

CouncilQuarterly

Northwest Power and Conservation Council > Fall 2011

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



2010 Energy Efficiency Gains Set Impressive Pace

The Council's annual report on energy efficiency savings recorded an impressive year in 2010 with the region acquiring 254 average megawatts of efficiency savings, the largest total ever achieved in the past thirty years. It's almost 25 percent more than the Council's target of 200 average megawatts set in its power plan, saving Northwest ratepayers \$135 million that year.

Similar savings should continue for next 15 to 20 years.

The Council conducts a survey of utilities, the Energy Trust of Oregon, the Northwest Energy Efficiency Alliance, and the Bonneville Power Administration to determine the region's aggregate efficiency savings and investments.

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One of the promising trends is improved savings in the commercial and industrial sectors, indicating that less reliance is now being placed on the residential sector, where savings from compact fluorescent lighting still dominates.

Growth in the commercial and industrial sectors is the result of the Bonneville Power Administration's concerted efforts in those areas to build relationships in the business community and foster a strategic energy management approach.

"Expect another big jump in industrial for 2011," says Senior Analyst Charlie Grist.

As for the commercial growth, Grist notes that businesses understand the impact of efficiency savings on the bottom line.

"Major national companies are working with government and

utilities to develop and test emerging technologies, and write specifications for procuring energy efficient goods and services that go with their carbon-footprint policies," notes Grist. "It's part of 'greening' the image of businesses, and it influences the industrial sector, too."

According to Grist, some of the key factors in this efficiency surge include smart work by committed people in the design and operation of programs targeting the industrial sector; regulatory support; the lower cost of efficiency compared to power market prices and the cost of new resources; the infusion of American Recovery and Reinvestment Act money; more utilities pursuing efficiency; and targets for 2005-2009 that were too low.

As for the future, Grist expects 2011 to exceed 2010, but there may be some challenges later on as Oregon's business energy



(Left) BPA's flyer for commercial customers.

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tax credit ends and Bonneville's budget constraints limit its activity.

Continuing rate pressure, combined with low power market prices may also weaken utility resolve.

"This is a cheap resource, but it isn't free," says Grist.

It's also critical to maintain the Northwest Energy Efficiency Alliance, which has been a huge factor in the success of energy efficiency in the last 10 years.

"It still suffers from an illogical perception that its performance must be measured in the short-term, separate from the utilities," says Grist. "Backing off of NEEA resources would devastate regional performance in both the short term and long term."



Notes From the Chair

The Council's annual report on energy efficiency held good news: A record 254 average megawatts acquired in 2010, the most one-year savings in the past thirty years.

It's an encouraging trend that wouldn't have been possible without the coordinated and sustained efforts of many partners. Read about the factors that contributed to this success in our lead story.

In Idaho, the Lemhi River project has brought ranchers and government agencies together to improve habitat in the Salmon River basin. As one rancher puts it: "If you don't maintain the river... the financial value disappears..."

And we're pleased to include an interview with John Prescott, president and CEO of PNGC Power, a multi-state cooperative based in Portland, Oregon. He has more than 30 years of experience in the utility industry, and he shares his views on the future of the power industry and how PNGC expects to meet the challenges ahead.

Council Chair Bruce Measure



Snohomish PUD Opens New Small Hydro Project

The Snohomish County Public Utility District opened the first new hydroelectric project in Washington state in nearly 20 years. The Youngs Creek facility, south of Sultan, has a generating capacity of 7.5 megawatts—enough to power about 2,000 homes.

“We’re committed to operating this facility and other hydropower projects in a way that protects our natural environment while serving the community’s need for high quality water and energy,” says PUD Board of Commissioners President Dave Aldrich.

The project gives the PUD greater flexibility since it’s a locally generated, reliable resource that will provide energy at times of the year when it’s needed the most. It’s

also competitively priced compared to other green energy sources, which aligns with the Council’s planning recommendations.

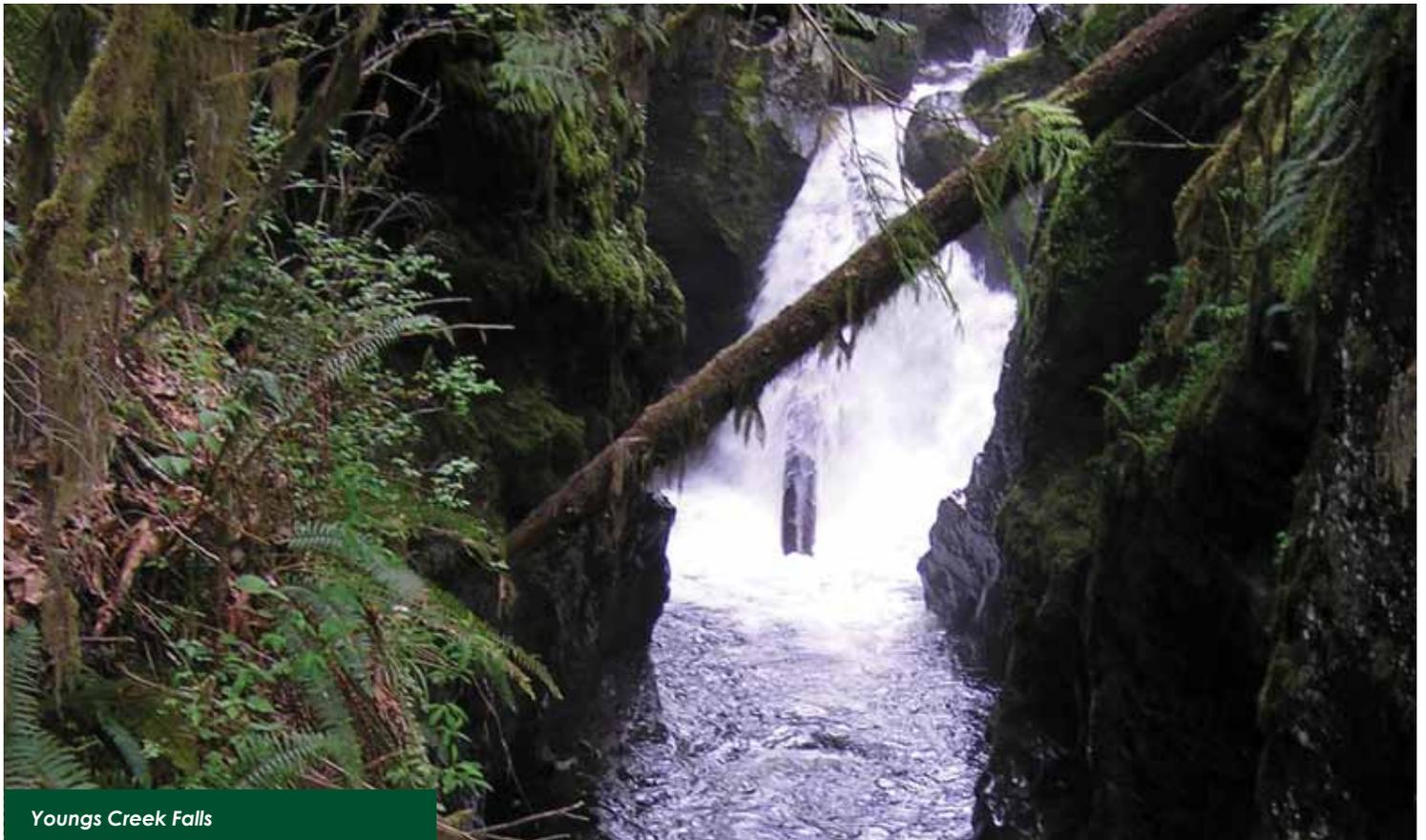
The Council’s most recent power plan’s resource strategy encourages developing “... other renewable alternatives that may be available at the local, small-scale level and are cost-effective now.”

Located above a waterfall, the project doesn’t affect migrating fish like salmon, and because it’s close to load, it reduces the need for hundreds of miles of new transmission line, minimizing line losses and effects on the environment.

In developing the project, Snohomish worked closely with the Washington Department of Fish and Wildlife, other

state and federal agencies, and local tribes to make sure river flows and fish were protected.

The PUD is also researching and securing other clean, renewable resources like geothermal, wind, solar, and tidal energy as part of its effort to meet growing needs through efficiency improvements and renewable energy. The utility has one of the most comprehensive solar energy programs in the Northwest, offering incentives and technical resources for customers. It contracts wind energy from three facilities in Oregon and Washington. The utility is also researching tidal and geothermal energy development in the Northwest.



Youngs Creek Falls





John Prescott

Northwest Q & A: John Prescott, CEO of PNGC Power

John Prescott is the president and CEO of PNGC Power in Portland, Oregon, a position he has held since October 2006. He is responsible for leading and managing all activities associated with delivering reliable and low-cost energy to PNGC Power's 14 member cooperatives located in Oregon, Washington, Idaho, and Montana with service territory in seven Western states. Prescott also serves as the executive vice president and general manager of Power Resources Cooperative.

Prescott has more than 30 years of experience in the electric utility industry. Before coming to PNGC, he served as the power supply and environmental affairs officer at Seattle City Light where he managed generation assets, as well as conservation, commercial, and environmental operations. Prior to that, he spent 23 years with the Idaho Power Company in various positions, including as the vice president of power supply. He is a registered professional engineer in most Western states. In addition to receiving a bachelor's degree in general engineering from Idaho State University, he holds a master's degree in electrical engineering from the University of Idaho, and completed the executive MBA program at the Harvard Business School.

He grew up on a ranch in the Blackfoot area of eastern Idaho. He enjoys flying,

fishing, and hiking, and he currently serves on the boards of the Oregon Trail Chapter of the American Red Cross, Northwest RiverPartners, and the Pacific Northwest Utilities Conference Committee.

Q. What kind of business entity is PNGC Power? What products and services does it provide its member utilities?

PNGC Power exists to provide member utility cooperatives with a power supply that is economical, reliable, and flexible, and provide the underpinning for our members to serve their customers at the retail level. We're a Portland-based electric generation and transmission cooperative owned by 14 electric distribution cooperative utilities located in Oregon, Washington, Idaho, and Montana. The company creates value

for our member systems by providing power supply, transmission, smart grid, conservation, communications, energy policy analysis and advocacy, and other management services. We're an aggregator of geographically diverse loads in the region, and we serve as a generating resource pool to meet our members' power supply needs. We also help our members with generation interconnection issues, wheeling rates and arrangements, new large loads, and other services related to wholesale electric issues.

Q. Describe your service territory and members—what are their interests and concerns?

The 14 Northwest rural electric distribution cooperative utilities that own PNGC Power serve customers in predominantly rural areas in seven Western states. This combined service territory covers just over 40,000 square miles. In 1997, PNGC Power became the first electric cooperative in the country to receive a power marketing license from the Federal Energy Regulatory Commission, allowing us to buy and sell power for our members. In December 2008, we signed a new power sales contract with the Bonneville Power Administration that set us on a new path. This new business model secures the benefits of the cost-based federal system for our member utilities, retains our beneficial joint operating entity status under the Northwest Power Act, and forms the basis for possible non-federal resource ownership. With the joint operating entity status, PNGC Power is allowed to contract directly with BPA to purchase preference power for our members. This provides operational and administrative efficiencies to our members.

Our member cooperatives want us to continue to concentrate on the key policies that will position us to meet members' future energy needs in the most efficient manner. These issues include the protection of the Federal Columbia River Power System, national and regional energy policy, federal transmission policy investments and cost allocation, integration of variable generation, conservation, and investigation of new generation technologies.

Q. You've worked at Idaho Power for many years, as well as at a municipal power agency, and now you head a multi-state cooperative. What can you tell us about the similarities and differences in how these organizations view their roles and the future of the power industry in the region?

The respective business models are different, but the desired end state is the same: low rates and satisfied customers. Our end product is a commodity: electricity. How that commodity is produced, delivered, and utilized is governed by the actions of regulators, elected boards, commissions, and legislatures, and it's less influenced by a specific business model. The role of the utility, be it an investor-owned utility or a cooperative, is to plan and deliver electricity in the most efficient manner possible given the myriad regulations, laws, rules, and general uncertainty created by those who make policy. Regardless of business models, the future of the power industry in the region will focus on energy efficiency and natural gas-fired generation to meet future loads and to integrate variable renewable energy resources.

Q. The key resource in the Council's power plan to meet our future demand is energy efficiency. How do your members view energy efficiency? Is their perspective different than utilities in more urban areas?

Energy efficiency measures are an important part of our members' goals to provide reliable electricity service at the lowest possible cost. This presents both opportunities and challenges. Our members serve a diverse customer base, mostly rural residential and small farms. Some of our members also serve large irrigation and agriculture loads. We don't have as many opportunities to achieve efficiency gains as large commercial and industrial programs in the urban areas of the Northwest. Our members need flexible programs that are a good match for their rural service territories and provide the greatest opportunity for efficiency gains in rural residential areas.

Q. A lot has been happening in the energy arena, from policies to promote renewable generation to smart grid technology—how do you view these challenges and opportunities?

A number of PNGC Power member system electric cooperatives are on the forefront in the Northwest in the implementation of smart grid technologies and programs. These investments made sense because they provide opportunities now and in the future, from remote meter reading and automated outage response to readiness for future demand-side management programs. In addition, these technologies can promote cost-effective integration of renewable resources and accommodate emerging technologies, from electric vehicles to smart appliances.

> Our end product is a commodity: electricity.



> *It is in our best interest to examine*

new technologies

that meet our members' underlying mission: to provide

reliable and cost effective electricity.

Q. PNGC Power has supported new technology such as the Coffin Butte landfill gas project and a fuel cell demonstration project with the Bonneville Power Administration. How important are investments like that?

Recently, PNGC Power has also been involved in hydrogen hub, wave energy, and modular nuclear technologies. Investments in new technologies have been a priority for our board for many years. We may meet our future load growth needs with resources that are not now part of our resource base, including distributed generation both at the customer and utility level. It is in our best interest to examine new technologies that meet our members' underlying mission: to provide reliable and cost effective electricity.

Q. PNGC Power is participating in the region's wind integration forum, specifically regarding the over-supply issue associated with wind generation. How do you think that is going?

As I drive through the Columbia River Gorge to the east of Portland I marvel at the rapid expansion of wind generation. This growth is way beyond my expectation when I was involved in EPRI's wind R&D programs back in the 1990s. But as a pragmatic engineer, I'm concerned that this rapid expansion puts reliability at risk and may dramatically increase the cost to the end-user. Bonneville and other balancing authorities are doing a yeoman's job of keeping the lights on while integrating large amounts of wind. To the extent that this

efficiently displaces fossil fueled generation, this is a good thing. However, I remain concerned about the cost to consumers, especially when many of our rural economies are struggling. The cost of integrating and balancing variable wind generation is a major issue facing our industry. Building major transmission additions to accommodate wind is a direct cost, and it also has an impact on Bonneville's borrowing authority.



Landowners and Government Partner to Improve Lemhi River Salmon Habitat

Idaho's Lemhi is a salmon river, a reputation cemented in the journals of Lewis and Clark.

Having crossed the Continental Divide on their westward journey, the explorers encountered a band of Lemhi Shoshone Indians. On Aug. 13, 1805, on the shore of the Lemhi, Lewis wrote:

On my return to my lodge, an Indian called me into his bower and gave me a small morsel of the flesh of an antelope boiled and a piece of a fresh salmon roasted, both of which I eat with a very good relish. This was the first salmon I had seen and perfectly convinced me that we were on the waters of the Pacific Ocean.

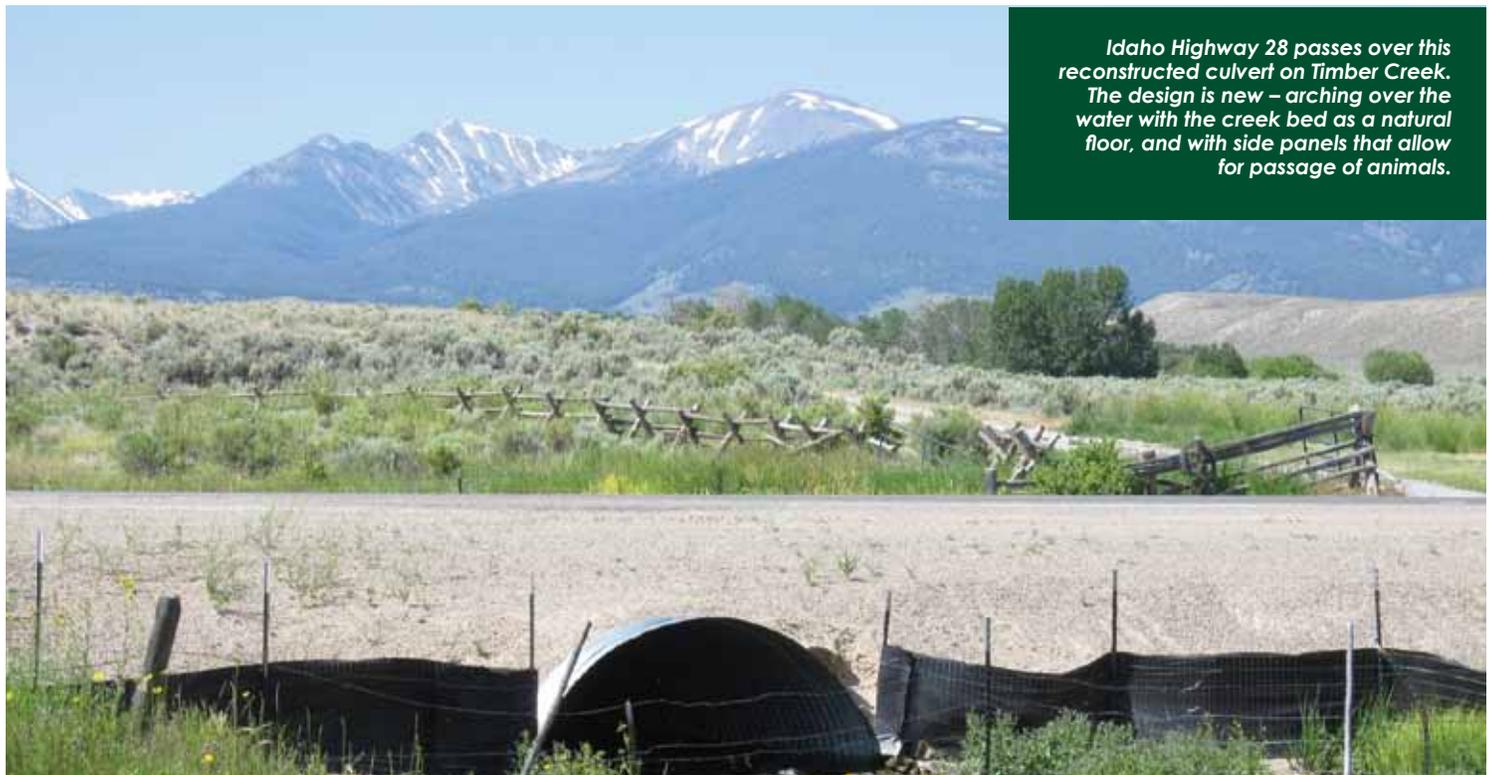
Today, the Lemhi River remains a Chinook salmon-producing stream, but its productivity has been hampered by the effects from flood-control work, road construction, and historic agricultural practices. However, a collaborative project involving landowners, state and federal agencies, and conservation-minded organizations is working to improve salmon and steelhead habitat and production in the Lemhi by reconnecting tributary streams to the main river, enhancing flow, and acquiring approximately 12,000 acres of habitat through conservation easements and fee-simple purchases from willing sellers.

The easements and acquisitions will allow hard-working ranch families to pass their legacy on to the next generation and retain private land on county tax rolls. This effort

builds on the existing Upper Salmon Basin Watershed Program, which has planned and implemented more than 250 restoration projects since 1992. The goal is to protect riparian habitat permanently and improve the flow of the Lemhi for Endangered Species Act-protected spring/summer Chinook salmon, summer steelhead, and bull trout.

The Lemhi, a tributary of the Salmon River, includes some of the most important spawning and rearing habitat in the Salmon River Basin.

The latest habitat-acquisition project is funded by the Bonneville Power Administration through the Northwest Power and Conservation Council's Columbia River Basin Fish and Wildlife Program. The program seeks to mitigate the effect of hydropower



Idaho Highway 28 passes over this reconstructed culvert on Timber Creek. The design is new – arching over the water with the creek bed as a natural floor, and with side panels that allow for passage of animals.





Improved riparian habitat is open to salmon and steelhead now that Timber Creek is reconnected to the Lemhi River just downstream.



Members of the Idaho Fish and Game Commission learn about the Lemhi project to reconnect habitat in Timber Creek, below, and the Lemhi River, which runs along the hillside in the distance.

dams on fish and wildlife. This past summer, the Council's panel of independent scientists approved the project, a requirement for final funding.

Water diversions and stream alterations in the Lemhi watershed helped establish a local economy based on natural resources. Working with landowners to reconnect the tributaries will improve fish access to spawning areas. Only two of the 30 tributaries in the project area—Big Springs Creek and Hayden Creek—are currently connected to the main river year-round. Irrigation withdrawals, which can reduce streamflows, and high water temperatures are a concern in the Lemhi, but channelization also caused a loss of floodplain access and a lack of habitat diversity in the lower reach of the river. When State Highway 28 was constructed in 1952, about five miles of the Lemhi River channel were altered or

isolated from the river. An additional 10 miles of river channel were altered in 1957 in response to significant flooding.

The new project was proposed by the Idaho Office of Species Conservation through the Columbia Basin Fish Accords, a series of project-funding agreements signed beginning in 2008 by Bonneville, three states including Idaho, and five Indian tribes. For fiscal years 2009 through 2013, funding for the Lemhi project will total \$21.6 million. Partners in the project with the Office of Species Conservation, the Council, and Bonneville include the Idaho Department of Fish and Game, Idaho Department of Water Resources, Bureau of Land Management, The Nature Conservancy, Lemhi Regional Land Trust, and the Lemhi Soil and Water Conservation District.

Restoration work is expected to occur at high-

priority locations, as well as broadly across entire tributary creek watersheds. NOAA Fisheries, the federal agency that implements the Endangered Species Act for salmon and steelhead, is optimistic about the success of the project over time. The agency predicts the actions will increase egg-to-smolt survival 16 percent for Chinook and 5 percent for steelhead.

The work is coordinated by the Upper Salmon Basin Watershed Program of the Governor's Office of Species Conservation. Hans Koenig is the project manager.

"When the project started in the late 1980s, it was locally conceived," Koenig said. "That was its strength: starting with local needs and foresight got us started on the right foot with the community."

Some landowners were skeptical at first, but as it gradually became clear that

improvements in water management could help ranchers as well as fish, landowners became more accepting. “I think contention largely is a thing of the past,” Koenig said.

Jeff Allen, who directs the Council’s Idaho office and works with Koenig and others to coordinate projects and funding, said the upper Salmon watershed program provides an opportunity for landowners to deal with federal regulations, not get run over by them.

“Community leaders are the ones doing the projects,” Allen said. “It’s not part timers, it’s the old, established guard. People now know the fish friends don’t have horns; they are here to help landowners at the same time they help the fish.”

He cites the example of an old, seven-mile-long irrigation ditch that leaked and was replaced with a diversion and pumping station closer to the cropland. The fish got more water, and the rancher got an improved, more efficient, and less costly irrigation system.

Randy Budge of Pocatello, the southeast region commissioner of the Idaho Fish and Game Commission, which oversees the state Department of Fish and Game, said the Lemhi experience is “not only unique but perhaps unprecedented in the history of water conflicts in Idaho if not the entire United States.” Rather than stake out polar-opposite positions, landowners and government decided to try collaboration rather than confrontation. “The parties came together and said, ‘Here are the problems: We want to protect farming and ranching practices, how we make our living, and at the same time, we have a conservation problem under the ESA. How do we solve that problem in a way that’s not us-versus-them; how can we work together to solve the problem?’”

And it worked; not just because ranchers needed to deal with the Endangered Species Act, but also because they love the land and recognize that their livelihood depends on its health.

Merrill Beyeler, whose ranch on the Lemhi River east of Salmon is the site of several projects to reconnect salmon habitat explains it this way:

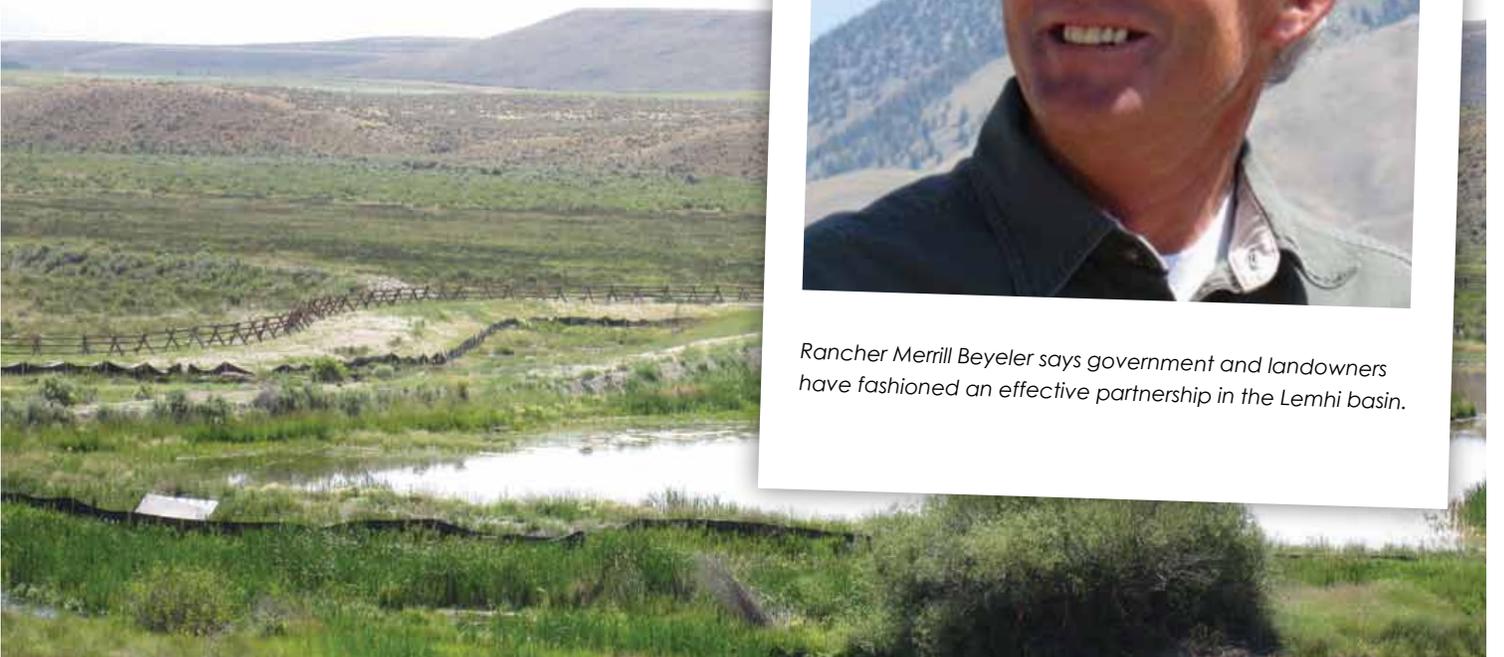
“Why do I do these things? Part of it is selfish—you just like what you see and want to be in it—just to have that opportunity to fish,” Beyeler said. “We used to graze cows down on the river, and I just didn’t like the result. We had built a fence that excluded the cattle on Timber Creek, so when I was approached with the idea of rebuilding the fence I was ready to do it.”

For Beyeler, there’s no contradiction between pursuing economic and environmental benefits on the same riverfront land.

“When you look at it, really, the river is the most valuable part even from a very selfish viewpoint,” he said. “If you don’t maintain the river, if you don’t maintain the riparian area, the financial value disappears and the aesthetic value disappears, as well. In the projects we’ve done, we’ve looked at the conservation part of it, and that’s been important. We also have to make a living—that’s what we do—we’re ranchers, that’s our only source of income. So that part has to stay viable. I don’t think those are conflicting elements. I think actually they work together.”



Rancher Merrill Beyeler says government and landowners have fashioned an effective partnership in the Lemhi basin.



Council Decisions



Pit-tagging of a Snake River Chinook.

Oct. 2011

Comment on Draft Adequacy Standard

The Council voted to request public comments on a draft electricity resource adequacy standard, which is designed to act as an early-warning system should resource development fall dangerously short of Northwest energy needs. The existing standard has been used since the Council adopted it in 2008. The draft standard, developed by a forum of electric utilities, utility organizations, public utility commissions, and public interest groups convened by the Council and the Bonneville Power Administration, is posted on the Council's website, www.nwcouncil.org.

Tucannon River Habitat

The Council approved implementing the Tucannon River Habitat project, which aims to improve habitat for Snake River spring/summer Chinook in the Snake River tributary in southeastern Washington. The project helps meet commitments under the federal 2008 Biological Opinion on Columbia River Basin hydropower operations. The recommendation was made with the condition that the Snake River Salmon Recovery Board provides a report with additional information for the Council by 2013.

Aug. 2011

Malheur River Diversion Dam Replacement

The Council approved additional funds needed to replace a diversion dam on the Malheur River that was lost in an ice flow event in 2006. The project will enable a wide range of flows in keeping with Oregon Department of Fish and Wildlife requirements.

Revising the Fuel Prices Forecast

Terry Morlan, power division director, briefed the Council on a proposal to update its fuel prices forecast. Thanks to technology advances that make it possible to obtain natural gas trapped in shale formations, supplies should be plentiful for several years, reducing prices. "The likely effect of this...would be to reduce the forecast of electricity prices," Morlan noted.

Sept. 2011

Grande Ronde River Spring Chinook Production

The Council recommended funding for the Grande Ronde Spring Chinook Project, which will integrate artificial production of salmon with the Lower Snake River Compensation Plan. The future of the project will be addressed in a review of hatchery effectiveness planned by NOAA Fisheries and the Bonneville Power Administration. As part of its recommendation on the Grande Ronde project, the Council asked the federal agencies to report on their progress on the hatchery-effectiveness review.





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Council Quarterly

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

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