



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

High-tech Gear Gives Scientists a New View of Salmon Survival in Rivers and the Ocean



Imagine salmon swimming down the Columbia River and out into the ocean leaving

e-mail messages along the way about their location, the time of day, water temperature, and other environmental data. Or, imagine a great white shark carrying a tag that dials local police when the shark approaches a popular swimming beach.

and explain the diversity, distribution, and abundance of marine life in the oceans. POST is one of 14 field programs around the world contributing to the census

The POST project utilizes fish from rivers in British Columbia, as well as from the Columbia River Basin, where the program is in its second year in 2008. In the Columbia Basin, POST tags up to 1,000 salmon smolts in the Yakima and Snake

The Clearwater fish are divided into two groups that are collected and transported down the Snake and Columbia rivers in barges, and two groups that are allowed to migrate in the rivers without being transported.

The Columbia work is a three-year research project by Kintama Research of Nanaimo, British Columbia, funded by the Bonneville Power Administration through the Council's Columbia River Basin Fish and Wildlife Program. Funding in the

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This photo shows the evolution of POST tags, from the older, larger tag on top to the latest, and much smaller tag at the bottom. As the technology improves and tags become smaller, more fish can be tagged.

For salmon, the technology is approaching the e-mail stage, and for sharks the "here-I-am" technology will be in use soon. These advancements in fish-tagging technology are being developed through the innovative Ocean Tracking Network (OTN) and the Pacific Ocean Shelf Tracking (POST) program. POST is part of an international collaboration of scientists called the Census of Marine Life. The census is attempting to assess

rivers annually and tracks their progress down the river into the ocean and then north along the Pacific Ocean shelf as far as Alaska. This includes two groups of up to 200 Yakima spring Chinook each (400 total fish), and four groups of spring Chinook from the Dworshak National Fish Hatchery on the North Fork Clearwater River, a Snake River tributary (two groups of up to 100 fish each, and two groups of up to 200 fish each — 600 total fish).

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current project-funding cycle, fiscal years 2007-2009, is \$1.2 million per year.

The goal of the POST program is to monitor the movement of marine animals with an array of listening stations placed on the floor of the continental shelf of the ocean along the west coast of North America. The project uses acoustic tags implanted in the fish to track their movements. The tags emit a unique signal that can be detected by receivers on the ocean floor. Animals as small as salmon and steelhead smolts and as large as sharks can be fitted with acoustic tags and tracked. Currently, the POST listening devices — lines of receivers placed at intervals on the ocean floor — are in place from the Columbia River north to Vancouver Island, and then again in the Gulf of Alaska. POST researchers hope to extend the monitoring network the length of the West Coast by 2010.

George Jackson, POST senior scientist, told the Power and Conservation Council at a meeting in December 2007

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*George Jackson
POST senior scientist*

that as OTN technologies expand, newly developed tags will be able to communicate with each other and then download archived data to new-generation receivers. Researchers will be able to download important information from tagged fish on their movement, interactions with other tagged fish, and oceanographic information from vast areas of the ocean. “There’s been something like 30 memo-

randums of understanding around the world from various countries and various institutes, and the joint venture investment will leverage something like \$160 million in cash and in-kind support as this program rolls out over the next five years or so,” Jackson said.

For now, POST is producing valuable data about the movement and survival of fish from British Columbia and the Columbia River Basin

“In our part of the world we have a series of lines centered around Vancouver Island down to Willapa Bay, and 600 kilometers of the Columbia River, and we also have a line in southeast Alaska,” Jackson said. “Essentially these are tollgates that help us get an idea of where animals are going and what their survival is.”

Jackson said the previous generation of receivers had to be retrieved from the ocean floor in order to retrieve their data, but the latest generation can stay in place and transmit the data to the laptop



Notes From the Chair

It’s an article of faith in this fast moving world we live in to view technology as the key to solving many of our problems. And in certain ways, it does. In the cover story of this edition of the Council Quarterly, the POST project is shedding new light on the mysteries of the ocean environment and how fish and marine animals function in it. The project’s high-tech monitoring systems are giving researchers important new data on the ocean survival of salmon and steelhead, and will offer opportunities to improve our understanding of fish survival in rivers as well.

But as the story on the Clark Fork Coalition illustrates, there is a need for human connection, too. This grassroots group has made notable progress to clean up and restore the Clark Fork River by connecting the economic well-being of landowners and ranchers to the well-being of the river.

In the Northwest Power and Conservation Council’s work, too, the roles of technology and partnership are critical. The Council’s Sixth Power Plan will explore a number of new technologies that could help the region reduce its carbon footprint, while still providing an adequate and affordable power supply. And in an interview with Tony Grover, the Council’s fish and wildlife director, he points out that science alone is not enough to restore fish and wildlife; it may be that something as simple, and difficult, as listening to the other side is the most crucial piece of the puzzle.

High-tech Gear *(continued from previous page)*

computers of researchers who pass over the receivers in boats. Batteries in the receivers are good for about seven years, he said.

Jackson said POST has produced some interesting new information about the ocean survival of salmon and steelhead from rivers on Vancouver Island and from the Columbia River, including:

- Based on data from more than 600 fish, sockeye and steelhead migrate very quickly, whereas coho are much more intermittent migrators. “So we begin to get a picture of the behavior of the animals in the ocean environment, something that we really never could see before because the ocean was so opaque to us,” Jackson said.
- Freshwater survival is generally quite good as the fish move down the rivers, through the estuary, and out into the ocean. “But what we then find is that when the animals start migrating on the shelf, survival by in large is very low. Something is going on in this part of the world that is hammering the fish when they are out in the ocean,” Jackson said, adding that the mystery might have something to do with the impacts of global climate change.
- Survival past dams does not appear to be a big problem. “When you compare just the raw survival estimates, there appears to be no difference in the survival of migrating fish in the Fraser and Columbia rivers,” Jackson said. “However, when you scale that for distance, survival of the fish migrating out of the Columbia through eight dams is actually higher than in the Fraser River. That’s just what the data shows. I know it’s controversial, but that’s what the data shows. The data shows there appears to be no influence [from] the presence of dams in the survival of the migrating smolts. So if all of the dams on the Columbia River were removed, it may actually do no good. It

may have very little effect if the real issue with salmon survival is in the ocean. Now, that might be a far-flung statement, but from the evidence we have, something’s going on in the ocean.”

On the latter point, POST provides a tool that could be used to further assess the impacts of dams on fish survival, Jackson said. The POST arrays could be set up in different parts of the rivers, flow regimes could be manipulated, and waves of tagged fish could be sent down the rivers.

“I think POST can help to answer critical questions for the management of this really important watershed in this part of the world,” he said. “We need to know more things — maybe there are some survival bottlenecks out in the ocean. We need to get some more resolution in our POST arrays, but as we follow those fish up the shelf we may be able to pinpoint areas of either high mortality or hot spots where fish are congregating to feed.” Jackson said that the latest technology also allows tagging smaller fish, as the tags are getting smaller. “The latest version is small enough to start tagging some of the critical stocks that could not be tagged earlier by this technology — fall Chinook, for example.”



The rest of the world is taking notice of the technology used by POST and putting it to good use in applications that have nothing to do with assessing fish survival. In fact, an array of monitoring devices is being deployed along the Australian continental shelf for quite a different purpose — protecting human survival.

“Great white sharks off Adelaide eat people regularly,” Jackson said. “The technology could be used to place tags in great white sharks so that when they swim into an array on the reef just off Adelaide it could actually dial a local counselor and say, ‘I’m here.’ And the more sharks you tag, the more people you may prevent from getting eaten.”

Scientists also are paying attention to the potential of using data from tagged marine species to assess the condition of the ocean environment. With tagged marine mammals and fish swimming in the world’s oceans, researchers will be able to gather data on environmental conditions, as well as animal behavior such as interactions between predators and prey.

“Essentially, the animal becomes a mobile receiver platform swimming around and recording interactions within the ecosystem,” Jackson said. “The term for this is ‘bioprobe.’ The tagged animals are bioprobes. It will be like Blackberries for fish.” 

Toward a Clean Energy Future: Issues for the Sixth Power Plan

In preparation for its Sixth Power Plan, the Northwest Power and Conservation Council released a paper outlining key energy issues for public comment. Established through the Northwest Power Act in 1980, the Council is required to develop an energy plan that will ensure the region an adequate, efficient, economic, and reliable power system.

Against a backdrop of high fuel costs, concerns over our reliance on foreign oil, and most pressingly, the emergence of climate change as a major risk, the Council's plan proposes to address the challenge of reducing carbon dioxide (CO₂) emissions from the Northwest's power system.

With release of the Intergovernmental Panel on Climate Change reports last year, the Council's own independent panel of scientists' report on climate change, and heightened media attention on the issue influencing public opinion, momentum to enact policies to reduce greenhouse gases intensified. Many states in the West have already passed renewable portfolio standards and carbon-control regulations. Emission targets have also been adopted by the Western Climate Initiative and other individual states. These policies are part of a new energy environment and will necessarily shape the plan's resource recommendations.

"Our objective," says Power Division Director Terry Morlan, "is to find a combination of energy efficiency improvements, demand response, and generating resources that will result in a least-cost, least-risk power plan."

In order to meet the targets set by the Western Climate Initiative, state, and possibly national policies, the Sixth Power Plan will seek to expand the menu of resource choices and consider other options at higher avoided cost levels. The Council will take a fresh look at renewable and low-carbon generating technologies, system operation strategies, and sequestration technology to determine if they

"The real test of the power plan will be to uncover potential opportunities as we grapple with these problems."

*Terry Morlan
Power Division Director*

might offer cost-effective approaches to meeting renewable portfolio standards and CO₂ reduction targets.

Along with the challenge of climate change, the power plan will also address the issue of resource flexibility. Today, the hydroelectric system represents a smaller share of the region's electricity supply, and a diverse array of generating resources has been added to the Northwest's base load generation. However, base load generation is not designed to vary operating levels on an hourly or daily basis. The region continues to rely on the hydroelectric system to shape energy to meet fluctuating electricity use and to provide ancillary service.

The growth of wind generation, with its need for generation flexibility from other resources to integrate it into the power system underscores the importance of looking at how the region can best meet electricity needs on an hourly and daily basis, and not just annually.

Improving transmission capacity and operation will be a critical part of meeting renewable portfolio standards cost-effectively. While the Council is an active participant in various regional and westwide transmission forums, the Sixth Power Plan will explore how the Council should incorporate transmission issues and how the

power plan can provide useful guidance on expanding transmission capacity.

Other key issues for exploration include the interconnection between the Council's fish and wildlife program and the power plan. Climate change, carbon emission reduction policies, and the growth of wind power all affect the environment and hydrosystem operations. How will the need to shape increasing amounts of wind power affect operations meant to aid fish? Are there opportunities for utilities to use carbon credits or other tradable environmental credits to offset carbon emissions or other environmental impacts by investing in improved fish and wildlife habitat?

These and other questions will be examined in the Sixth Power Plan. "We're living in a time of significant challenges to the environment and the energy system," notes Morlan. "The real test of the power plan will be to uncover potential opportunities as we grapple with these problems."

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Neighborly Advocates:

By building relationships, the Clark Fork Coalition builds success

Environmental groups are more likely to oppose cattle ranching than to raise cattle themselves, but in northwestern Montana the Clark Fork Coalition is doing just that.

In fact, the work of the coalition since its founding in 1986 breaks the mold of traditional, litigious, uncompromising environmental groups with an approach that focuses on supporting communities and people while improving the health and environment of its namesake river.

“It’s a different approach, for sure,” said Peter Nielsen, environmental health supervisor for the Missoula City/County Health Department. Nielsen was the original director of the coalition when it formed. He served in that capacity for six years and now is an observer of the group. “The coalition’s focus always has been to try to be inclusive, to help people survive economically, find a niche, and show how cleaning up the river can benefit them and their property.”

It’s a big focus, both in terms of people’s lives and livelihoods, and in terms of geography. The Clark Fork begins near Butte, where it is called Silver Bow Creek, a name it keeps for the first 20 miles. The river is 360 miles long, draining an area of more than 22,000 square miles before flowing into Lake Pend Oreille in northern Idaho.

Historically, the primary economic activities in the headwaters of the Clark Fork drainage, between Missoula and Butte, were ranching and mining, and it was the impact of mining that first attracted the attention of the Clark Fork Coalition.

Mining is the source of the river’s biggest pollution problem. The mines that laced the hills where Butte grew as a community in the late 1800s — the area was known as “the richest hill on Earth” — produced heavily polluted wastewater, which drained into Silver Bow Creek and



The Clark Fork River flows through the coalition’s ranch.

from there downriver. Dense concentrations of metal-laden mining waste accumulated along the shores of the creek and river, ultimately affecting fish populations, water quality, and riparian vegetation. In 1908, a single disastrous flood that followed 33 days of rain carried millions of tons of polluted sediment down the river to the reservoir behind Milltown Dam, which was completed the previous year across the Clark Fork just upstream from its confluence with the Blackfoot River. The dam was a project of William Clark, one of the “copper kings” of Butte, and primarily powered a sawmill where timbers were cut for the mines and smelters upriver.

The flood filled the 540-acre reservoir behind the dam with an estimated 6.6 million tons of toxic sediment, including large volumes of arsenic and copper.

Over time, the sediments would wash over the top of the dam during floods or the breakup of ice jams, and these releases killed fish and other aquatic life. Just copper in the remaining sediment behind the dam is estimated at 13,000 tons, and it is highly toxic to fish.

Even without catastrophic events, the sediments slowly leak arsenic into the underlying groundwater, poisoning nearby water wells. Immediately downstream of the dam, in the town of Milltown, Missoula County health officials discovered arsenic contamination in drinking water wells in 1981. This prompted the federal Environmental Protection Agency in 1983 to provide an alternative water supply in 1982, and the following year the EPA added the

site to the National Priorities List for cleanup under the Superfund, also known as the Comprehensive Environmental Response, Compensation, and Liability Act of 1980. In 1984 the EPA provided an alternative water supply to replace a public water system polluted by arsenic. Under the law, the entity that releases contamination pays for the cleanup. The Atlantic Richfield Corporation (ARCO), which bought the Butte mines in 1977, began working with Montana and federal officials on site evaluation and development of a cleanup plan.

The Northwest Power and Conservation Council, then known as the Northwest Power Planning Council, was among many agencies that drew attention to the environmental problems at Milltown Dam. In its original Columbia River Basin Fish and Wildlife Program, issued in November 1982, the Council called on the Federal

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Neighborly Advocates *(continued)*

Energy Regulatory Commission to order Montana Power Company, then owner of the dam, to study the suspended sediments and associated heavy metals, as well as organic pollutants, and to propose mitigation to the Council if the study revealed adverse impacts to fish and wildlife. The study was completed, mitigation was proposed, and the Council continued to interact with the FERC on Milltown Dam into the early 1990s. The mitigation is incorporated in the Superfund cleanup.

In 1985, the Clark Fork Coalition formed to fight pollution of the river by a paper mill located west of Missoula. At about that time, rivers increasingly were being viewed in terms of economic benefits for communities and less as convenient dumping grounds for effluent. The paper mill and its discharges became a target, and the fledgling environmental group successfully rallied popular support to halt the discharges.

“With that momentum we became the Clark Fork Coalition and plunged right into the topic of pollution that is strewn pretty much throughout the upper watershed,” said Karen Knudsen, the coalition’s current director.

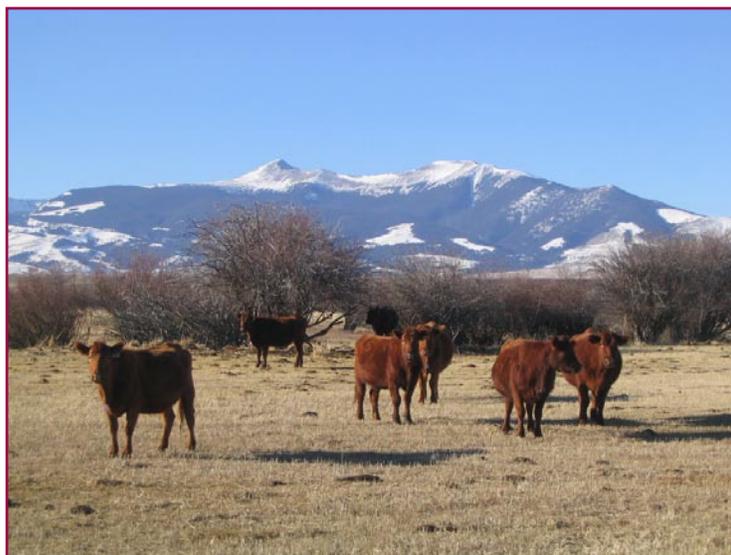
Members of the newly formed group had been instrumental in pushing for the Milltown Dam and Clark Fork River Superfund site designation. Soon the coalition began working to get the dam and sediments removed.

Dam removal and river restoration seemed an unlikely, if not an impossible outcome. ARCO’s official statements about the dam and the river upstream in the Deer Lodge Valley downplayed the health risks of arsenic in the Milltown wells and urged a patient, long-term natural process of river-healing. That is, in

time, the river would heal itself; no need for human interference.

That was counterintuitive, Nielsen said.

“There’s a lot of fear and misinformation that gets spread around in a high-stakes project like this, and the company, ARCO, has contributed to that for the last 25 years up and down the river,” he said. “Some people in rural communities are more inclined to listen to the company than to an environmental organization. But the truth is, you need to clean up the



An important part of the coalition’s work is to demonstrate sustainable ranching practices. Here is part of the herd.

land to make it heal.”

Instead of attacking with litigation — the coalition has done that in the past, and will again, when necessary — former director Tracy Stone-Manning and others in the coalition took a different tack: Listen to and win the confidence of affected landowners.

“Being locally based and including board members from up and down the basin has been a strong point of the coalition,” said Sarah Bates of Missoula.

She is the deputy director of Western Progress, an organization that advances progressive policy solutions across the eight-state Rocky Mountain region. She

also is the current vice chair of the Missoula-based coalition, which has a 14-member board of directors, a staff of six, and about 1,500 members. Eighty percent of the members live in Montana and Idaho.

“The coalition connects to the well-being issues of people who live here and engages in different forms of advocacy, such as economic development issues,” Bates said. “This connects the well-being of ranchers and farms in the area to the well-being of the river. That’s a very practical approach.”

And it works.

The coalition doesn’t claim all of the credit for what happened next, but there is no doubt that the group’s unflinching advocacy for healthy communities and a healthy environment helped to influence the successful outcome at Milltown Dam. In August 2005, after more than 20 years of site evaluations and negotiations, officials of four federal and state agencies, the Confederated Salish and

Kootenai Tribes, ARCO, and Northwestern Energy (the company that inherited the dam from Montana Power) signed an agreement that will lead to dam removal, as well as removal of the most vulnerable contaminated sediments in the reservoir — about 2.2 million cubic yards in all. The powerhouse is slated to come out of the river in March 2008, and sediment excavation, a two-year project, will follow. Sediments will be disposed of in an old mine tailings landfill that was historically used for smelter waste and already is receiving toxic sediments from farther upriver. The site will be capped and secured from erosion, and also reclaimed with clean soil and vegetation cover.

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Neighborly Advocates *(continued)*

Future milestones include restoring the Milltown drinking water supply in as few as 10 years, allowing unrestricted fish passage at the former dam site, and returning the Clark Fork and Blackfoot rivers to a more natural and free-flowing state.

Chris Brick, the coalition's staff scientist, said the river cleanup plan focuses on restoring the upper 43 miles of the river from Warm Springs to Garri-son, the most contaminated reach. In some areas, vegetation has not grown for 100 years. The contaminated mine tailings will be excavated and replaced with clean soil. In other areas, sedi-ments will be treated in place with lime to reduce their acid-ity. River banks will be rebuilt and planted with willows to increase their stability and resistance to erosion. All of this work probably won't start until 2010 and likely will take seven to 10 years to complete.

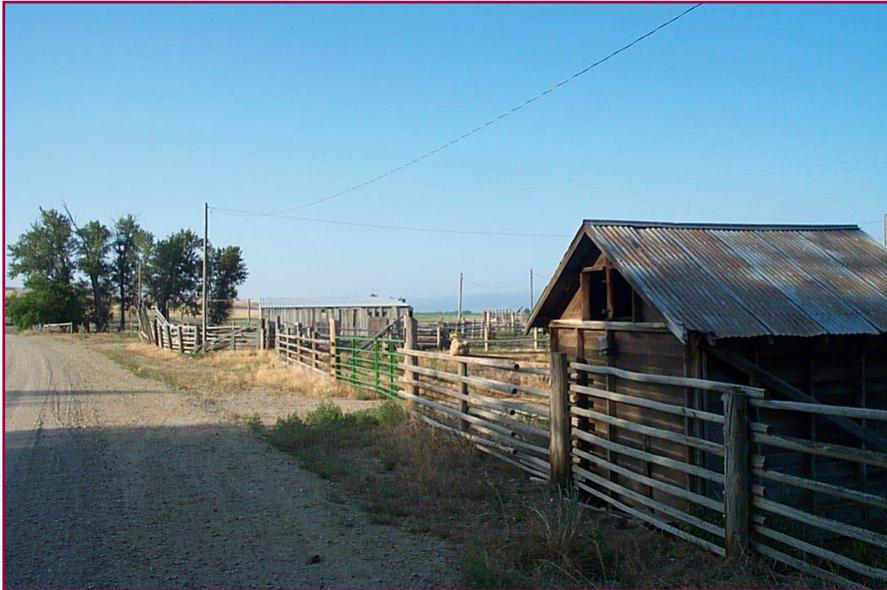
"Milltown Dam coming out is a turning point for the organization," Bates said. "That campaign was so successful, you sort of risk losing your mission if you focus only on that."

And so the coalition bought a cattle ranch.

Specifically, the 2,300-acre Dry Cottonwood Ranch along the Clark Fork about nine miles south of the town of Deer Lodge. The group bought the ranch in June 2005 with several partners.

"The ranch plays into one of the big future efforts for the coalition — to react to and try to get ahead of tremendous

growth that is happening in the basin," Bates said. "You can think about growth as sort of the new mining; it will have huge impacts, and it is happening almost without control except in the most urbanized areas. We're trying to decide how to get involved in that — streamside setback regulations for development, growth-management policies, sewers versus septic



View of the Dry Cottonwood Ranch.

tanks, and so on. A big part of this is cleaning up the river all the way to Butte and continuing to work with communities to be sure that restoration really benefits the river. The ranch fits into that."

Working backwards, in a sense, from the effort to clean up the river, the decision to get into the cattle business fits the coalition's strategy perfectly. Thinking ahead about what the Superfund cleanup might entail and the cooperation that would be needed from local landowners to make it a success over the long haul, coalition staffers got to know ranchers who live along the river by talking to them about the upcoming cleanup work and future options for land-use planning — normally the sort of thing that breeds suspicion and cynicism among locals when presented by outsiders, not good

will. But the group's persistence and sincerity paid off, in large part because the coalition wanted to help figure out how the massive river restoration effort could affect local agricultural operations by owning and running a ranch themselves. One day the Dry Cottonwood Ranch manager telephoned to say the owner had died, his family likely would want to

sell, and would the coalition be interested in buying the ranch?

In fact, the coalition was very interested.

"It was an opportunity by invitation," Bates said. "The coalition had established enough of a presence and trust that at least one of the folks who lives in that community extended an invitation to the coalition to become part of the community. I like the complexity of that

approach. They engage people, they don't confront."

The coalition dove enthusiastically into ranching, importing a Red Angus/South Devon cross of beef cattle that is popular in Great Britain but rare in the United States. The breed is known to be hearty and to produce well-marbled — that is, tasty — grass-fed beef. The coalition has discovered the challenges of transitioning from a traditional operation to grass-fed production, but they're working in that direction. At the same time, they are exploring sustainable ranching techniques that improve the ranch's bottom line both financially and ecologically. If the cattle and land-use practices prove profitable, other ranchers in the area will take note and perhaps adopt the techniques, if not the cattle, themselves.

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Northwest Q&A: Tony Grover, Council's Director of Fish and Wildlife

Tony Grover has lived and worked in the Northwest his entire life, except for a stint in the 1980s when he lived in Houston and worked in Africa and the Middle East exploring for oil with AMOCO. Grover moved back West in 1987 for graduate study in engineering hydrology and hydrogeology. For the next 15 years he worked in environmental regulation and contaminated site cleanup work in Salt Lake City, Helena, Yakima, and Spokane. In 2002, Grover joined the Washington state office of the Northwest Power and Conservation Council to oversee its subbasin planning effort. In early 2005, he represented Council members on Washington's biological opinion remand negotiation team, continuing in that role and as a policy advisor to the Washington Council members until being selected for the position of director of the fish and wildlife division at the Council's central office.

In November, the Council began the process to amend its Columbia River Basin Fish and Wildlife Program, one of the biggest fish and wildlife recovery efforts in the country. Through the program, the Council and the Bonneville Power Administration direct more than \$140 million annually to projects that mitigate the effects of hydropower dams on fish and wildlife.

How do you think the amendment process is going so far?

I think it's going very well. There are some schedule frustrations involved but I'm impressed by the level of attention that we're getting around the region. The federal agencies, the states, the tribes, the Bonneville customers, and lots of other people seem to be very interested in making recommendations. They're asking lots of very good questions; many of them have wanted to spend time with me or staff, and the response has been good. I think we're



going to get a lot of good recommendations in. And I expect we're going to meet our December deadline as well.

To what do you attribute this? In the fall we had a science and policy conference, did that help to set people on the right path?

It's been a slow accumulation; the science/policy conference certainly helped that. What we've also had going on since 2000 really, is two things: there has been a steady level of fairly intense activity on the federal side with the biological opinion [BiOp] which deeply influences what we do in the fish and wildlife program. That would be the biological opinion on the operation of the Federal Columbia River Power System, as well as the upper Snake biological opinion. The other thing that's been going on is the Council very consciously expanded the mandate, so to speak, for who is involved in the fish and wildlife program through subbasin planning. And that expanded mandate brought a lot of new people into the discussion, important people, in my opinion. They are people that we have to work with — land owners, county commissions, irrigation districts, those kinds of folks that have been on the outside in the past, but bringing them into the discus-

sion makes it much more likely that we'll be successful in meeting the fish and wildlife program goals.

What kinds of questions and feedback are you hearing?

Usually it occurs at a couple of levels. The first round of discussions are mostly people saying, "What do you want out of us?" And then we walk through the letter that we put out in October and talk to them about the parts of the program that are open, the parts that we think are working pretty well, and those parts that really do need to have quite a bit of work, and that usually sparks them either immediately or after they think about it for a while. They come back and have a number of questions about recovery plans, and then there is a lot of discussion about biological objectives, and it's also my understanding that integration with the biological opinion is the thing that has a lot of people paying very close attention. Because at the end of the day, the way that the Federal Columbia River Power System BiOp will be implemented is, to a large extent, through the fish and wildlife program. So the hopes of the region rest a lot on the outcome of this amendment process.

Do you feel confident that this integration is going to happen?

As a matter of fact, I do. Again, there are some schedule issues that we have to work out. But we have a draft BiOp in hand already. It's likely there will be changes to it, but I think there is enough there that we can actually roll up our sleeves and start working with it. And, we'll hope that NOAA Fisheries will give us any updates in a timely fashion as soon as they finish their finalization of the biological opinion on May 2; it still looks like it will be May 2, if the judge grants a 45-day extension to their schedule. So that will put us in a position of having a draft BiOp we can work to integrate with

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Tony Grover *(continued)*

the program, and then we can make any adjustments we need to after May 2.

What direction would you like to see the program go in? Do you have a vision for the program?

There are a couple of things that need to happen. Once we get through the amendment process, we need to think about the best way to update the sub-basin plans. They are going to be getting a few years old by then, and we'll have to start thinking about how to do that update. We also have to consider carefully how to include issues like climate change and population growth. The news coming out of the climate research front is sometimes rather alarming, and it could have a very big impact on how we can wisely spend money to help fish and wildlife in the Columbia Basin. And that's going to be a real challenge. The program is going to have to adapt to that new information, because the life cycle for any particular document seems to be getting shorter and shorter. We're going to have to start thinking carefully about how we can stay abreast of current research, how do we keep the program relevant to what we understand about climate change and environmental changes.

We have concerns about invasive species that have to be addressed, and I'm just not sure that the calm, every-five-years cycle is going to be responsive enough to new information. So we're going to have to try to keep the program relevant in a rapidly changing information environment. That's one of the biggest challenges of the future; how to do that without creating a lot of busy work and endless process. Because we want to keep people engaged, but we don't want to exhaust them. The program cannot be successful without the fish and wildlife managers, the federal agencies, those people in the expanded mandate that I talked about earlier. They have to stay engaged, and we can't process them to death. But we also need a faster time-

"We're going to have to start thinking carefully about how we can stay abreast of current research, how do we keep the program relevant to what we understand about climate change and environmental changes."

*Tony Grover
Fish and Wildlife Director*

cycle to engage and be responsive to new information. How we do that will be a big challenge, and the solution to that challenge won't come just from the 11th floor of this building, it's going to come from the entire region. We'll have to do it in the form of discussions with people, trying to figure out how to be responsive, and the only way we can do that is by talking to people.

The power division, in developing the next power plan, is thinking about how closely connected fish and wildlife is to the energy plan because of issues like climate change and how that is affecting the hydrosystem. Are you also looking at this connection?

Yes, we've had a couple of conversations with the power division, and we're at the beginning of trying to figure out how to integrate those two, what on the surface looks like two very different programs. But in truth, if we move to a process of carbon crediting there are a number of opportunities on the habitat side that could generate some carbon off-sets. How do we interconnect those with our habitat off-site program, plus

whatever impacts that might have on the hydro side? There will also be some significant changes not only in demand, but also in the way that water flows through the Columbia Basin as the climate warms a little bit; the runoff will come off earlier, more of it will fall as rain, and that will force changes to the hydrosystem. A possible outcome being discussed in three of the four states — all but Montana — are new storage facilities and the Council will likely have some sort of role in new storage as well. What the role will be, I don't know. There are a lot of changes to flow timing that affect power generation; temperature of water that affects how useful our investments are in habitat and hydro fixes for salmon passage. Depending on how well those work or don't work, they will force adjustments in the way the hydrosystem is operated. The only thing I can see is we're going to have an increasing need to work more closely with the power division folks. I see more and more interaction in the future between the two divisions.

You alluded to this in your earlier answer, but what will the role of sub-basin plans be in terms of staying close to what's going on at the grass-roots level, informing people, and keeping people involved?

I think it's critical that the subbasin planning tool be carried forward. Not only because that's where you really get the actions that make sense for fish and wildlife; it also becomes increasingly important because, absent major changes in the hydrosystem, we pretty well tightened the hydrosystem down and got as much survival as we can out of the way it's configured right now. So that puts us in a position where we're increasingly reliant on subbasins to do the mitigation for the Federal Columbia River Power System effects. As we move into those subbasins to get that mitigation, those plans are going to have to be updated on a regular basis, and as

(continued on next page)

Tony Grover *(continued)*

we see climate change effects propagate into some of those subbasins, some will be significantly affected and some will be minimally affected. But in either case, we're going to have to incorporate that and the population changes in the subbasin plans. There are lots of other things going on in the subbasins; changes in agriculture practices which force irrigation practices, commercial, and residential development, industrial development, those things are all changing water use patterns and electrical power demand patterns. So subbasin plans remain the primary vehicle to reach out to local governments and others who are on the outside, generally, of the fish and wildlife program and keep them involved.

Fortunately, in some parts of the Columbia Basin, those groups are still intact. In other places we might have to work a little bit to revive them and put them back in a position where they can be responsive. How we do that is to work it out with Bonneville and our Council members, and make sure we're in a strong position to get that work done in the subbasins. We can't do it from here; the only way to be successful is if we're deeply engaged with the people in the subbasins.

How do you see getting people engaged? Do you have a philosophy on that?

Well, there are different kinds of engagement. I do have a philosophy on it. I believe we can't be successful if we only have a small group of people we work with, a small group of entities. So we must reach out to landowners who may have never even heard of us; county commissions that have many other things on their plate other than what we do. We have to reach out to those people in an effective way. And I have to say that, fortunately, in some parts of the basin, that's been a pretty easy thing to do, because for good or ill, the Endangered Species Act listing of various salmon and

"... I think we'll be most successful when people see that they have an important stake in the outcome of what we do..."

*Tony Grover
Fish and Wildlife Director*

steelhead have alarmed enough people that it got their attention. And they realized that they had to do something about these issues, and then fortunately we popped up on their radar screen as one avenue to help them be effective. That was a serendipitous outcome that really helped us forward a lot. I don't think we're losing people's attention much. My biggest concern is: How do we stay on their radar screens? We're now into our second decade since the first listings in the Columbia Basin. What's going to happen as we finish out this second decade since the first listings and go into the third and fourth decades? Will people become exhausted and fatigued over these issues? Will they move onto other issues that are more urgent? I can't tell you that I've got it all solved now; I just know it's a very important thing that we need to pay attention to.

Obviously, the people that you're targeting are directly affected by ESA laws and so forth. What about the broader public? How important is it to educate the public-at-large in relationship to what we do and our goals?

I have to say that, to the extent that the public doesn't know we exist, that's a problem. It's a big problem for two reasons. Perhaps the most important reason is that if they're better informed, then these issues that we deal with become

easier to implement because we don't have to start from ground zero, trying to explain what an ecosystem is to people, the role of fish and wildlife, how that connects to water quality and soil quality, and why it's a benefit for them and their children. To the extent that they're generally well educated on those issues, it just makes our job a lot easier. And that's not uniform around the Columbia Basin; it's more successful in some places than in others. The other thing that I worry about is, if people don't have a good understanding, then they become subject to responding to issues from a fairly uninformed position. And in my own life, I know that whenever I've tried to address something or respond to something when I lack knowledge and understanding, no matter what the issue is, I often make a very bad decision. It's not helpful to us when people make uninformed, poor decisions about really important issues. So, what's the utility of the hydropower system? How important is it to have fish and wildlife that are healthy? I think if people really understood how important that was, then it would make our job a lot easier. But what can we do to change their current level of understanding? That's very, very hard. Because we have to compete with the education of children, healthcare issues, the latest national election, foreign wars, and so on. We have a lot to compete with, and so I think we'll be most successful when people see that they have an important stake in the outcome of what we do, which necessarily keeps us out of the general public's eye for the most part. I wish that weren't the case, but it is the reality, I think, that we live with.

Is there anything that surprised you about the fish and wildlife work?

It's not a surprise so much as an increased appreciation for the deep level of commitment that everybody has to the issues we work on. They're all honest and passionate about this kind of work. But,

(continued on next page)

Tony Grover *(continued)*

having said that, I've found that one of the biggest challenges is to try and move people off of a position that they have become fixed upon. What surprises me is how we can have so very many deeply educated, competent, passionate, honest people who seem to have such a very hard time listening to each other, and not giving much credit to the people who have different points of view. That's a disappointment to me. I long ago gave up thinking that we just need better science, and then everybody would be happy. I do think that just straight from the perspective of watching actions on the world stage, that it's a lack of understanding between people that is creating most of the conflict in the world. We see it, and we disparage it, we proclaim how terrible it is, and then we perpetuate the same kind of behavior in our own day-to-day existence. I wish we were better at learning. But maybe we can find some way to open up channels of communication and get more understanding.

I think you have to make an honest, good faith effort at really understanding someone else's position. Because I've noticed over the years, and I first learned this in mediation training that I took many, many years ago, if you acknowledge the other person's point of view and let them know that you truly heard it, and you truly understand it, and that you're actually thinking about it, then often those people will relax a little bit and they'll start listening more as well. Many people don't want to open up and listen as long as they don't believe they are being heard. But if they know they are being heard, then often they relax and start giving real consideration to the other side on the issue. So I think the best thing we can do is practice really good listening skills in an honest way, not in a superficial way, and see if we can help people understand that we do have a good idea of what their point of view is, we do understand it, and that all we're asking in return is for them to understand our perspective

"I long ago gave up
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Tony Grover
Fish and Wildlife Director

Quarterly Quote

**"In the practical
use of our intellect,
forgetting is
as important
as remembering."**

William James

on things. It seems like once we can get to that place, then real creative problem solving can take place. I don't mean to be negative or say that it's hopeless; I'm just saying it's hard. But it's worth doing. [CQ](#)

Energy Efficiency Tip

**Lowering your heat
in winter by
just 2 degrees can cut
your energy bill
by 10 percent.**



Success Stories —

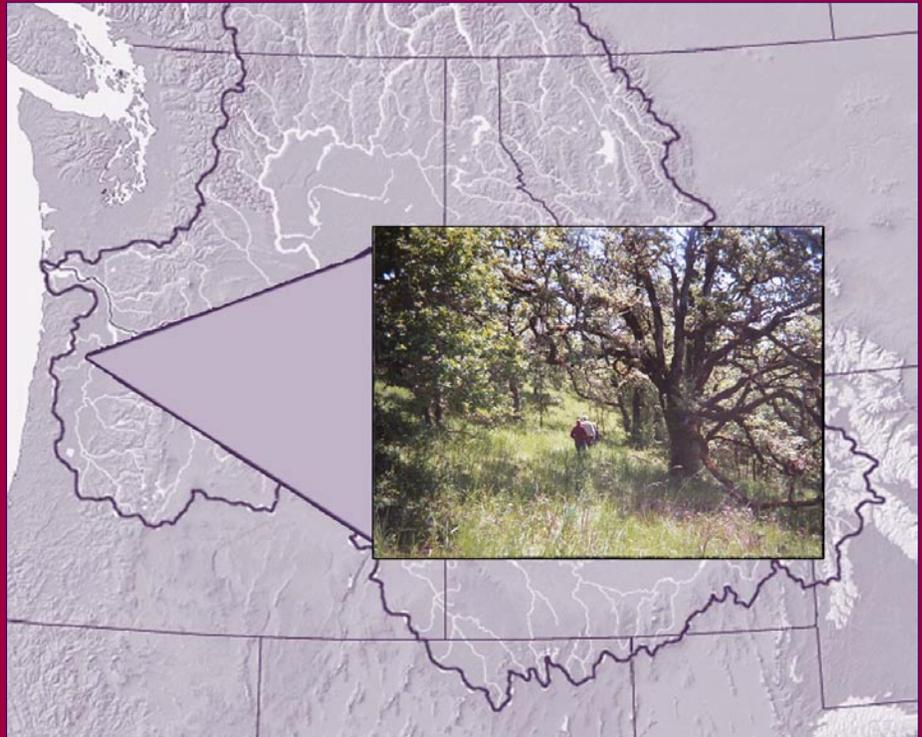
Willamette Valley Ranch Purchased for Wildlife Habitat

Eight miles northwest of Salem, Oregon, a 1,400-acre oasis of native oak woodlands has been set aside as partial mitigation for the impacts of hydropower dams on fish and wildlife of the Columbia River Basin. The Zena Timberland property is one of the last and largest remaining pockets of mixed conifer and oak habitat in the Willamette Valley, providing a vital haven for many of Oregon's rare and endangered species.

Through the Northwest Power and Conservation Council's Columbia River Basin Fish and Wildlife Program, the Bonneville Power Administration purchased a conservation easement for the property. Under the Northwest Power Act of 1980, Bonneville spends a portion of its income from selling federal Columbia River Basin hydropower on projects that address the environmental impacts of the dams. The cost of the conservation easement and related expenditures for the Zena property is about \$5 million. Bonneville holds the conservation easement and the Trust for Public Land (TPL) will hold the land until a permanent owner is found who will continue to use the land as a managed, sustainable working forest.

The Willamette River Basin, where 70 percent of Oregon's population lives, has been extensively altered since the arrival of Euro-American settlers in the early 1800s. These alterations include the loss of nearly 99 percent of grasslands and oak savannas, 98 percent of wet prairies, and 67 percent of emergent marsh habitats.

Protecting the Zena property is part of a larger effort in the Willamette River Basin. The Oregon Department of Fish and Wildlife manages a mitigation program to protect, conserve, and restore areas containing diverse habitats for



wildlife. Species that benefit include Oregon chub, Pacific lamprey, northern red-legged frog, Taylor's checkerspot butterfly, western gray squirrel, Fender's blue butterfly, acorn woodpecker, Oregon vesper sparrow, streaked horned lark, western meadowlark, yellow-breasted chat, Vaux's swift, American beaver, river otter, Willamette daisy, checker mallow, and Kincaid's lupine.

The Zena property is the headwaters for three watersheds that drain into the Willamette, the Rickreall, Yamhill, and Spring Valley. The Rickreall and Yamhill watersheds host coastal cutthroat trout, Pacific lamprey, and federal Endangered Species Act-listed winter steelhead.

The conservation easement restricts development and uses of the property other than as forest. The easement stipulates that certification of sustainable forest practices by the Forest Stewardship Council will continue. In this regard, the Zena property provides a

model of sustainable forestry for owners of other small woodlots in the state to emulate.

The Council's Willamette Subbasin Plan, which directs mitigation efforts in the basin through the fish and wildlife program, addresses the need to focus restoration efforts on the valley floor or adjacent hillside habitats. The valley and hillside habitats have experienced the greatest alterations from human activities and have largely been ignored by most conservation actions in the past.

The subbasin plan identifies six focal habitat types as the most important in the Willamette Basin because of their rarity, their rates of decline from historic numbers, their exceptional biological diversity, and their associations with threatened/endangered or sensitive species. The Zena property includes several of these habitat types, such as remnant oak savannas, seasonally wet meadows, and riparian areas. 

Council Decisions

November 2007

Bonneville Resource Consistency Determination Process

The Council approved a new review process for future resource acquisitions by the Bonneville Power Administration that are too small to trigger an automatic review by the Council for consistency with the Northwest Power Act. The “non-major resource acquisition review process” is intended to be an efficient, nonadversarial approach to maintaining a broader consistency between Bonneville’s overall resource actions and the Council’s Northwest Power Plan. It will provide a relatively quick response to Bonneville proposals and will require little expenditure of Council time and resources when a proposed acquisition appears to be consistent with the Council’s power plan.

Agreement with Bonneville on Conservation Accounting

In an effort to avoid misunderstandings in the future, Bonneville and the Council agreed on a methodology to count energy conservation acquisitions in the 2007-2011 rate period. The agreement states that in order to encourage conservation between now and 2011, when new power-sales contracts take effect, Bonneville plans to credit utility-funded conservation in such a way that it does not diminish a utility’s access to Bonneville’s lowest-cost power after 2011. Because the amount of this power for each utility will be calculated based on the utility’s maximum purchases of power from Bonneville in the past, without the new counting methodology, conservation achieved between now and 2011 could reduce a utility’s portion of low-cost power. The new methodology will ensure that demand reduction based on new energy conservation investments will not reduce a utility’s amount of low-cost power. After 2011, Bonneville will base its

conservation target on the entire load of its public utility customers, not just the share of that load supplied by Bonneville resources. Bonneville will continue to use the Council’s Power Plan to establish its conservation targets.

December

Columbia River Hatchery Scientific Review Funding Proposal

The Council recommended that Bonneville approve a \$1.3 million request to fund the completion of the Columbia River Hatchery Scientific Review process. The hatchery review, mandated by Congress, is assessing artificial production of fish in the Columbia River Basin. The work is divided into two phases — hatcheries downriver from Bonneville Dam and hatcheries upriver from the dam. The review is complete for the downriver hatcheries; the funding recommended by the Council would pay for the review of upriver hatcheries.

Funding for the Comparative Survival Study

The Council recommended that Bonneville fund the Comparative Smolt Survival study in the amount of \$800,000-\$900,000 per year in fiscal years 2008 and 2009. The funding would continue the current level of tagging Snake River spring/summer Chinook salmon and allow an increase in tagging of Snake River hatchery steelhead. The Council also recommended, consistent with a recent report on CSS by the Independent Scientific Advisory Board, that CSS tagging of fish in the lower river be discontinued.

Comment Letter on Draft Biological Opinion

The Council approved a comment letter on the draft biological opinions on hydropower operations. In its letter, the Council writes that it is prepared to assist the region to implement the biological opinions through public processes for independent science review, interaction with fish and wildlife managers and other local entities, and through project-funding recommendations. The Council also will help by working with the action agencies and others to ensure the Council’s project solicitation and review process will direct funding toward helping primary focal species and addressing high-priority limiting factors in each subbasin.

January

Coordination Funding for Tribes and Fish and Wildlife Agencies

The Council recommended the Bonneville Power Administration provide funding to fish and wildlife agencies and Indian tribes to participate in the Council’s fish and wildlife program planning and implementation processes. The Council approved this funding, called coordination funding, for the Columbia Basin Fish and Wildlife Authority (CBFWA), Upper Columbia United Tribes, Kalispel Tribe, Spokane Tribe and the Columbia River Inter-Tribal Fish Commission.

Neighborly Advocates *(continued from page 7)*

“We work very diligently at slowly cultivating relationships,” Knudsen said. “In this case, we really want the ranch to be a living laboratory, but we’re also doing traditional cattle ranching. We’re looking at this through the landowner’s lens.”

And through the lens of economic development, too. To help bring their natural beef to market, and also to encourage their neighbors to sell their beef and other food products locally — buying locally grown food is a growing movement throughout the country — the coalition started a farmer’s market in Missoula.

“It’s been very successful,” Bates said. “The coalition got it started and then backed off. It’s a way to connect the economic concerns of people who live here with conservation concerns.”

And it’s another example of how the coalition built credibility through relationships and a community focus.

“To become a rancher and help ranchers market their products is not the traditional environmental group approach,” Nielsen said. “It’s not a group that avoids confrontation and litigation, but that’s not their first choice, either. Their attitude is, ‘we’re not just going to preach it, we’re going to try to make it happen.’”

Knudsen agrees.

“Bringing together non-traditional partners always has been our biggest success. We emphasize education and advocacy, and we put people in touch with their local river. Given our accomplishments, it’s a testament to the fact that the coalition is a respected and trusted voice for rivers here in the basin.” 

History Now

On May 11, 1938, Congress passed the Mitchell Act...intended to mitigate the impacts to fish from water diversions, dams on the mainstem of the Columbia River, pollution and logging. Primarily, though, the mitigation is accomplished through fish hatcheries and the installation of juvenile fish diversion screens at irrigation water withdrawals.



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

Council Elects New Officers for 2008

Council members elected Idaho member Bill Booth as their new chair for 2008. Booth replaces Tom Karier from Washington state who has served as chair for the last two years. Bruce Measure from Montana was elected vice chair; Rhonda Whiting of Montana will continue as chair of the fish and wildlife committee; and Chair Booth has appointed Melinda Eden, Oregon, as chair of the power committee.

Booth, of Coeur d'Alene, was appointed to the Council in January of 2007 by Idaho Governor C.L. "Butch" Otter. He also serves as a member of the governor's cabinet. A resident of Idaho for 45 years, he is a former U.S. Air Force officer and senior minerals industry executive in Environmental and Public Affairs.

Montana Governor Brian Schweitzer appointed Bruce Measure to the Council in January 2005. Measure has been a practicing attorney in Kalispell, Montana since 1988. Prior to 1988 he was employed in the forest industry and served as vice president of the East Side Forest Practices Committee in 1984 and 1985. [CQ](#)

Governor Gregoire Appoints New Washington State Council Member

Washington Governor Chris Gregoire has appointed Dick Wallace to the Northwest Power and Conservation Council. The three-year term began February 16, 2008.



Wallace, 55, was a regional director with the Washington Department of Ecology and worked on policy initiatives such as the Puget Sound cleanup, watershed management, and salmon recovery. He replaces Larry Cassidy of Vancouver.

"Dick has a keen understanding of the balance between the growing energy needs of Northwest businesses and families, and the need to protect our natural resources," Gregoire said. "He will be an asset in building partnerships between state and local officials and business and interest groups to help work toward balancing our power and natural resource issues."

Wallace has more than 25 years of experience in natural resource issues, including water and watershed management, agriculture, forestry, storm water, and salmon recovery. He has served on several policy, funding, and regulatory boards and commissions, including the Salmon Recovery Funding Board, the Governor's Biodiversity Council, and the Washington State

Conservation Commission.

The Montana native graduated from Whitman College with a bachelor of arts degree in biology and environmental studies, and he studied executive management at the Evans School of Public Affairs at the University of Washington.

"I'm pleased the governor has asked me to serve the citizens of the state and region on the Council," said Wallace. "With climate change, there is a growing link between energy policy and protection of our fish and wildlife resources. This is an incredible opportunity to help shape that future." [CQ](#)

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