTHWEST

The background work necessary to propel the Northwest to new levels of energy efficiency is moving ahead rapidly, thanks to the work of the Northwest Energy Efficiency Taskforce. The taskforce of 30 energy experts from utilities, businesses, and government in Washington, Idaho, Oregon, and Montana began meeting in 2008, formed working groups around key tasks, invited other experts to help, and issued its first progress report last fall.

Now it is time to close up shop—the taskforce never was intended to be permanent—and let the strategies and actions identified by the taskforce be implemented. Ken Canon, an energy consultant who managed the taskforce, reported to the Council in May on the group’s progress.

“NEET came about at a critical time in the region,” Canon said. “The region was switching to more renewable energy, solar and wind power were new, and energy efficiency was in about fifth place. So there was a challenge in the region to reassert energy efficiency. Now we need to work together to be sure energy efficiency takes its rightful place in the stack of power resources, and that will take some work. While NEET ends in June, we have the opportunity to tap into the expertise of the executive committee members over time, and that will be very valuable for the region.”

Canon said the areas of greatest consensus among taskforce members include 1) the need for greater cooperation on regional initiatives including market-transformation activities; 2) improved data; 3) efficiency assessment and accounting; and 4) tracking and promoting new technologies such as the smart grid, demand response, and energy-efficiency technologies.

Canon also reported that progress is being made in the 10 actions identified by the taskforce to accelerate efforts to tap the vast potential of energy efficiency in the region.

1. Evaluate the Regional Technical Forum, an advisory committee of the Council established in 1999 to develop standards to verify and evaluate conservation savings.

2. Compare how data-collection activities by the Northwest Energy Efficiency Alliance, a Portland-based non-profit that works to accelerate the market adoption of energy-efficient products, technologies, and practices, mesh with those recommended by the taskforce and determine data gaps for future attention.

3. Create a plan for NEEA, the Bonneville Power Administration, and others to coordinate emerging technology activities to meet future energy-efficiency needs. A regional advisory committee has been formed to assist collaboration on emerging technologies.

4. Create a forum within an existing entity to increase collaboration on new and expanded energy-efficiency efforts. NEEA is the designated entity and is developing an energy-efficiency website and an online forum.

5. Research behavior-change initiatives related to consumer energy efficiency. A contractor prepared a report, but reviewers determined it needs more

work before it will be useful to utilities and others.

6. Define energy-efficiency jobs as distinct from other green-economy jobs, establish skill standards and job classifications for those jobs, and create a regional clearinghouse for energy-efficiency job openings. Applications have been made for funding through the American Recovery and Reinvestment Act of 2009.



7. Create a coordinating body to work with energy-efficiency entities to increase regional coordination on training, educational programs, curriculum, and skill standards. Work is under way with the Centralia Community College Center of Excellence for Energy Technology to provide a coordinated approach for energy-efficiency workforce training and educational programs in the four Northwest states.

(Continued on page 10)

COUNCIL APPROVES CHIEF JOSEPH HATCHERY FOR CONSTRUCTION

After seven years of planning and scientific review, the Confederated Tribes of the Colville Reservation have approval to build a new salmon hatchery immediately downstream from Chief Joseph Dam on the Columbia River. In May, the Council recommended that the Bonneville Power Administration fund the \$40 million Chief Joseph Hatchery.

Construction of the hatchery building and related facilities will begin later this year or in 2011 pending final approval of the project by the U.S. Army Corps of Engineers, which operates Chief Joseph Dam and owns the property where the hatchery will be built.

“The Chief Joseph Hatchery will help restore salmon to the upper Columbia River watershed and provide new harvest opportunities for tribal and non-tribal fishers,” Council Chair Bruce Measure said. “From the start, this has been a model project for its science-based approach, its demonstration of innovative harvest techniques to protect wild fish, and its remarkable collaboration among state, federal, and tribal governments.”


The purpose of the hatchery is to assist in the conservation and recovery of summer/fall and spring Chinook salmon in the Okanogan River Basin and the Columbia River between the Okanogan River and Chief Joseph Dam. Eggs will be gathered from Okanogan River salmon and propagated at the hatchery, and the resulting juve-

nile fish will be released into six acclimation ponds that have access to the Okanogan River. Four of those ponds already exist, and the other two will be built. Salmon will also be released directly from the hatchery into the Columbia River. Over time, the goal of the hatchery is to rebuild naturally spawning salmon runs and provide new salmon harvest opportunities for both recreational fishers and Colville Tribe members, whose historic salmon fishery was wiped out by the construction of Grand Coulee and Chief Joseph dams. The hatchery will produce up to 2.9 million smolts per year.

The hatchery will be financed by the Bonneville Power Administration through the Council’s Columbia River Basin Fish and Wildlife Program, which is designed to address the impacts of hydropower dams on fish and wildlife. Bonneville sells the electricity generated at Chief Joseph Dam and other federal dams in the Columbia River Basin.

The cost to Bonneville could be offset partially with funding provided by the three mid-Columbia public utility districts, Douglas, Chelan, and Grant, which oper-

ate a total of five dams on the Columbia downstream from Chief Joseph Dam. The public utilities have mitigation responsibilities as part of their federal dam-operating licenses, and by participating in the Chief Joseph Hatchery the utilities could meet some of their mitigation obligations.

The Chief Joseph Hatchery project has been in the Council’s program since 2001. Since then, the Colville Tribes have taken the project through the planning and design phases and received favorable reviews from the Independent Scientific Review Panel, a group of 11 independent scientists that reviews all projects proposed for funding through the Council’s program. The new hatchery will be operated consistent with guidelines recommended by the Hatchery Scientific Review Group, a committee of scientists that recently completed a review of all salmon and steelhead hatcheries in the Columbia River Basin at the request of the U.S. Congress. 



STATES HOPE PREVENTION PROGRAMS WILL HALT THE SPREAD OF INVASIVE MUSSELS INTO NORTHWEST WATERS

The four Northwest states are working hard to avoid an infestation by an invasive species that has the potential to wreck havoc with the region's water and power supplies.

Dime-sized zebra and quagga mussels have caused millions of dollars in cleanup and repair costs in the Northeast, Midwest, and Southwest. The mussels are transported from one water body to another on trailered boats and other watercraft and are capable of living outside of water for days.

Native to the Black and Caspian Sea drainages, they were introduced to the Great Lakes region of the United States in the 1980s by ballast-water discharges from ocean-going ships. Since then, they have spread throughout the Northeast and Midwest and, since 2007, the Southwest. In response, Western states, federal agencies, tribes, and other stakeholders developed an action plan to prevent the mussels from spreading.

"Rapid response is important," said Eileen Ryce, invasive species coordinator for the Montana Department of Fish, Wildlife & Parks. "Every state agreed that the highest priority is to fully fund the state programs, as most of the work occurs at the state level. Inspection is key. Zebra and quagga mussels are easily moved around on water craft and equipment such as barges."

Not only do the mussels pose a physical problem by clogging water intakes, fouling dam intake gates and pipes and adhering to boats, pilings, and most hard surfaces, the mussels also pose an ecological problem. Mussel colonies can affect water quality and reduce food sources for native mussels, fish larvae, and zooplankton, completely altering the food web.

So far, invasive mussels have infested only a few Western rivers and lakes. This presents an opportunity to prevent significant damage if coordinated actions are taken immediately.

The Westwide plan recommends high-priority actions in seven categories: coordination and funding (estimated at \$31.1 million annually); prevention (mandatory water craft inspection and decontamination at infested waters); early-detection monitoring (develop standard protocols for detection); rapid response (fund and implement a notification database); containment and control (develop tools to prevent and minimize mussel movement and settlement); outreach and education (adopt consistent messaging for public information); and research (learn more about the biology and chemistry of zebra and quagga mussels to help prevent their spread).

Idaho, Oregon, Montana, and Washington all have boat-inspection programs and notification procedures to alert officials in the other states if contaminated watercraft are discovered. Interstate communication has been effective, so far. In one instance this year, an Idaho-licensed boat stored for the winter in

Lake Havasu, on the border of Southern California and Arizona, was being towed back to Idaho for the spring when it was inspected in California and found to have invasive mussels on its hull. A California inspector called Amy Ferriter, invasive species program manager for the Idaho Department of Agriculture. When the owner arrived home in Idaho Falls, his boat was inspected, cleaned, and quarantined for 30 days to be sure the mussels were dead. In another incident, a boat being hauled from Lake Mead, California, was inspected at an entry station in Plymouth, Washington, south of the Tri-Cities. It was found to have mussels and was cleaned before being allowed to proceed.

"We have a good system in place through the Western states," Ferriter told the Post-Register newspaper in Idaho Falls. "We work really well together."

So far, zebra and quagga mussels have not infested the Columbia River or any of its tributaries, but it may be only a matter of time until that happens.

An infestation in the Upper Snake River Basin where scientists think conditions are more favorable, could cause infestations downstream, but the key

(Continued on page 11)



National Park Service photograph

NEET TASKFORCE

(Continued from page 7)

8. Create a guide to increase understanding of how cost-effectiveness rules and regulations are applied. Bonneville committed \$25,000 to the project and the Council will coordinate the effort.

9. Increase regional collaboration on programs that address energy-efficiency opportunities in smart-grid technology, load management, distribution efficiency, and conservation voltage regulation. A smart-grid demonstration project is under way, organized by the Battelle Memorial Institute, and Bonneville is developing a program to promote the growth of demand response in the Northwest.

10. Develop a pilot program with a public utility to decouple revenues from costs so energy efficiency efforts do not result in lower income for the utility. The National Resources Defense Council is working with at least one public utility on such a program.



Beacon Rock, on the north shore of the Columbia River 35 miles east of Vancouver, Washington, is the core of an ancient volcano. Floods that surged through the Columbia River Gorge at the end of the last ice age eroded the sides away, leaving the basalt core. The top of the rock is about 845 feet above the river.

Painting of Beacon Rock made sometime between 1857 and 1862 during a government survey following agreement on the border between Canada and the U.S.

Image: The National Archives

To learn more about Columbia River history, visit the Council's Columbia River History Project website, www.nwcouncil.org/history.


INVASIVE MUSSELS

appears to be calcium concentrations in the water. Mussels need calcium to build their shells, and generally in the Columbia River Basin—the Upper Snake River being an exception—calcium concentrations are low compared to other Western rivers, particularly in the summer months when the mussels spawn.

Fish hatcheries also could be affected, again with devastating consequences. An infestation in a hatchery could spread the mussels to other watersheds because hatchery fish often are trucked to release points.

But if the mussels invade natural habitat, the costs would skyrocket. There are few options for cleaning habitat, and so an infestation could be widespread and devastating.

It is one of the ironies of the war on invasive mussels that a problem potentially as big as the entire West, one that will require the attention, time, and money of many agencies to address, hits at a time when most states are facing budget constraints and reductions in services. Washington, for example, used to conduct more than 4,000 educational boater surveys per year at boat launches around the state during the May-through-September boating seasons.

“We had to phase that out in favor of conducting more early-detection monitoring and random inspections at temporary stations,” said Allen Pleus, the state’s aquatic invasive-species coordinator at the Department of Fish and Wildlife. “We don’t have the resources to do everything and must focus on only the highest priorities.” 





851 S.W. Sixth Avenue
 Suite 1100
 Portland, Oregon 97204

Telephone: 503-222-5161
 Toll free: 800-452-5161
 Web site: www.nwcouncil.org

PRSRT STD
 U.S. POSTAGE PAID
 PERMIT NO. 11
 PORTLAND, OR

Find us on Facebook 
 twitter @nwcouncil

Northwest Power and Conservation Council Members

Central Office

Northwest Power and Conservation Council
 851 S.W. Sixth Avenue, Suite 1100
 Portland, Oregon 97204-1348
 Telephone: 503-222-5161
 Toll Free: 1-800-452-5161

Idaho

Boise
 450 West State
 Boise, Idaho 83720-0062
 Telephone: 208-334-6970
 Council Member:
 James A. Yost

Hayden Lake
 East 1677 Miles Ave., Suite 103
 Hayden Lake, Idaho 83835-9154
 (208) 334- 6970
 Council Member:
 W. Bill Booth

Montana

1301 Lockey
 Helena, Montana 59620-0805
 Telephone: 406-444-3952
 Council Members:
 Bruce Measure, Council Chair
 Rhonda Whiting

Oregon

Astoria:
 1642 Franklin Ave.
 Astoria, Oregon 97103
 Telephone: 503-325-2006
 Council Member:
 Joan M. Dukes

Milton-Freewater:
 P.O. Box 645
 Milton-Freewater Oregon 97862-0645
 Telephone: 541-938-5333
 Council Member:
 Melinda S. Eden

Portland:
 851 S.W. Sixth Avenue, Suite 1020
 Portland, Oregon 97204-1347
 Telephone: 503-229-5171

Washington

Spokane:
 N. 501 Riverpoint Blvd, Suite 425
 Spokane, Washington 99202
 Telephone: 509-359-2438
 Council Member:
 Tom Karier

Lacey:
 510 Desmond Drive SE Suite 271
 Lacey, Washington 98503-1273
 Telephone: 360-534-9347
 Council Member:
 Dick Wallace, Council Vice Chair

Council Quarterly
 is produced four times a year by
 the Public Affairs Division
 of the Northwest Power and
 Conservation Council



Printed on recycled paper
 50% total
 15% post-consumer



Recycle content 50/25%
 FSC © 1996 Forest Stewardship Council

This newsletter was printed on paper that features high recycled content compared to both foreign and domestic grades. (50% overall / 25% post-consumer)