



*Striking a Balance Between Energy and the Environment in the Columbia River Basin*

## Power Council Proposal Would Alter Dam Operations to Benefit Fish from Columbia River Headwaters to the Ocean



he Northwest Power Planning Council is proposing to change the way reservoirs and dams are operated in the Columbia River Basin in order to

improve the balance of water uses for the benefit of fish and wildlife from the headwaters of the river to the ocean. The Council's proposals would improve habitat for fish that live in and migrate through the Columbia River and its major tributaries while also providing more flexibility in power generation, particularly in the winter.

The concept, proposed by the Council in draft amendments to its Columbia River

Basin Fish and Wildlife Program, builds on the habitat focus of the program. This means the program will be accomplished, where feasible, by protecting and restoring natural ecological functions, habitats and biological diversity of species.

For the mainstem Columbia and Snake rivers, this means hydropower dam operations, fish passage efforts, habitat improvement investments and other actions should be directed toward protecting, enhancing, restoring and connecting natural river processes and habitats. Through the river operations proposed in the draft amendments, the Council hopes to improve spawning, rearing and resting habitat for all fish in the river system, from ocean-going

salmon and steelhead in the lower river to resident species like bull trout and white sturgeon that inhabit rivers and reservoirs in the headwaters areas.

The draft amendments are posted on the Council's website, [www.nwcouncil.org](http://www.nwcouncil.org), and public comments will be accepted through January 14, 2003. Public hearings on the amendments will be conducted in each state; a schedule will be posted on the website.

The draft amendments propose changes to the spring and summer operations of the major dams and reservoirs. Chairman Larry

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### Council Decisions

#### Revised Charter for the Independent Scientific Advisory Board

June 2002

The Council approved a new Terms of Reference document for the Independent Scientific Advisory Board, which the Council shares with NOAA Fisheries. The new terms make Columbia River Basin Indian tribes equal partners with the Council and NOAA Fisheries in managing the Board, fulfilling a commitment the Council made to the tribes in the 2000 Columbia River Basin Fish and Wildlife Program. The new terms are effective for a trial period of one year, during which the effectiveness of

the new management structure will be evaluated by the tribes, Council and NOAA Fisheries.

#### Innovative Fish and Wildlife Projects

August 2002

The Council picked 10 fish and wildlife projects that will utilize new and innovative techniques to enhance fish and wildlife in the Columbia River Basin and recommended them to the Bonneville Power Administration for funding.

These were selected from a total of 37 project proposals that requested a total of \$6.5 million. The projects

*(continued on page 10)*

### Whats Inside

Subbasin Planning Update	3
Learning About Salmon At The River's Edge	4
Future of the Bonneville Power Administration	5
Standard Market Design	6
Fish and Wildlife Project Recommendations	7
RAND Report on Region's Energy Future	8
Success Stories - Flathead River	9
Hatchery Review Begins	12

# Power Council Proposal

(continued from front page)

Cassidy said that because most of the Council members believe the biological benefits of spring flow augmentation for migrating salmon and steelhead have not been well-documented, the draft amendments propose to shift some of the water currently used for that purpose to the winter.

Shifting the water in this way would improve hydrosystem flexibility, which would

help in the event of future power emergencies, and could result in increased hydro-power sales. If so, more money would be available to finance elements of the Council's program, such as prioritized projects, Cassidy said. Under the Council's proposal, reservoirs would refill by the end of June.

For the summer, the Council proposes to release flow augmentation water from upriver

reservoirs over a longer period of time – May through September, rather than the current May through August. This would improve habitat conditions for reservoir- and river-dwelling populations in the headwaters and make more water available to augment flows

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## The Northwest Power Planning Council's Draft Mainstem Amendments

The mainstem plan will consider ways in which the hydrosystem operations, called for in the biological opinions, could be adjusted so that they meet not only the needs of ESA-listed stocks, but the requirements of the Northwest Power Act, which has a broader mandate. The plan proposes specific revisions focused on benefiting additional species and additional power system flexibility.

Areas	Actions	Compared to the BiOp
Objectives for the Mainstem	The draft mainstem plan includes a set of cost effective measures intended to protect, mitigate, and enhance all the fish and wildlife of the Columbia River Basin that have been affected by the development, operation, and management of the hydrosystem.	May require federal agency flexibility or changes in the implementation of the biological opinions.
Water Management	Systemwide water management, including flow augmentation from storage reservoirs, should balance the needs of anadromous species with those of resident fish species, and the needs of migrating fish with those of spawning and rearing fish.  (Language noted in draft amendments not to imply the Council is advocating dam breaching on the lower Snake River. The Council supports the 2000 BiOp's 3, 5 and 8 year reviews of listed fish recovery efforts, to include offsite ESA mitigation efforts upstream of the lower Snake River dams.)	Does not support the spring and summer flow targets in the NOAA Fisheries 2000 Biological Opinion due to lack of evidence that they are related to survival within the range of the agency's control, given reservoir and other hydrosystem constraints. Proposes a rigorous evaluation of the BiOp flow targets.
Spill	Proposes an immediate and comprehensive evaluation to determine the optimum spill level for each project to increase survival (or at least not decrease it) while achieving greater efficiencies that would save energy and money. A rigorous evaluation of the costs and effectiveness of spillway passage at each dam should be conducted to determine when and how much to spill.	Does not propose a change in current spill operations.
Fish Passage	Calls for an aggressive look at the removable spillway weirs as another way to spill and generate power more efficiently. Supports ongoing tests by the Corps of Engineers of surface bypass systems at the dams to aid juvenile fish passage, and also ongoing efforts to improve fish passage at the dams by relocating bypass outfalls, modifying turbines, and researching fish diseases at fish passage facilities.	Does not differ from BiOp.
River Operations and Flow Augmentation	Spring River Operations: Highest priority would be to refill upriver storage reservoirs by the end of June; calls for a 95 percent probability of refill. Eliminates the BiOp requirement of April 10 flood control elevation, allowing deeper draft of reservoirs in winter. More water would be available in the winter months for power generation and the corresponding drop in reservoirs would be filled by runoff. This would have the effect of reducing spring flows by about 10 percent in most years.  Summer River Operations: In general, would stretch out the BiOp flow augmentation volume releases from May through September. Would also reduce the total amount released from Hungry Horse and Libby (except in lower 20 percent of water years) and Grand Coulee (in all years). Would cause water to be released at a slower, steadier rate through the summer, more like a natural hydrograph, providing benefits for resident fish in upriver storage reservoirs and in areas immediately below the dams without adversely affecting salmon and steelhead populations in the lower regions of the basin. Would reduce flows in the lower river in July and August, in the 10 percent or so range in August; would increase flows in September.	Calls for elimination of the BiOp target of reservoir refill to within one-half foot of the upper flood control rule curve by April 10.  BiOp volumes are greater at Hungry Horse, Libby, and Grand Coulee. The draft mainstem plan spreads the release of the volume out at all four projects (including Dworshak), and reduces the total amount of flow augmentation.

# Power Council Proposal

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for salmon and steelhead populations that migrate to and from the ocean in September.

In a sense, the spring operations set up the summer operations, with full reservoirs being available for flow augmentation by the end June. The Council believes this whole-basin, reservoir-focused approach will achieve a better balance of water uses and river operations for the benefit of all fish and wildlife, and hydropower generation, in the Columbia River Basin.

“We know our draft amendments will be controversial because we propose to change the status-quo dam operations. But we acknowledge that there are significant questions about the fish benefits of spring flow augmentation,” Cassidy said. “These are draft proposals, and we want to hear from all of the region’s state, federal and tribal fish managers, as well as others affected by the hydrosystem, before we make our final decision. It is imperative that all interested parties weigh in with solid science to support or reject our proposals in order to help us make our decision. All Council members are committed to basing our decisions on the best available science.”

The headwaters-down approach in the draft amendments represents a shift from the

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Larry Cassidy  
Council Chair

Council’s current fish and wildlife program by relaxing spring flows and spreading the available augmentation water over a longer period time through the summer. The draft amendments also are a shift away from the river operations required by the 2000 Bio-

logical Opinion on hydropower operations issued by NOAA Fisheries on behalf of threatened and endangered species of salmon. The Council proposes, for example, to eliminate a Biological Opinion requirement that storage reservoirs fill to a certain level by April 10 each year. This would allow some of the water to be shifted to winter uses, as the draft amendments propose.

“We expect a strong response from the public to our proposals for river operations and to the other elements of the draft amendments, as well,” Cassidy said. “Because the Council is a planning agency, and because all four Northwest states are equally represented, the Council is the proper place for this debate.”

The draft mainstem amendments also account for the impact of the recommended river and dam operations on the region’s power supply and include a paper on the subject, which is part of the amendments package for public comment. The Council is required by the Northwest Power Act of 1980 to protect, mitigate and enhance all fish and wildlife of the Columbia River Basin that have been affected by hydropower while also assuring the Pacific Northwest an adequate, efficient, economical and reliable power supply. ■

## Fall Subbasin Planning Update

In early August, the Council announced its request for recommendations for subbasin plans, locally developed plans that will identify and prioritize fish and wildlife efforts in the Columbia River Basin. Key information in the request for recommendations includes the schedule for submitting subbasin plan recommendations; the criteria to be met in order to receive funding for plan development; and the review and adoption process, including the elements in the scientific review.

Technical outreach to planning groups began in September with workshops in Kalispell, Montana, continuing into October with meetings in Hood River, Oregon and Yakima, Washington.

The workshops have been an effective way to educate local technical teams about the assessment products and provide guidance on the aquatic and terrestrial components of the plan. The Council has approved the following workplans for these subbasins: the Kootenai, Flathead, Deschutes, and 11 plans administered by the Lower Columbia Fish Recovery Board. The Council is due to consider the Hood plan in November, and other plans are also scheduled for submission in December.

As subbasin planning continues to evolve, the Council has been working on options for revising the current schedule and for identifying the specific steps involved in the review and adoption process. The Council’s website has also tried to make it

easier for people to find the information they need, by state. For example, the Oregon Subbasin Planning Coordination Group recently finalized their Oregon Specific Guidance document, now available on the website for use within Oregon subbasins. New website features also include a tracking system to monitor the progress for each subbasin in the planning process, and the web address is easy to remember: [www.subbsins.org](http://www.subbsins.org).

## Learning About Salmon at the River's Edge

Every September for the past 12 years, groups of school children have taken a trip to the Cle Elum River to observe for themselves spawning spring chinook salmon. It's part of an innovative educational program, funded through the Northwest Power Planning Council's fish and wildlife program with grant money from the Bonneville Power Administration. The Environmental Education Program is housed in the Bureau of Reclamation, which also provides in-kind support. The program brings scientific expertise and resources to teachers and classrooms throughout the Yakima Basin in Washington State in the belief that "experience teaches."

On this day in the last week of the month, Julie Larson, the program's coordinator, and Bob Tuck, a veteran fisheries biologist and technical consultant for the program, lead three classes of third-graders from Stewart Elementary School in Ellensburg down to the river to see the salmon complete the last phase of their lives and hear about the life cycle of the fish.

As the children walk single file along the narrow bank of the river, they can see fish rippling just beneath the surface of the water. They are clearly thrilled to see

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*Julie Larson  
Program Coordinator*

some that are spawning, and a few females digging their redds, or "nests." Once in a while, they see a dead salmon in the shallow water near shore. The students already know about redds and are not surprised to see the dead fish; they've been studying the life cycle of salmon since school began.

Once settled, theater-style, on the sloping shoreline, Bob describes the salmon's

journey and what is happening to their bodies as they migrate back to their natal rivers. The culmination of his talk will be a quick dissection of a dead salmon to view the inside of the body. It is a prospect that, curiously enough, enthralls the young students. Everyone wants to hold the fish.

Bob asks questions about the salmon's migration: Where do they go in the ocean? What kinds of animals eat salmon? How can you tell a male from a female? How can you tell how old a fish is? The children know the answers to most of the questions and have good questions for Bob in return.

"Why doesn't the milt get washed away?" asks one girl. Bob explains that because the female digs her redd deep enough, the water is still and undisturbed by the rushing current. It's why, he illustrates with a female fish, her tail is nearly white—the skin has worn away from excavating the abrasive rocks.

What the students discover on their trip to the river is the physical reality behind the facts they have read about. They experience the wonder of the fish itself and its connection to the beauty of the river; how, during its life it is an important source of food for all manner of aquatic and wild life; and in death, it nourishes the surrounding forest of trees. For many of these young people, it is their first time outdoors, and it makes a lasting impression. The adults that accompany the students, their teachers and a few parents, are equally taken with their field experience. The program works to enhance the schoolroom experience in other ways, too. Classes receive salmon eggs that students care for and hatch, monitoring them in tanks until they are released by the students into the river. Other class projects emphasize problem solving, critical thinking, evaluation skills, data collection, scientific methodology, and related science knowledge. The program's content also enables teachers to integrate social studies with science, as children learn the lesson of caring for the streams and rivers in their community.

More than 250 teachers throughout the Yakima area have been trained, and each year over 5,000 students, kindergarten



Students from Stewart Elementary School in Ellensburg enjoy the river's sights and flora.

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# Learning About Salmon

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through high school, are involved in hands-on activities that help them learn about their local watershed. As Julie points out, "The field trip itself requires a good deal of coordination and planning, but it's an effort the teachers are happy to make for the educational value it brings to their students."

The program's annual budget covers salaries, technical and administrative support, and transportation so teachers can participate in field trips about water quality in several locations around the basin. Perhaps even more important, the program is a link between schools and experts from state and federal agencies, and private businesses. The list of partnerships is impressive: Washington Department of Fish and Wildlife; U.S. Fish and Wildlife Service; irrigation districts;

U.S. Forest Service; Washington State University Cooperative Extension; Pacific Power & Light; North Yakima Conservation District; Boise Cascade; Washington Department of Ecology; Yakama Nation; private land owners; Trendwest; and the City of Yakima. As one teacher put it, "One of the strengths of this program is that it is a good 'clearing-house' for information and resources...one call to Julie was all we needed to put us in touch with the right people, with the right resources to best help our students."

The program provides expertise, materials, training, field experience, and professional mentoring to teachers on a wide range of subjects including salmon life cycle, stream hydrology, wetlands, riparian habitat functions, monitoring of water quality, and

understanding the array of water needs in their community like reservoirs, irrigation and agricultural uses, industrial and hydroelectric. Class projects cover a broad range of interdisciplinary skills, from math and science investigations to language arts, journal writing, historical research on the watershed, civics, economics and responsible citizenship.

Perhaps the most telling evidence of the program's success is the enthusiasm it inspires in students, instilling them with the knowledge that they will be stewards of the environment one day. Walking back from the river, one student asks of his classmate, "What did you like better, Leavenworth [hatchery] or today?" His friend replied without hesitation, "This was the best!" ■

## The Council and Bonneville Conclude Public Hearings on Bonneville's Future

At the end of September the Northwest Power Planning Council and the Bonneville Power Administration concluded a series of public meetings to hear from the region how electricity from the Federal Columbia River Power System should be marketed after 2006.

The regional discussion about the future of Bonneville has been going on for several years, including a dialogue among the four Northwest governors that began in the winter of 2001. The heightened level of regional interest, and the recently concluded series of public meetings across all four states, were triggered by a proposal developed by a joint utility group that believes the region's electricity needs can be better served by fundamentally altering Bonneville's role in marketing federal power. Regardless of the final outcome of the discussion, the proposal is potentially the most significant change since Congress passed the Northwest Power Act in 1980.

The public process and comment period began last June and closed on October 18. The meetings were intended to engage the participation of a broad and diverse cross section of interests, and were well attended in all the locations. In addition to soliciting written proposals and comments, the Council and Bonneville conducted six

public meetings throughout the Northwest. Meetings were held in Pasco, Washington; Missoula, Montana; Spokane, Washington; Seattle, Washington; Boise, Idaho; and Portland, Oregon.

Along with the joint utility group's

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proposal, three other proposals were also presented at the meetings: 1) The public interest groups' proposal focused on fish and wildlife, conservation and renewables; 2) Alcoa's proposal for Bonneville service to Alcoa after 2006; and 3) the United Steelworkers Union's proposal addressing Bonneville service to the aluminum industry overall.

The public interest groups offered a variety of recommendations, including that Bonneville retain more authority over river operations than it would have under the

joint utilities' proposal, even where that retained authority exceeds that required by Bonneville to meet its obligations under the 2000 biological opinions. They also recommend that the region's future electricity load growth be satisfied through a combination of conservation and renewable resources. Alcoa's proposal is for Bonneville to supply Alcoa with 700 average megawatts of power and that Alcoa acquire a new power source, the output of which it would sell to Bonneville at cost (including a return on investment) and then repurchase at Bonneville's melded rate. The steelworkers' proposal would result in the aluminum Direct Service Industry customers (DSIs) each receiving access to a minimum of 100 megawatts of power from Bonneville at melded rates, plus 50 megawatts for non-smelter loads.

All of the proposals submitted to the Council and presented at the public meetings are posted on the Council's website, [www.nwcouncil.org](http://www.nwcouncil.org).

The Council will synthesize the information presented at the meetings and in the written comments, and formulate its own recommendations to Bonneville later this fall. ■

# Northwest States Split Over Federal Proposal for a One-Size-Fits-All Electricity Market Design

The Federal Energy Regulatory Commission is moving ahead with the deregulation of the nation's electricity industry with a plan to standardize the sale and transmission of electricity across the nation to ensure fair competition and monitor wholesale markets to protect ratepayers from the kind of manipulation that occurred in California in 2000 and 2001.

FERC's plan is called Standard Market Design, and it represents the third major policy change promulgated by the federal agency since the National Energy Policy Act of 1992 authorized the deregulation of the nation's electricity industry. The others were Order 888 in 1996, and Order 2000 in 1999. Order 888 required open access to high-voltage transmission lines, and Order 2000 set the groundwork for regional organizations to manage the transmission lines.

With the current order, FERC has a vision of a standard design for wholesale electricity markets that would ensure stability and cost reduction through new rules and incentives. Judging by the lively debate it has attracted among the nation's state energy regulatory agencies, including those in the Northwest, it is anything but a sure thing.

FERC intends its Standard Market Design to 1) create genuine wholesale competition, including a market-monitoring function to protect consumers; 2) improve the efficiency of transmission; 3) send the right price signals to encourage much-needed investments in transmission facilities and generating plants; and 4) generally give wholesale power customers more choices.

At the same time, Northwest utilities, state regulatory commissions, the Bonneville Power Administration and other interested parties have been working to design a Northwest transmission organization — it is called RTO West — in response to FERC's Order 2000. Northwest state regulatory agencies are split over Standard Market Design, with Oregon and Montana generally supporting it and Idaho and Washington generally opposing it. All of the states support the ongoing effort to develop RTO West as an alternative to Standard Market Design. In October, the Northwest Power Planning Council heard from commissioners of the state regulatory agencies in an open discussion about Standard Market Design.

Marilyn Showalter, chair of the Washington Utilities and Transportation Commission, said the FERC plan "is a radical transformation of the electricity system in this nation and would seriously disrupt the way electricity is provided in the Northwest." She said FERC proposes to

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*Marilyn Showalter  
Washington Utilities and  
Transportation Commission*

provide a remedy for undue discrimination by utilities that own their own generating plants and transmission facilities. FERC believes that transmission-owning utilities favor their own customers and that independent power producers who seek access to the transmission lines are at a disadvantage. But, Showalter said, most utilities are structured that way, and so by imposing Standard Market Design FERC would be "rejecting the stated policies and practices of 35 states for the last 75 years, maybe 100." She said Standard Market Design "preempts and goes much further than the RTO West process, mainly by purporting to mandate certain actions by the state and to assert jurisdiction to make it happen."

Commissioner Marsha Smith of the Idaho Public Utilities Commission agreed with Showalter and said that Standard Market Design would "intrude into areas that have been thought of as state jurisdictional." She said long-term planning "is the big issue that is left unaddressed" by Standard Market Design and should be done in the region, not through a standard design imposed by FERC. Smith said the RTO West proposal "is a platform that can be used to solve a lot of the concerns and issues with regard to our Northwest transmission system."

Roy Hemmingway, chair of the Oregon Public Utility Commission, offered a slightly different view, saying that FERC "is on the right track, and we need to give them credit for the effort they have undertaken." But he also said that RTO West would accomplish the goals of Standard Market Design while accounting for the region's unique, hydropower-dominated power system. RTO West is needed because "there still is discrimination between owners of transmission and people who are trying to get on the transmission system," Hemmingway said. He said FERC officials have told him that the RTO West proposal "is 95-percent in compliance with the Standard Market Design proposal ... they feel the West is free to design its own market as long as it meets certain general criteria of actually having a market, and having a market monitoring unit and having the ability to ensure that there are adequate [generating and transmission] resources." He said FERC "is not going to try to micromanage the western market or the western transmission system."

Bob Anderson, chair of the Montana Public Service Commission, agreed with Hemmingway, saying "FERC is basically on the right track." Anderson said Pat Wood, chairman of FERC, has "marching orders from the White House: No more California." He said the "dramatic dysfunction" of the wholesale power markets in 2000 and 2001 have been addressed by FERC in its tentative support of RTO West.

While Showalter and other critics say Standard Market Design won't work in the West, "we need something, and let's get our heads together, sharpen our pencils and figure out what will work for us," Anderson said. He added that the "just say no crowd" has hammered FERC, but that FERC's response has been constructive, a response that "puts the challenge on us to say, OK, what is it we need?"

Anderson said he hoped the Council would take a similarly constructive approach in its own comments to FERC on Standard Market Design, "because if anybody has analytical resources, it is the Council, and also the regional perspective."

The Council is developing comments to FERC and planned to compete them in November. ■

# Fish and Wildlife Project Recommendations Complete First Full Round of Province-Level Reviews

In September, the Northwest Power Planning Council approved funding for the next three years for a number of projects intended to improve fish and wildlife survival in the Columbia River Basin from the mouth of the river to eastern Idaho and north to the British Columbia border.

Project sponsors, who include state and federal fish and wildlife agencies, Indian

tribes and private businesses, proposed the projects to implement the Council's Columbia River Basin Fish and Wildlife Program in five geographic areas of the basin known as ecological provinces. Each province has similar characteristics of climate, geographic features and fish and wildlife species.

The Council recommended the projects to the Bonneville Power Administration,

which funds the Council's fish and wildlife program. Funding will be for Fiscal Years 2003 through 2005.

Information about the projects is available on the Council's website, [www.nwcouncil.org](http://www.nwcouncil.org). Click on "Fish and Wildlife" and then "Province Review," and then click on the province. Here is a synopsis of the provinces and the budgets:

## Columbia Cascade province

This province is in north central Washington and includes the mainstem Columbia River between Wells and Chief Joseph dams, as well as tributaries including the Okanagon River. The Council recommended a two-part package of projects. The first part, which includes ongoing work and four new projects, totals \$4.2 million. Part Two consists of 12 projects that were rated high, but not as high as the projects in Part One. The Council recommended that the Part Two projects be funded from a portion of Bonneville's unallocated funds in its fish and wildlife budget, if that funding becomes available. The specific budget recommendations are: Fiscal Year 2003, \$4,206,006; Fiscal Year 2004, \$4,428,228; Fiscal Year 2005, \$3,947,912. The budgets for the Part Two projects are: Fiscal Year 2003, \$2,046,002; Fiscal Year 2004, \$3,414,357; and Fiscal Year 2005 \$2,265,115.

## Lower Columbia and Estuary provinces

These provinces are downstream of Bonneville Dam and include lower Columbia River tributaries. The border between the two provinces is at River Mile 34. The Council's recommended budget for the two provinces increases spending by about \$2 million per year, in recognition of the importance of the estuary in the life cycle of salmon and steelhead. About 85 percent of the funding would be for anadromous fish projects, and 15 percent would be for wildlife projects. The recommended budgets are: Fiscal Year 2003, \$8,976,828; Fiscal Year 2004, \$9,864,016; and Fiscal Year 2005, \$8,888,809.

## Middle Snake provinces

This province includes the Snake River and its tributaries from Hells Canyon to Clover Creek. The base budget for the province, which is the amount of money necessary to continue the ongoing work, is \$2.3 million. The Council recommended the following budgets: Fiscal year 2003, \$2,328,517; 2004, \$2,616,071; and 2005, \$2,376,861.

## Upper Snake province

This province includes the Snake River and its tributaries above Clover Creek to the headwaters. The budget for projects recommended by the Council is \$1,018,458 for Fiscal Year 2003; \$1,033,550 for 2004; and \$1,062,765 for 2005.

## Public Hearing Schedule

The Northwest Power Act requires that the Council conduct public hearings on the draft mainstem amendments in each of the four Northwest states. The requirement is for at least one hearing in each state.

Hearings have been scheduled, as follows. Locations and times will be posted on the Council's website, [www.nwcouncil.org](http://www.nwcouncil.org).

Idaho	Council meeting, November 13-14, Coeur d'Alene
Montana	Kalispell, December 3; Missoula, December 4
Oregon	Council meeting, December 10-11, Portland
Washington	Council meeting, January 14-15, Vancouver

Additional hearings may be scheduled. Please check the Council's website for updates, [www.nwcouncil.org](http://www.nwcouncil.org).

# RAND Report on Region's Energy Future Lacks Northwest Information

A September 2002 report by the RAND Corporation that encourages the Northwest to build energy conservation and renewable resources to meet a portion of the future demand for electricity ignores the region's 22-year history of developing those resources and aggressive plans for doing so in the future, according to the Northwest Power Planning Council.

The RAND report examined three different scenarios for diversifying the Northwest power supply by increasing reliance on energy conservation and renewable resources, particularly wind power. RAND concluded that increased reliance on conservation and renewables to 1) displace some new natural gas-fired power plants, 2) replace the energy that would be lost from breaching the four lower Snake River dams, or 3) serve the power needs of the region's direct-service industries (primarily, these are aluminum plants), would have no significant impact on the regional economy.

"The biggest disappointment I have is that they didn't talk to us," Council Chairman Larry Cassidy said. "RAND is a highly credible institution. RAND did not use the significant information contained in the Council's Northwest Power Plan regarding electricity demand forecasts, ranges of future fuel prices or the availability of cost-effective efficiency and generation resources. As a result, the report does not take into account the Pacific Northwest's history of aggressively pursuing efficiency and renewable resources."

Mark Bernstein of RAND, who discussed the study with Council members at their October meeting, said RAND "did take a look at what the region has done, but we did not include it, and we should have."

But he said RAND would not revise the report. "The report is finished as is, and it does what it says it does," he said.

In a November 12 letter to Steve Rattien, director of RAND Science and Technology, Cassidy said the Council does not dispute the basic conclusions of the report: That cost-effective energy efficiency improvements can be beneficial, that wind power can provide a hedge against high natural gas prices and that solar energy is too expensive at this time. Nor does the

Council dispute RAND's conclusion that the cost of breaching the four Snake River dams, estimated at \$1 billion, would not have a significant impact on the \$400 billion Northwest economy.

However, according to the Council's letter, "the fact that an action does not have a significant impact on the regional output or employment should not, in and of itself, justify adoption of such an action. Instead, we believe a decision to remove dams should be justified based on the potential benefits to salmon and other activities compared to the subregional costs of removing the dams and replacing the electricity supply, including the fact that the Bonneville Power Administration and its customers are likely to have to repay the

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Larry Cassidy  
Council Chair

debt on the dams even if they are removed, a consideration that was omitted from the RAND report."

In the letter, the Council also noted a 2002 U.S. Army Corps of Engineers study that calculated the annual, regional economic impacts of removing the four dams. The Corps calculated annual impacts for one to three years following dam removal as \$272.4 million in business transactions, \$252.9 million in personal income and 2,290 jobs, and also identified negative socio-economic impacts at subregional levels.

"Removal of the four lower Snake River dams has an economic impact that may be small relative to the entire Northwest economy but relatively large compared to the estimated benefits," Cassidy said. "In addition, the economic effects are likely to be concentrated, and more significant, in some of the region's local economies."

The Council believes that a much more useful analysis would have resulted if RAND

had adopted a more detailed approach to assessing the regional economic effects while also utilizing the best available regional and subregional information involving a broad spectrum of interests, Cassidy said.

The Council reviewed the RAND report after it was issued and determined that some of its conclusions are reasonable, but others are not, largely because it is based on a misinformed forecast of future regional energy needs. The forecast, produced by the federal Energy Information Administration (EIA), is flawed in several important aspects, including:

- The EIA predicts that the Northwest will develop 123 megawatts of wind generation by the year 2020, when in fact more than 400 megawatts of wind power already have been developed in the Northwest and permits have been issued for more than 600 more.
- The EIA forecast is silent on the future development of energy conservation, when in fact more than 1,600 megawatts of conservation already have been developed in the region and at least that much more is available and cost-effective, according to the Council.
- The EIA forecast also says the Northwest will need 10,000 new megawatts of natural gas-fired electricity by the year 2020, but the Council's forecast is for less than 7,000 new megawatts of gas-fired generation.

Cassidy said the RAND report's conclusion that 20 percent of the EIA's forecast of expected gas-fired generation could be replaced with cost-effective conservation or renewables is credible, and an interesting contribution to regional thinking about how to meet the future demand for power. But the Council had concerns with other parts of the RAND report. For example, RAND's conclusion that 5,000 megawatts of conservation is available in the region at a price between \$15 and \$30 per megawatt-hour is more than three times higher than the Council's highest estimate of cost-effective conservation potential. Bernstein said RAND's estimate was intended be "an upper limit" and was based on conservation investments in California, not the in Northwest. ■

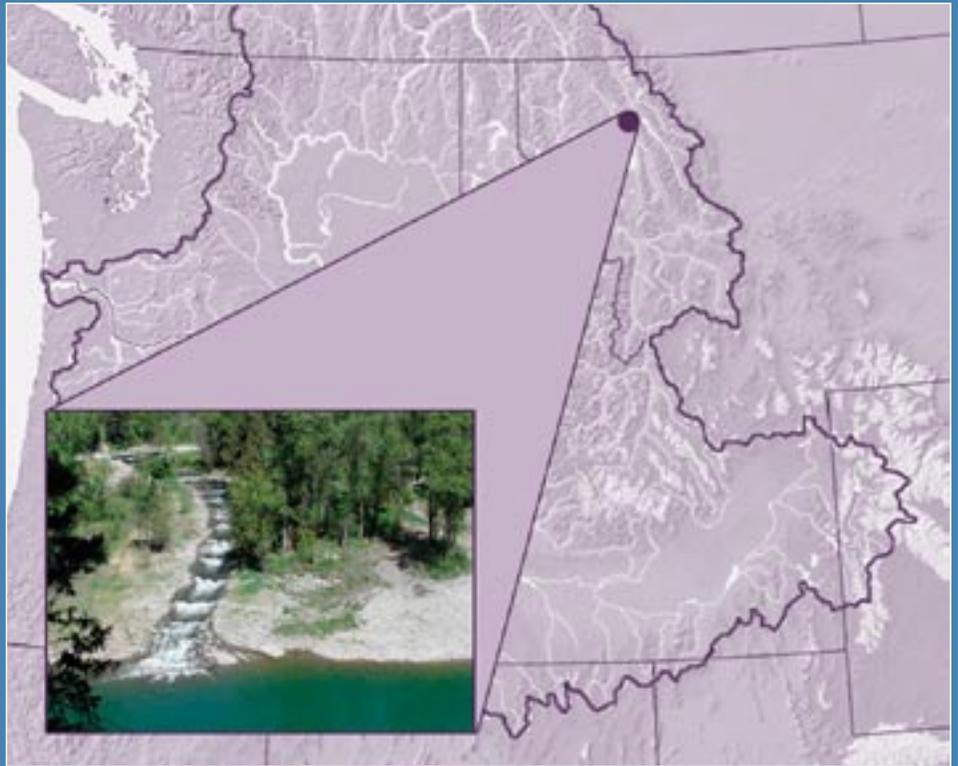
# Success Stories — Flathead River

## The Hungry Horse Mitigation Program

The Hungry Horse Mitigation Program, sponsored by Montana Fish, Wildlife and Parks, began in 1992 to address fish losses associated with the construction and operation of Hungry Horse Dam. The dam isolated approximately 38 percent of the Flathead Lake drainage and changed the physical and biological characteristics of the lake and river. The program's goals are to restore and reconnect critical habitat, reduce the negative interactions between native and non-native fish, and improve dam operations for native trout recovery.

The Flathead River system in Northeast Montana is a regional stronghold for migrating westslope cutthroat trout, part of Montana's natural heritage. Installation of the dam completely blocked fish migrations from Flathead Lake to the South Fork Flathead River upstream. In order to improve fish passage to critical spawning and rearing habitat, the program initiated several culvert replacement projects. These combined projects re-opened 16 percent of the available spawning and rearing habitat to migratory fishes in the reservoir system, and monitoring surveys have shown significant increases in adult and juvenile fish upstream of each passage improvement site. The program is also using innovative natural channel restoration techniques to improve native fish habitat throughout the upper Flathead River drainage. In one instance, improvements to Emery Creek included removing sections of a logging road that had distorted the natural meandering of the stream causing habitat degradation and creating barriers to fish migration. The improvements enhanced fish habitat and restored a two-mile section of channel to aid the spawning and rearing habitat for native trout.

Dam operations had also created unnatural flow and temperature fluctuations in the Flathead River downstream of Hungry Horse Dam. In 1996, a temperature control structure was installed on the dam to correct the problem. It allows dam operators to take water from the appropriate depth in the reservoir so the water flowing through



the dam turbines matches the natural, seasonal temperature pattern in the river. As a result, normal temperatures were restored in the Flathead River downstream of the dam which has helped to increase favorable stream and habitat conditions for fish.

# Council Decisions for 2002

(continued from previous page)

recommended by the Council totaled \$1,960,710, which was within the \$2 million set aside, by agreement with Bonneville, in the Council's program for funding innovative projects.

In September, Bonneville informed the Council that because of its current financial difficulties it would fund only the two top-ranked projects for a total of just under \$400,000. One is a systemwide research project and the other is a research project involving Snake River fall chinook salmon.

## Council Comments on the Biological Opinion Implementation Plans of Federal Agencies

September 2002

The Council approved comments to the U.S. Army Corps of Engineers, Bureau of Reclamation and Bonneville Power Administration on drafts of their one-year and five-year Biological Opinion implementation plans. The Council's comments focused on five broad themes: 1) The federal agencies should use the Council's provincial review process to select off-site mitigation projects that satisfy Biological Opinion requirements; 2) The agencies need to clarify how they will use subbasin plans to coordinate fish and wildlife recovery implementation in the region; 3) The federal agencies need to work within existing regional fish and wildlife mitigation and recovery processes; 4) The agencies should support existing state and tribal protocols as the foundation for a regionally integrated program of research, monitoring and evaluation; 5) The Council is concerned that the agencies are defining what should be the funding responsibilities of other entities without meaningful consultation with the Council; Bonneville then is using these definitions of responsibilities

as reasons not to fund projects recommended by the Council.

## Project Recommendations in Five Ecological Provinces

September 2002

The Council completed the first full round of province-level fish and wildlife project reviews by recommending projects to Bonneville for funding during the next three years in five ecological provinces. The provinces are the Estuary, Lower Columbia, Columbia Cascade, Upper Snake and Middle Snake. Details of the recommended projects are reported elsewhere in this edition of the Council Quarterly.

## City of Yakima Water Intake Screen

September 2002

The Council recommended that Bonneville redirect \$324,000 from the Action Plan budget, which was intended to pay for projects to mitigate the impacts on salmon and steelhead from emergency hydropower operations during the drought of 2001, to pay for modifications to a fish diversion screen that is planned for installation on the municipal water intake for the city of Yakima, Washington.

## Contract for Subbasin Planning

October 2002

The Council approved a master contract with Bonneville to pay for subbasin planning for a period of two years. In developing the contract, Bonneville inserted language that asserted one purpose of subbasin planning is to "guide Bonneville's expenditures by giving priority to strategies for ESA recovery activities." Later, concerns were raised by upper

Columbia Indian tribes, the Intermountain Province Work Group, and others, that the language appeared to favor Bonneville's Endangered Species Act responsibilities over Bonneville's Northwest Power Act responsibilities to protect, mitigate and enhance all fish and wildlife affected by hydropower dams — including, but not limited to, ESA-listed species. Bonneville rewrote the language to state that subbasin plans will guide Bonneville's expenditures to avoid jeopardizing listed species and ensure progress toward their recovery while also satisfying Northwest Power Act requirements. In September, the Council approved this language change and invited public comments on it.

## Approval of Subbasin Planning Contracts

October 2002

The Council authorized Executive Director Steve Crow to negotiate 11 workplans for the completion of subbasin plans within the Washington Lower Columbia Fish Recovery Board's region. The subbasin workplans have the following projected costs: Washington Columbia Estuary, \$54,004.13 (shared with Oregon); Grays River, \$87,177.56; Elochoman River, \$162,061.94; Lower Columbia, \$66,561.94 (shared with Oregon); Cowlitz River, \$237,982.45; Kalama River, \$187,177.56; Lewis River, \$224,850.99; Washougal River, \$187,177.56; Wind River, \$187,177.56; Little White Salmon River, \$149,504.13; and Columbia Gorge, \$54,004.13 (shared with Oregon). The subbasin planning process is detailed in terms of assessment, inventory and the development of the management plan. The completion date is May 2004. The projected overall budget for funding subbasin planning in the 11 subbasins is \$1,350,000. The projected budget for statewide/provincial/tribal technical support for the assessment is \$347,680.

# Calendar

## Calendar of Council Meetings and Other Events

November	19	Washington's Water Future: Implementing Watershed Solutions with Keynote Speaker The Honorable Governor Gary Locke - Rhodes Center, Tacoma, Washington, contact Linda Hill, 360-757-1551.
November	20-22	Oregon Watershed Enhancement Board (OWEB)/Oregon Association of Conservation Districts (OACD) Listen to the Ripples Conference - Deschutes County Fair and Expo Center, Redmond, Oregon.
December	3-5	53rd Annual Pacific Northwest Fish Culture Conference - Best Western Lakeway, Bellingham, Washington.
December	4-5	Residential Heat Pump Water Technology Workshop - Northwest Power Planning Council Central Office, Portland, Oregon.
December	10-12	Oregon Rural Electric Cooperative Association Annual Meeting - Embassy Suites Washington Square, Tigard, Oregon.
December	10-12	Northwest Power Planning Council Meeting - Central Offices, Portland, Oregon.
December	12	Public Power Council's 36th Annual Meeting - Sheraton at Airport, Portland, Oregon.
December	19	Columbia River Inter-tribal Fish Commission (CRITFC) Commissioner's Meeting - CRITFC office, Portland, Oregon, contact Sue Seven, 503-238-3561.
January	13-17	Pacific Salmon Commission (PFC) Post-Season Meeting - Vancouver, British Columbia.
January	14-15	Northwest Power Planning Council Meeting - Vancouver, Washington.
January	24-25, 30-31	Columbia Watershed Salmon and the Endangered Species Act: Past, Present, and Future, Portland State University, Executive Leadership Institute's Training Room.

## Calendar of Public Comment Periods

November	29	Deadline for submission of comments on Draft Fiscal Year 2002 Annual Report for Congress. <a href="http://www.nwppc.org/library/2002/2002-10.htm">www.nwppc.org/library/2002/2002-10.htm</a> .
January	10	Deadline for submission of comments on Draft Mainstem Amendments to the Columbia Basin Fish and Wildlife Program. <a href="http://www.nwppc.org/library/2002/2002-16.htm">www.nwppc.org/library/2002/2002-16.htm</a> .

## The Council Begins Its Review of Basin Hatcheries

The Northwest Power Planning Council's review of artificial production facilities and programs in the Columbia River Basin is underway, with workshops now completed for the Columbia Gorge, Inter-Mountain, and Mountain Columbia provinces. The Artificial Production Review and Evaluation (APRE) will evaluate the purposes of anadromous and resident fish programs in the basin with the goal of improving their operations. The review is part of the implementation stage of the Council's Artificial Production Review, a report that outlined recommendations to reform hatchery practices.

The initial work of the review focuses on gathering information and data from the basin's hatchery operators, habitat managers, and harvest managers to help in understanding a particular program, what its purpose is, as well as acquiring basic hatchery

information. The data will be a common source for both the Council's review and NOAA Fisheries' draft Hatchery and Genetic



Management Plans which will be used by the fisheries service and the U.S. Fish and Wildlife Service to assess the affects of artificial production programs on listed species.

"It's a challenging project, but we're making progress, and we are more or less on schedule in completing our workshops,"

according to Bruce Suzumoto, the Council's manager for this process.

Besides gathering information through the workshops, data collection is also being done directly by a team of contractors hired to interview hatchery operators. Approximately four months after a provincial workshop, a draft evaluation will be presented to the hatchery operators and fish and wildlife managers to get their feedback. The end product will be a report outlining the benefits and risks of each program along with a set of recommendations for improvement. The APRE will also provide accurate and complete hatchery information that subbasin planners can use in the development of their subbasin plans.

The next provincial workshop will be the Columbia Plateau on October 22 and 23. The review is scheduled to conclude at the end of June 2003. ■

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