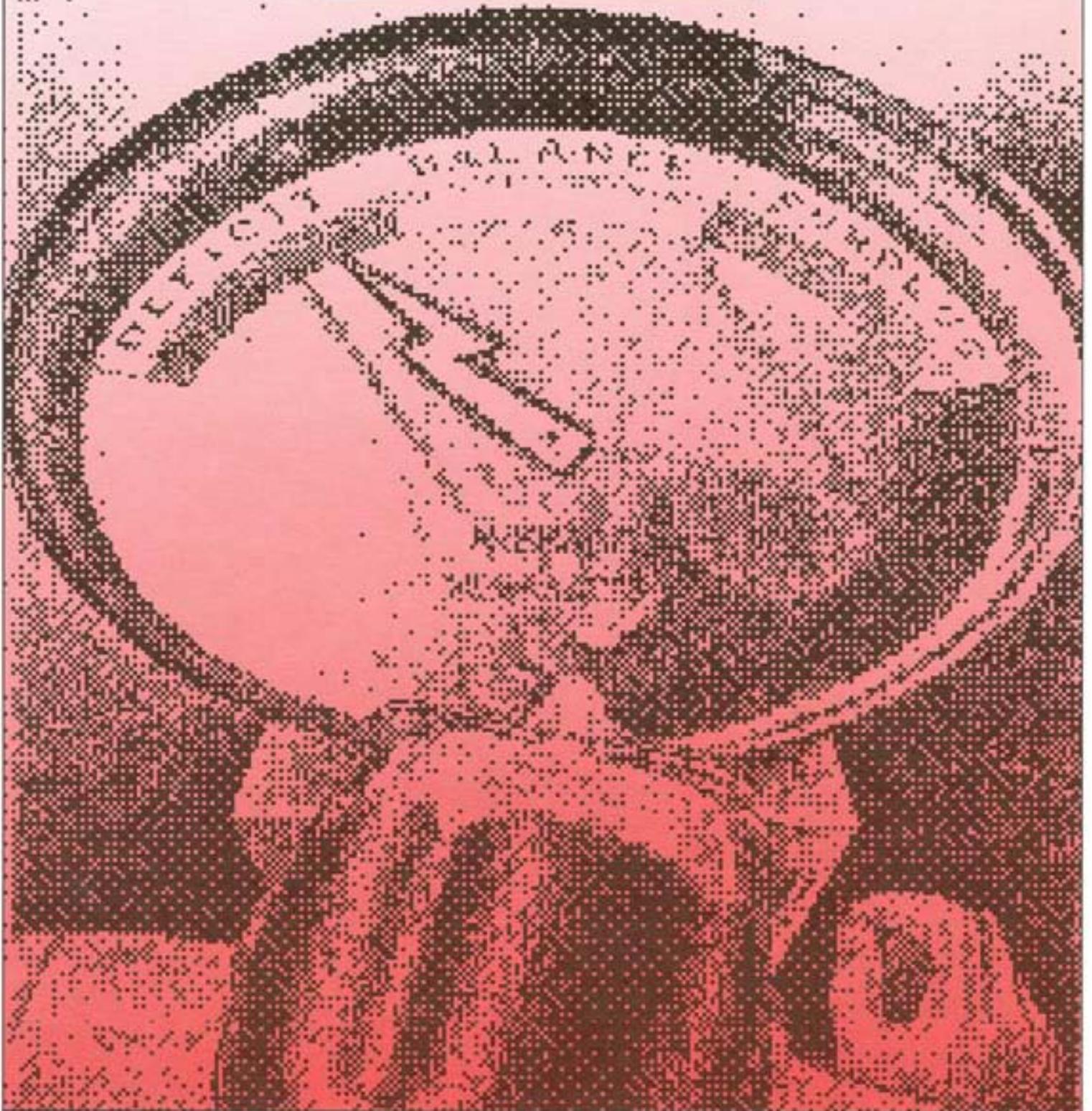


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This issue's cover illustration is from the Council's file and was created in 1985 by Dale Champlin.

from the **CHAIR**

An electrical energy deficit combined with impending rate increases will test the relevance of the Northwest Power Planning Council in coming years.

Providing leadership as well as a path for the region's utilities to follow is of paramount importance to our mandate of maintaining "an adequate, efficient, economical and reliable power supply" for the region. This task will require the Council to look at each individual resource as a tool to that end, rather than as an end in itself.

Our second mandate, "to protect, mitigate and enhance fish and wildlife" affected by the power system, can only be met if we first maintain a healthy, viable system.

It is my personal belief that our credibility, individually and collectively, is facing a major challenge. I also firmly believe that we have the ability to meet that challenge, but it will take the total commitment of all of us to provide the value and guidance assigned this body by the Northwest Power Act.



Stan Sharp

Fair Weather WARNING

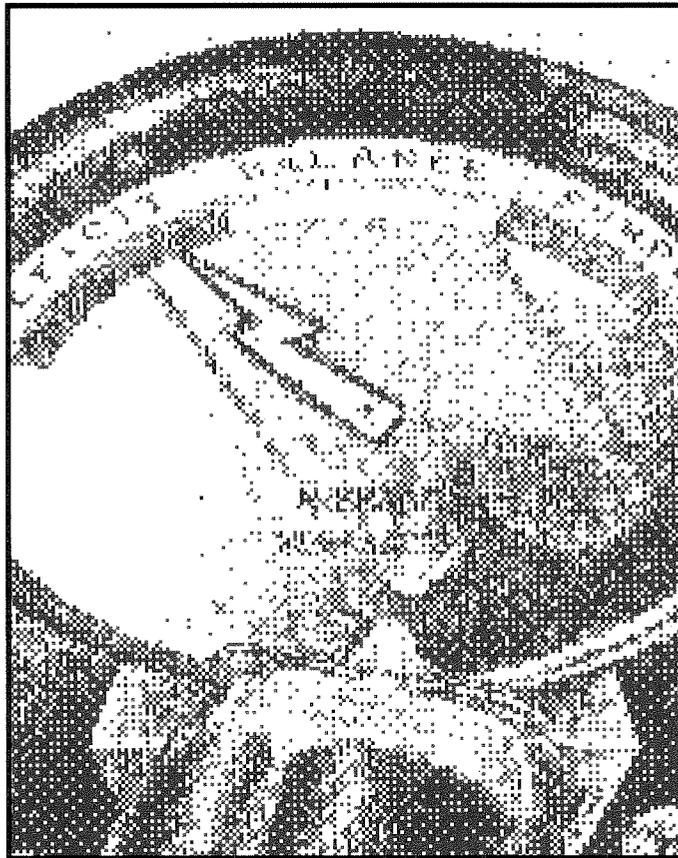
Too little rainfall plunges the Northwest into power deficits

by Carlotta Collette

It could have been predicted, and in fact, it was. As early as 1986, when the Pacific Northwest was “awash” in surplus electricity, the Northwest Power Planning Council warned that the region should not assume the surplus would last. “If high energy growth occurs,” the Council’s 1986 Northwest Power Plan noted, “the region would need new supplies in the next few years.”

That 1986 plan admonished the region’s utilities, and the Bonneville Power Administration in particular, that “over-reliance on the surplus could waste the time needed to test and demonstrate low-cost conservation programs and thus lead to the development of more expensive resources. Some actions are needed now,” the plan stated, “to achieve the long-term goal of meeting the region’s energy needs at the lowest possible cost.”

The same message had been sent even earlier, in the Council’s first power plan in 1983. That plan called for actions that would set



the stage for rapid resource development when the need for new power supplies would arrive.

The 1983 plan called for strategies with code names like “optioning.” That translated into taking initial steps, such as designing, licensing and preparing to build new generating plants, but holding the “option” on the plants until the energy was needed. The plan also asked that Northwest utili-

ties begin testing resources that could be used to back up the hydropower system in years with lower than average rainfall.

A change in the weather

In 1986, the surplus amounted to about 2,500 megawatts — almost enough electricity to power two Seattles and a Portland. As the region’s economy, and especially its aluminum industry, began to recover from the recession of the early ’80s, the extra energy began to disappear.

Then the region dried up. The Bonneville Power Administration reports

that water conditions since 1987 have made these the “worst consecutive six years” in the regional power marketer’s history.

By 1988, there were only about 1,400 megawatts of electricity more than the Northwest required. The Council began to revise its 1986 plan, arguing that as the surplus shrank, actions called for in its first two plans needed to be accelerated.

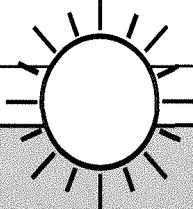
The drought proved to be more persistent than the power surplus. Runoff levels in 1992 and 1993 were near record lows. Reservoirs behind some of the dams are at their lowest levels ever. (See "Nearing the Bottom of the Dam at the Top," in this issue.) And the dams have been called upon to provide more water to help protect young salmon migrating out to sea.

"When you've got a region that depends on falling water — from rainfall, snow melt and the rivers — for two-thirds of its electricity, and you've had a drought for six or seven years, you've got big problems," says Power Planning Council Chair Stan Grace. "We don't have the flexibility in the hydropower system that we used to have."

Shortages of the magnitude now being experienced were anticipated in the Council's most recent power plan, the one adopted in 1991. That plan argued that if the region's need for new electricity grew any faster than 1 percent per year, "there will be large deficits until about 2000."

But the Council's estimates of the amount of hydropower the region can expect are usually conservative. They are based on historic low water levels rather than average rainfall and snowmelt. With average rainfall, the deficit identified in the 1991 plan would have been much smaller or not a deficit at all.

Because the plan is designed to reduce the risks of resource decisions, it still pushed for concerted regional action to begin using electricity more efficiently, to build more energy-conserving buildings and to develop additional new generating resources.



The drought proved to be more persistent than the power surplus.

How has the region fared?

Energy use in the Northwest grew around 2 to 3 percent per year during much of the late '80s, and it only began to taper off last year when it averaged 1.2 percent. That's substantially higher than in the 1991 power plan's caution to the region.

In addition to the loss of hydropower due to the drought, one of the region's two nuclear power projects, the Trojan Plant near Portland, Oregon, was unexpectedly and permanently shut down. In response, many Northwest utilities, including Bonneville, have been meeting their power shortfalls by purchasing electricity from other utilities.

In a seller's market like this one, power can be sold at a premium. Bonneville, in particular, has had to spend hundreds of millions more than it anticipated for new electricity supplies. That has left the federal power marketer financially strapped at a time when it desperately needs to be investing in new resources, particularly cost-effective efficiency improvements.

At the same time, virtually all major Northwest utilities are either planning, building or acquiring new conservation and generating resources. The 1991 power plan called for at least 1,500 megawatts of energy-efficiency improvements, 150 megawatts of new hydropower and 650 megawatts of cogeneration to be developed by the turn of the century. Cogeneration is looked on with particular favor because it is electricity generated with heat also being used for an industrial process.

The plan further urged utilities to prepare to develop another 200 megawatts of hydropower, 750 megawatts of cogeneration and 1,500 megawatts of resources, such as gas-fired combustion turbines, which could be used to back up the hydropower system when water levels in the rivers are low.

To add flexibility and diversity to the region's resource choices, the Council outlined actions that needed to be taken to ensure that cost-effective renewable resources, such as wind, solar and geothermal power, could be made available when they are needed.

In March, the Council reviewed regional activity toward meeting those targets. It was clear from the Council's analysis that power companies are already preparing to acquire far more generating resources than are called for in the plan. While the plan called for acquisition or options on about 1,400 megawatts of cogeneration facilities, for example, regional utilities are in various stages of planning or construction on 2,315 megawatts of the resource.

When they are completed, beginning in the late 1990s, most of these new power plants will be fueled with natural gas. This regionwide turning to natural gas as if it is the new river is largely because natural gas prices are much lower than they were in 1991, and there appear to be more natural gas supplies than were anticipated.

Many Northwest utilities are also proceeding on plans to build wind turbines and geothermal power plants to garner electricity from these renewable resources.

But movement on energy efficiency, while accelerated greatly over recent years, still lags behind the pace needed to meet the Council's targets. In 1991, Bonneville and the utilities together secured approximately 45 megawatts in energy savings. That's nearly double the amount saved in 1990, but far more will be needed each year to capture even the minimum cost-effective savings described in the power plan.

One obstacle faced by utilities that buy power from Bonneville is the power agency's depressing financial condition. Bonneville has had to tap deeply into its budget reserves just to buy the electricity it needs to serve its customers.

This winter Bonneville cut off a quarter of the power it usually delivers to its direct service industrial customers. The agency needed the electricity, which, under contract agreements with the industries, can be interrupted, to serve other guaranteed loads. Then it proposed double-digit rate hikes beginning this fall.

Finally, in April, Bonneville announced major cost-cutting measures, including termination of the two Washington Nuclear

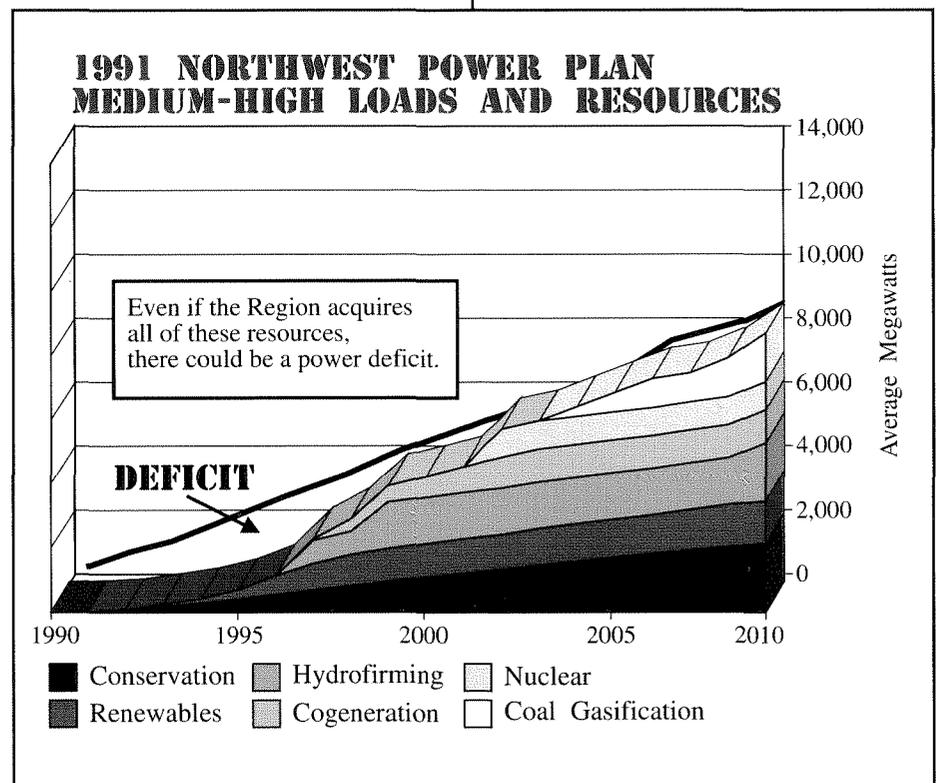
Projects 1 and 3, which the agency had been preserving at a cost of \$10.5 million each year.

Although some view Bonneville's fiscal crisis as ample defense for cutting back on conservation spending, the Council is concerned that such a short-term solution might exacerbate the longer-term problem. The region's need for new resources isn't going to go away. If low-cost conservation is not captured now, additional higher-cost generating resources will need to be completed in the future.

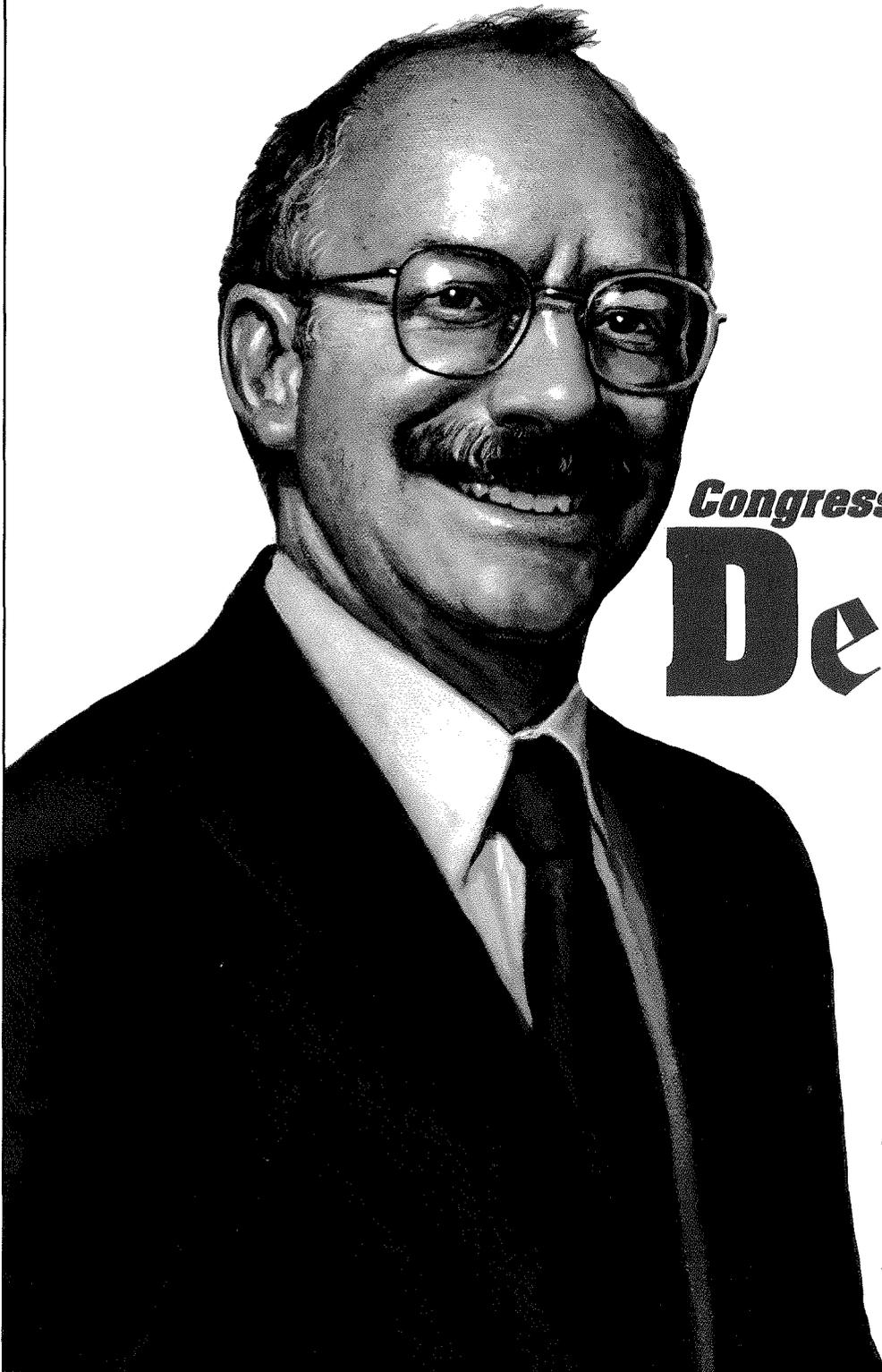
Utilities that have relied on Bonneville support for their conservation efforts are concerned because the agency is not providing the funding they need. They have geared up, hired staff and prepared to meet the Council's conservation targets. Without stable backing from Bonneville, these efficiency programs are in jeopardy.

The Council has joined many of Bonneville's major customers in asking that the agency seek ways to cut its operating expenses, work hard to operate conservation programs more effectively and economically, and look at other sources for its own fiscal backing. Some utilities, for example, can borrow money at lower interest rates than Bonneville. They could help Bonneville with conservation or other program funding.

"Difficult times call for bold measures and hard choices," Chairman Grace wrote in the Council's comments on Bonneville's proposed rate hike. They call for looking beyond the moment, beyond the bad weather and tight finances, to a future where a reliable and low-cost power system will still be critical to the region. Today's investments will make or break that future.



The chair of the Bonneville task force offers a preview of the review



Congressman DeFazio's task force conducted its first hearing on April 28, 1993, in Washington, D.C. This hearing focused on Bonneville's near-term budget concerns and financial condition. Most of the discussion centered on Bonneville's program costs and the current rate case. Further hearings are anticipated during the six-month review. These hearings are expected to focus more on longer-term issues.

Congressman Peter DeFazio

with Carlotta Collette

There was some surprise in the halls of Congress after Peter DeFazio was elected to serve Oregon's Fourth District as congressman. The surprise was not because he won. Despite his reputation for frank independence, he had already been elected county commissioner and served successfully for four years.

No, the surprise came later, over how effective he was, how capable he was at drafting compromises and accomplishing goals against fairly substantial odds.

Oregon's Fourth District, which includes the environmentalist "Mecca" of Eugene and surrounding lumber towns, is not an easy place to represent. At the time DeFazio was elected, the district was in the midst of tremendous economic and natural resource conflicts.

It was 1986. The recession that had pummeled the nation in the early 80s had nearly bludgeoned to death timber-based communities.

There was fierce debate in the Pacific Northwest about the use of the region's forests, and no battleground was more bloodied than DeFazio's new jurisdiction. It was the home of tree spikers and chainsaw-wielding loggers. Tempers were as high as the economy was low.

Few people in Washington, D.C., or in Oregon for that matter, thought the outspoken Massachusetts-born former aide to vociferously progressive Congressman Jim Weaver, could ever still the fury in the ancient forests of the West. But he did — on several occasions, if not once and for all.

It is his ability to balance issues and keep people talking, both to each other and to him, that has helped make him an effective legislator.

It was, in fact, his drive to open and keep open the paths of communication between decision-makers and the people they represent that first brought him to the public's attention. DeFazio took on the Washington Public Power Supply System (WPPSS) and its ill-fated nuclear power

plant construction program long before the herds of lawyers brought their suits.

It was in 1981. He had just returned from Washington, D.C., to his home in Springfield, Oregon, a small town east of Eugene.

As an aide to Congressman Weaver, he had specialized in programs for senior citizens: (His masters degree combines public administration, gerontology and counseling.) So, when he learned that electric rates were climbing at his public utility district, he knew that people on fixed incomes could be hurt by the increases. He began going to utility board meetings to find out why rates were suddenly skyrocketing.

"I was appalled at what I saw going on there and at what I thought was a lack of critical decision-making by my local elected utility board," he says. "It was pretty clear that it was an inside, non-participatory process."

The Springfield Utility Board had joined many Northwest utilities in voting to finance construction of a series of nuclear power plants in Washington state.

"I started standing up at board meetings and asking questions. Ultimately, I did some research on the utility board and found that before they could issue debt that exceeded a certain amount, they should hold a vote of the people. Of course, at that time the city of Springfield was into WPPSS for over \$100 million, so I thought maybe they had a problem. Pretty soon we

were in the middle of a ratepayer revolt."

To DeFazio, that was his real beginning in politics. He has continued his interest in utility issues as "a kind of avocation," he says. In fact, he has been influential in Congress on such critical issues as maintaining Northwest control of the electrical intertie lines that connect the region with the Southwest.

As a member of the House Natural Resources Committee, which shares responsibility for long-term oversight of the Bonneville Power Administration, DeFazio has become one of Congress' key watchdogs over the Northwest's federal power marketer.

This spring, when California Congressman George Miller, chair of the House Natural Resources Committee, asked DeFazio to head up a task force on the power agency, he was delighted. He plans to hold public hearings on Bonneville's performance as part of his commitment to keeping the agency's decision-making open.

"Bonneville has to fulfill very necessary and desirable mandates for the people of the Northwest," he argues. "They can't just fantasize that they are a regional power authority with no federal mandates."

Q. *Your task force is reviewing the Bonneville Power Administration at the same time that Bonneville is trying to redefine itself in terms of its ability to remain competitive rather than function only as a government agency. What are your first impressions of Bonneville's new competitive strategy?*

It's an interesting challenge. I've decided to characterize my task force hearings as "Bonneville: The Next 50 Years." We've had about 55 years since the initial authorization for the Bonneville Power Administration. I want to look toward its future.

The challenge is to maintain its unique aspects as a government agency. Bonneville isn't a profit-maximizing utility. It isn't there to get the highest rate of return for the lowest-cost power it can produce. It has to fulfill a number of other concerns.

It has to drive the region toward the conservation and renewables mandates of the Northwest Power Act.¹ It must maintain environmental balance by meeting its mandates regarding salmon in the Columbia. It should serve as a conscience, or at least an example, for the utility industry.

So we've got a mixed challenge. One is to help Bonneville enter into the next 50 years as an entity that is more competitive, less bureaucratic, more flexible. On the other hand, Bonneville's decision-making must continue to be open to the public to ensure that it meets these other mandates.

Q. *Why create the Bonneville Task Force now?*

There's been a vacuum in congressional oversight since the passage of the Northwest Power Act and the dissolution of former Congressman Jim Weaver's subcommittee on Bonneville after he retired. We need some mid-course adjustments in the direction Bonneville is heading. Are we on a least-cost renewables and conservation path? Are we meeting the fish and wildlife mandates? Are we maintaining a reliable and low-cost power supply? I just think it's timely, after more than a decade since the Act was passed, to do some oversight.

Some of this grows out of my own concern that Congress needs to be involved. Some of it grows out of time-sensitive concerns, such as potential refinancing of Bonneville's debt, Bonneville's own concerns about its borrowing authority,² and, of course, the salmon issue and how it will be coordinated and resolved among the various interests.

Q. *How broad do you think the scope of this task force will be?*

As we go through the hearings, I'm going to look at everything and anything that has to do with the future financial stability of Bonneville and its capability of meeting power needs in the Northwest over the long term.

Bonneville feels very strongly that it needs some relief in terms of its borrowing authority. I'll have a look at the traditional forms of relief that they are suggesting, but I'll also have a look at

non-traditional forms of relief in order to meet their needs. I would like to lay out the whole range there before we recommend any legislation.

The most major restructuring that anyone could envision would be in the area of the repayment issue.³ As you know, the Senate has dropped repayment reform, in terms of this year's budget, so we'll not be immediately confronted with that. But Bonneville feels that this may be a unique time, given current low interest rates and federal deficit problems, to go in and refinance its debt and achieve some stability.

That could lead down any of several paths. On the one hand, you could say, "OK, we'll just get the authority, and we'll issue new debt and retire the old debt."

But the problem is that the Federal Budget Act would say that any debt issued by Bonneville, whether public or private financing, is an obligation of the federal government. It would be very dif-

¹The Northwest Power Act of 1980 called on the Northwest Power Planning Council to create an electricity plan for the region with the explicit priorities being development of cost-effective conservation and renewable resources. The Act calls on Bonneville to implement that plan.

²The Bonneville Power Administration has the authority to borrow a total of \$3.75 billion for the capital costs of developing and maintaining the power transmission system and for new resources such as conservation. According to Bonneville planning documents, the limit on transmission borrowing will be reached by 1998. The limit for conservation and other resources, based on projected spending levels, will be reached in about 2002.

difficult to get a waiver for new debt because it would count against congressional attempts to balance the budget.

Another potential arrangement would be to set up Bonneville as an agency that is governed differently, set up something more independent, like the postal service, with a board of governors. Then the Power Council might have more authority over it, although certainly there would still be mandates from the federal government. This alternative could be very problematic and would take a lot of work.

We should take a fresh look at other creative financing mechanisms. Some local utilities, for example, could perhaps become a capital resource for Bonneville, since some of them can borrow money more readily and probably more cheaply than Bonneville.

I'm also interested in the private side, these energy service companies that get paid only out of demonstrated savings.⁴ I want to look at why Bonneville has decided not to work with these companies. Although it seems to be working well in other parts of the country, perhaps it isn't. It seems on its face that it's a good idea.

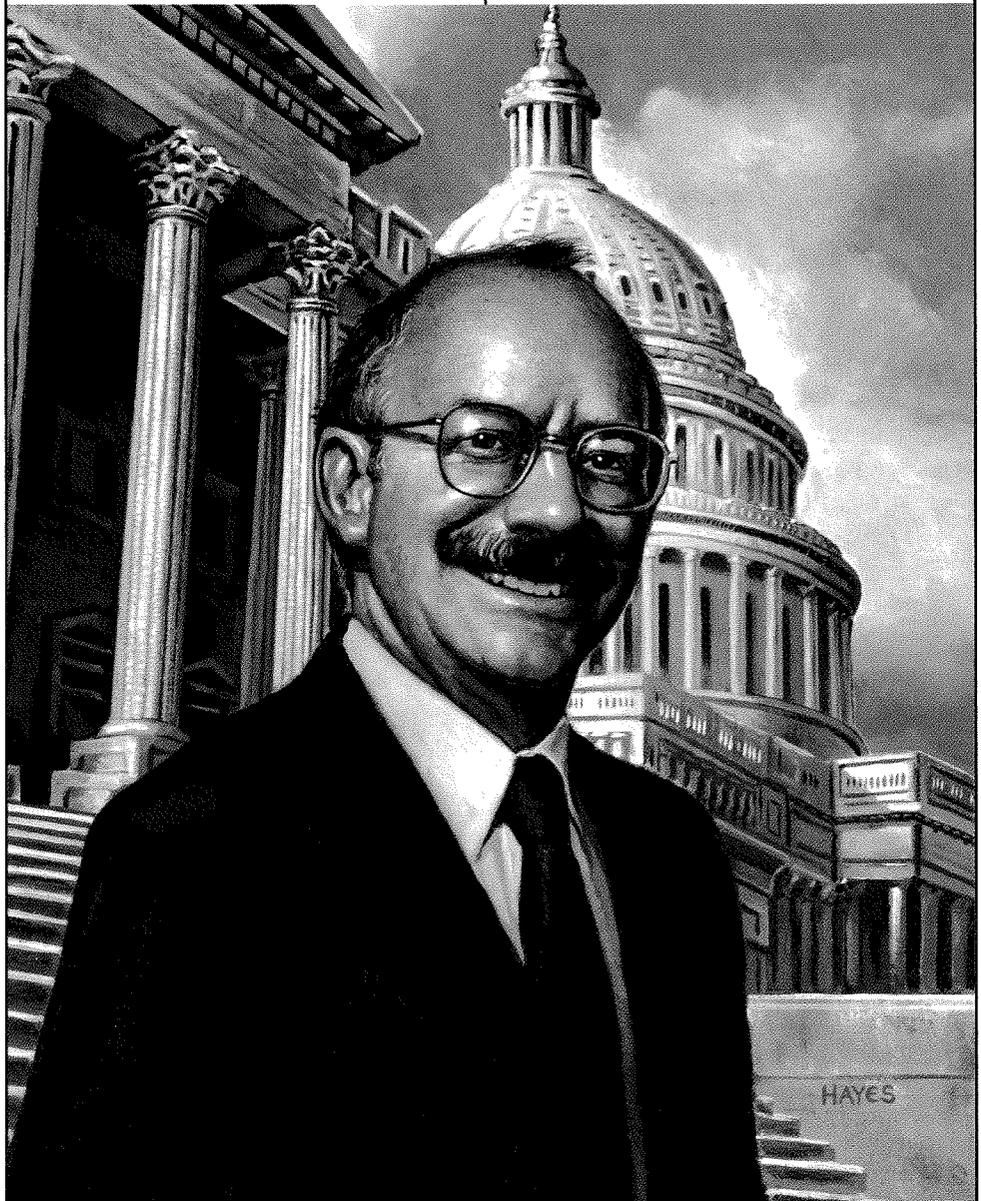
³Bonneville's federal debt on the hydropower and transmission system is nearly \$7 billion. Government plans to reduce the federal budget deficit frequently look at ways to restructure that debt so Bonneville would pay it off on an accelerated schedule and/or with higher interest. Either plan would result in rate increases in the Northwest.

⁴Energy service companies, often called ESCOs, are private enterprises that offer utilities installed conservation measures in return for payment for energy savings.

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Q. *What is your perception of Bonneville's movement on fish and wildlife protections?*

This is an extraordinarily controversial area. I think that the Council has put out a credible plan [The Strategy for Salmon], and I'd like to see, at least for starters, Bonneville fully implementing the Council's plan. That may not ultimately prove to be sufficient. We may have to go further. We may



have to modify it or look at different approaches as we learn more.

The key is that you have a scientifically defensible plan, over which experts may disagree, but at least you did not disregard your own scientists in drawing it up. If Bonneville doesn't follow it, it will have to have some well-documented, scientifically based reasons why it hasn't implemented it. Otherwise we could get into some trouble as we go down this road, just as the Forest Service did on the spotted owl.⁵

Q. *How would you compare the case of the spotted owl with that of Columbia River Basin salmon?*

The roots of the spotted owl controversy are really in the very fateful decision of the Forest Service to defy and muzzle their own scientists in the initial listing of the owl. At the time, the industry and other folks applauded that. They thought it was great.

But this was really the seed of a tremendous catastrophe. It has been a politically manipulated football by the Reagan and Bush administrations since that day. The Forest Service attempted to bury scientific reports, and they got in big trouble with the courts for gross violation of the law. The courts have lost patience with the agencies as they were manipulated by the Reagan and Bush administrations.

There are a lot of good people in those agencies who would have done things very differently and who now would do things very differently. I'm hoping this administration will allow them to do

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things honestly and differently, and restore some measure of faith in the general community, and even the environmental community, of the capabilities of the Forest Service and the Bureau of Land Management to manage for a diversity of values.

The message I've been sending to Bonneville is that you have biologists in your agency, and you should be listening to them. Experts are going to disagree with each other. It's OK to go to the appropriate bodies and try to sort out those disagreements. But you won't really have the risk of massive injunctions and disruptions if the issue is a disagreement among experts, not like the Forest Service, which completely ignored its own scientific people.

Q. *How pleased have you been with Bonneville's performance acquiring energy conservation?*

That's probably the area I've been most critical about over the time that I've been following Bonneville. We started out well with the conservation programs in the early 1980s, after the passage of the Act. We were really leading the nation.

I felt it was a real mistake then, when things were good — in terms of revenues, and water flows and everything else — to dramatically pull back from conservation because of the supposed surplus. I felt that it was a transient time, and unfortunately, it went by quicker than we all thought. I thought we had a little longer to argue about it, but now we're into a looming deficit.

I still don't think that Bonneville sees that conservation and renewables can solve as much of the problem as I do. I intend to look very critically at what has been done there and measure it against what has been done by some individual utilities, or by what individual utilities and customers are planning to do in terms of meeting their energy needs.

I understand that some fairly substantial utilities are looking at meeting all their new energy needs with conservation, renewables or demand-side management activities over the next decade. Bonneville is only looking at meeting a small portion of its needs with those resources.

⁵The U.S. Forest Service developed a recovery plan for the spotted owl, which was listed as threatened under the Endangered Species Act. The plan was challenged in court and found to be insufficient.

Q. *What is your view of the effect that expenditures for fish and wildlife and for conservation have had on Bonneville's current financial problems?*

The fish and wildlife and conservation provisions are only a small portion of Bonneville's budget. And only a fraction of what they pay in debt service for the failed nuclear plants. So I don't buy that that's what's driving Bonneville's financial problems.

It would be a horrible mistake for them to abandon those mandates. Those are mandates under the Act: acquire conservation and renewables that are cost-effective, and restore the salmon runs. They cannot say those are just optional things that are nice to do when they feel they've got extra money.

Q. *Along with Bonneville's proposed rate increases, President Clinton's proposed Btu tax⁶ looks as if it might have an impact on the Northwest. What is your understanding of that tax and why it hits hydropower so hard?*

I can't for the life of me see how they can justify essentially taxing hydropower on the same plain as nuclear-generated power. Secretary Lloyd Bentsen told Congress they were trying to balance the regions of the country with this tax.

We are the major region of the country dependent on hydroelectricity. They looked at our overall utility rates. They figured that in places where they heat with oil, they'd take a smaller hit out of

people because their monthly burden is already higher.

In the Northwest, they're taking a higher percent because our monthly ratepayer energy burden is lower. They came up with a number for the amount of money they wanted, and they backed into a methodology that gave them that number. There's no way, environmentally or through physics, to justify the burden they put on hydroelectricity. We're also further down the conservation path than other parts of the country, so it's a little unfair that they're saying they're doing this to send a conservation message.

The Northwest delegation is unanimous in feeling that the formula being applied to hydropower should be modified. The delegation is not asking for an exemption, but it is asking that they look at the computation figures. We don't feel that it's a fair apportionment to our hydrosystem.

The Northwest delegation also feels strongly that, on top of the looming rate increase, a Btu tax on our hydropower of the magnitude they're talking about is going to be very disruptive.

Q. *What is your impression of the Council's progress to date?*

The Council is a legislative contract, a sort of compromise. It's an experiment in interstate governance, or at least interstate policy-making. I think it's done an admirable job, but I'm not certain that we don't have to do some tinkering.

The way I read the Act, Bonneville is supposed to be a bit more responsive to the Council than it has been. There's a higher burden in the Act to document why they are doing something other than what has been recommended by the Council.

If that's not the case, maybe it's a defect in the law. Maybe we need to beef that up a little bit to get more of a response, more linkage sometimes between some of the recommendations of the Council and some of the actions of Bonneville.

The [Bonneville] administrator is, from my way of looking at it, one of the most powerful positions I've ever seen in government in terms of absolute authority. That's also something to be looked at. That's, in part, why we want to have these hearings. We want to at least reestablish the role of the U.S. Congress and in particular the authorizing committee of power marketing agencies, the Natural Resources Committee, that we do have oversight authority and governance and policy-making authority over Bonneville.

Bonneville needs to be responsive to Congress. And there needs to be more of a cause and effect linkage between the Council and Bonneville.



⁶The proposed Btu (British thermal unit) tax is levied against heat-producing processes. Hydropower, which is a very efficient, renewable resource, would be taxed at only a slightly lower level than coal or nuclear power, but considerably higher than electricity from gas-fired turbines.

The BIG Picture

by John Harrison



Picture the natural ecosystem, a place where diverse creatures thrive. There was a time when the Columbia River Basin was such a place.

Arguably, it was long ago; before hydroelectric dams turned the Columbia River into a series of slow-moving lakes; before fishing, logging and agriculture were industries; before the dams controlled flooding and made river navigation possible; back when the region's human population numbered in the thousands, not millions. Certainly nature took an

occasional toll through wind, rain, drought, fire, flooding and erosion. But generally, conditions were pristine.

Today, isolated parts of the Columbia Basin remain pristine, but the combination of natural events and human activities altered the rest — sometimes for better, sometimes for worse.

Sometimes permanently.

Certain species suffered more than others. Salmon, for example, have declined.

Before our region's rapid development began 150 years ago or so, 10 million to 16 million adult salmon returned to spawn in the Columbia River and its tributaries each year. Today, the number is about 2.5 million, and nearly 80 percent of those return to hatcheries.

For other creatures — some species of ducks, for example — current conditions may be an improvement. Reservoirs behind the dams created more duck habitat in some areas.

In the ecosystem, the environment offers advantages to one creature and disadvantages to another.

The problem is that what's good for ducks may not be good for salmon, particularly young salmon. As juvenile salmon migrate to the ocean, they can become disoriented in the big, slow-moving reservoirs. As their migration is slowed, they also fall victim to predators and to warm water temperatures. So in the same ecosystem, the environment offers advantages to one creature and disadvantages to another.

The challenge is to manage the ecosystem so that ducks and salmon — and other creatures — flourish. There is strong direction for this work in the Northwest Power Act of 1980. One purpose of the Act, which allowed the four Northwest states to form the Northwest Power Planning Council, is to "...protect, mitigate and enhance the fish and wildlife, including related spawning grounds and habitat, of the Columbia River and its tributaries..."

This year the Council is studying an ecosystem approach to protecting and enhancing fish and wildlife as part of the fourth and final phase of amending the Columbia River Basin Fish and Wildlife Program. The first three phases, completed in September 1992, dealt with salmon and steelhead. The fourth phase deals with resident fish — those that don't swim to the ocean — and wildlife. In this phase, the Council also will integrate all four phases of the amended program into a new, 1993 Fish and Wildlife Program.

The Council released in late April its latest proposed amendments and a draft document integrating the first three amendment phases and the 1987 Fish

and Wildlife Program. Public comment is scheduled to continue into the summer. The Council expects to make a decision in October.

One key element of the latest amendments calls for the Council to incorporate an ecosystem approach in the fish and wildlife program. This approach fits another of the Council's mandates in the Northwest Power Act, to deal with the Columbia River Basin as a system.

"Managing the river as a system means taking into account and balancing the natural resources of the basin with the development of these resources," said John Marsh, the Council's system planning coordinator. "It also means making trade-offs, in some cases, between the human use of natural resources and the needs of fish and wildlife. We must strive for balance."

This is true throughout the ecosystem — from the mouth of the Columbia to the farthest reaches of fish and wildlife habitat.

"I think it is important to note that we have one ecosystem, and we have altered it — particularly with dams — and there may be no way to return," said eastern Washington Council Member Tom Trulove. "It's a new ecosystem. In some areas, new species have been introduced. So our goal should be to try to make the ecosystem we inherited the healthiest ecosystem possible."

For example, trout were not native to the Columbia River in the area behind Grand Coulee Dam that today is called Lake Roosevelt. But trout were introduced into the reservoir as a substitute for the salmon runs that were lost to construction of the dam. Indian tribes that once fished for salmon in that stretch of the river now operate hatcheries that stock the lake with trout.

Neither salmon runs nor the pristine ecosystem can be rebuilt in that stretch of the river, so efforts to improve conditions for fish should concentrate on enhancing the modern, "altered" ecosystem, Trulove said.

"The only way we can return to native species and native habitat is to take out the dams, and I don't think that's going to happen," Trulove said. "So we may have to rely on species that do well in the lake environment, such as trout, and these may not be native species."

That's one trade-off — trout for salmon. Protecting and enhancing fish and wildlife will involve many other trade-offs, as well. For example, Washington and Oregon are rejecting permit applications for new water withdrawals from streams that support

The Council seeks to broaden the region's focus from individual species or populations to the ecosystem within each watershed.

salmon. The trade-off: restricting new water uses, but protecting salmon habitat.

Ecosystem management is just one issue the Council is addressing as it completes the revision of its fish and wildlife program. Here are some others:

Cooperative watershed management

Here, too, the Council seeks to broaden the region's focus from individual species or populations to the ecosystems within each watershed in the basin.

"This approach considers all resource uses and users, provides for healthier habitat and encourages good investments through the fish and wildlife program and otherwise," Marsh said. "And it avoids a piecemeal focus on habitat projects."

In essence, landowners and government would work together to improve land uses and, at the same time, conditions for fish and wildlife.

Canadian origins

The Columbia River begins in Canada, as do several of its major tributaries, including the Okanogan in Washington, and the Kootenai in Montana and Idaho. Fish and wildlife in these river basins migrate back and forth across the international border.

The Northwest Power Act directs the Council to prepare a fish and wildlife program for that part of the Columbia Basin within the United States. However, the basin includes parts of British Columbia, and so the Council is seeking public comments on how — or whether — money from

Bonneville Power Administration ratepayers, which finances most of the fish and wildlife program, should be spent on projects in Canada. Should there be special cost-sharing arrangements? If so, how would such arrangements be settled; through existing international commissions, or by other means?

Resident fish goal

The Council's goal for salmon is to double the number of adult fish returning to spawn each year from about 2.5 million to about 5 million. But there is no goal in the fish and wildlife program for resident fish. The program says that projects to increase populations of non-seagoing fish should be supported by agreement on how many fish were lost to the dam in question, and evidence that the project will yield significant biological gains and not conflict with efforts to restore salmon runs.

Role of hatcheries

What should be the Council's policy regarding the use of hatcheries to rebuild resident fish populations?

This issue is as controversial for resident fish as it was for salmon because of concern for genetic impacts. Some biologists argue that hatchery fish dilute the genetic pool when they are introduced into a stream, so they shouldn't be used to rebuild naturally spawning populations. Other biologists say that hatcheries are the primary source of fish to rebuild certain fish runs and that genetic loss will occur if the runs are not rebuilt.

Wildlife goal

As with resident fish, there is no long-term goal for wildlife in the Council's program. There is an interim goal, which calls for the region to protect, mitigate and enhance about 35 percent of lost "habitat units." A habitat unit is an amount of habitat that supports one animal. Depending on the species, that can be a large or a small area.

What is mitigation?

"Mitigation" is one of the Council's responsibilities, but the term is not defined in the Northwest Power Act. Columbia Basin Indian tribes asked the Council to define the word "so that we're not talking apples and oranges," said Peter Paquet, the Council's wildlife program coordinator.

However, Congress specifically declined to define mitigation, even though several legally acceptable definitions were available, includ-

ing one from federal law. To do so now may be inconsistent with the intent of Congress, and it may pose additional problems.

"If we're going to define mitigation, then I want us also to define the ultimate level of mitigation," Oregon Council Member Ted Hallock said. "There's a reason Congress didn't define the word, and we need to be careful."

Credit for work already done

"Crediting is a complex issue that the Council has visited several times during past rulemakings on wildlife," Paquet said. "What the Council will wrestle with is how the ratepayer obligation to mitigate wildlife losses will be determined and how you determine when that obligation is fulfilled."

Federal agencies such as the U.S. Army Corps of Engineers, which operates most of the dams on the Columbia and Snake, and the Bonneville Power Administration, which sells electricity from the federal dams, conducted wild-

"Our goal should be to try to make the ecosystem we inherited the healthiest ecosystem possible."

life mitigation projects that were not part of the Council's program. The question is, to what extent should these efforts be "credited" against efforts in the Council's program.

Wildlife trust agreements

In 1989, the Council adopted a wildlife rule that allows Bonneville and other parties, such as state agencies and Indian tribes, to negotiate settlement agreements to finance and undertake wildlife mitigation projects. Such an agree-

ment was completed in 1991 to mitigate the impact of Dworshak Dam in Idaho. That same year, Indian tribes and state agencies in Washington formed a coalition to negotiate a settlement with Bonneville to mitigate wildlife damage from Columbia Basin dams in that state. The parties announced an interim agreement this year.

The Council is not opposed to trust agreements. To date, its involvement has been to review and approve agreements.

"The Council will discuss whether to develop criteria to ensure that negotiating parties comply with the Council's wildlife rule and the Northwest Power Act," Paquet said. "Right now there are none adopted as part of the program."



NPPC file illustration by Joan Barbour

Taking Stock

Council convenes review of salmon strategy progress

by John Harrison

The Pacific Northwest risks losing control of the effort to rebuild its salmon runs if it doesn't act quickly and collectively, a Washington congressman warned regional fish, wildlife and energy officials in April.

"I compliment the effort here in the region," said U.S. Representative Norm Dicks of Washington. "We need a regional solution. If we don't do this as a region, the federal government will do it for us, and we may not like their alternatives. Frankly, once the federal courts take control of an issue, a regional solution becomes impossible."

Dicks spoke at a day-long conference in Portland convened by the Northwest Power Planning Council to assess regional progress in implementing the Council's Strategy for Salmon. The strategy is a comprehensive program of actions to improve salmon survival at every stage of their life cycle. It was approved by the Council last September in the form of amendments to the Columbia River Basin Fish and Wildlife Program.

At the conference, the Council met with about 30 officials representing some 28 federal, state and



Washington Congressman Norm Dicks

tribal agencies that have responsibilities for implementing parts of the salmon strategy. Participants learned that progress is good in some areas, but not in others. Tight budgets, the drought, lack of scientific data and strong differences of opinion among fisheries biologists were blamed for the delays.

Dicks, who was the keynote speaker, warned that salmon recovery has the potential to eclipse the spotted owl issue in terms of contentiousness and impacts on the region. That's because impacts to salmon occur throughout the Columbia Basin and not just in certain forests, as with the owl.

"The salmon strategy is a model of regional cooperation," Dicks said. "I am encouraged that the National Marine Fisheries Service is using it as the foundation of its recovery plans for Snake River salmon. I urge you to implement this program. All of it."

The Council convened the progress review to accelerate implementation of the regional salmon strategy by identifying problem areas and working toward solutions. The strategy calls for similar reviews every year.

Council Vice Chairman Ted

“If we don’t do this as a region, the federal government will do it for us.”

Bottiger of Washington, who presided at the meeting, said most of the strategy is being implemented. He also said he was pleased with the candor of the day’s discussions.

“We must remember that this is a regional challenge, and that we have the ability to meet this challenge, to improve conditions for salmon, here in the region,” Bottiger said. “I am encouraged by the commitments I have heard today. We will continue to pursue issues that were not resolved.”

Here is a brief look at major issues and commitments:

Summer flows in the Snake and Columbia rivers

Rollie Schmitt, regional director of the National Marine Fisheries Service, said that summer flows for salmon must be passed down the Snake River to the ocean this year. In 1992, the Bonneville Power Administration held back water from the upper Columbia River when Snake River flows were increased to help salmon, and the result was no increase below the mouth of the Snake. Schmitt said increased flows in summer are necessary for recovery of Snake River fall chinook salmon, which are a threatened species, and perhaps to prevent future listings. The Fisheries Service will address this issue further with the federal agencies that operate the hydropower system.

Studies of juvenile salmon survival

There was general agreement on the need for new information on the relationship between river flows and salmon survival. The Fisheries Service, state fish agencies and Bonneville announced support for a study of flows and survival that was scheduled to begin in April.

Snake River drawdowns

The Bonneville Power Administration, the National Marine Fisheries Service and the U.S. Army Corps of Engineers committed to continue evaluating the effects of drawing down Snake River reservoirs to speed migrations of young salmon. The Corps and Fisheries Service have agreed to a test in the spring of 1994 to determine the biological impacts to salmon from drawing down Lower Granite reservoir. This, too, ought to provide important information that will help the region work cooperatively on salmon recovery.

Idaho water to boost Snake and Columbia flows

A representative of the Idaho Department of Water Resources said there is not enough water in low-water years to provide the additional flows that are called for in the Council’s salmon strategy. However, the Bureau of Reclamation committed to acquiring water and finding sites for new reservoirs to store water for salmon. Additionally, Bonneville is funding a regional effort to identify water supplies from conservation, water marketing and other methods.

Harvest

Oregon and Washington reported that salmon harvests in 1992 and proposed harvests in 1993 were reduced below levels called for by the Council. There was agreement by these states to move ahead with investigations of alternative techniques for commercial fishing that would decrease catches of vulnerable salmon species. The states also agreed to address the question of marking all hatchery fish so that they can be distinguished from wild fish.

Habitat

The U.S. Forest Service is behind in its efforts to update grazing plans so federally owned lands along waterways are protected. The Forest Service committed to revising these plans by 1997, and the Council will pursue this effort to accelerate Forest Service action.



Does HYDROPOWER Take Too Big A Hit?

Utility representatives complain to Council

by John Harrison

They hadn't met formally for more than a year, and when four officials of a Northwest utilities organization met with the Power Planning Council in March they brought a simple message: The Council's salmon and steelhead rebuilding program hits hydropower too hard.

Nevertheless, the Council's program is the only regional salmon plan in place, and Council members should be more vocal about supporting it, officials of the Pacific Northwest Utilities Conference Committee (PNUCC) said. The committee, which represents utilities and businesses that use large amounts of electricity, requested the meeting to air concerns about the rising cost of electricity. Part of the cost of electricity generated at dams in the Columbia River Basin pays for rebuilding fish and wildlife populations damaged by those dams, which supply about two thirds of the electricity used in the Northwest.

"We support efforts to protect wild salmon," said committee board member Don Godard.

But Paul Lorenzini, president of PacifiCorp and another committee board member, said the association is concerned that the Council's salmon program would boost Snake and Columbia river flows without adequate scientific proof that increased flows will help the fish.

"How much are you going to impose on the (hydropower) system that cannot be justified by biology?" Lorenzini asked.

Evidence from scientific studies in the 1970s generally supports the theory that higher flows will move juvenile fish to the ocean more quickly and therefore lead to increased salmon survival. However, other studies have arrived at different conclusions. The salmon strategy, which is based on the best scientific information available, makes clear that higher flows are only one component of improved river conditions for juvenile salmon. The strategy also includes improved passage at the dams and control of predators.

To the utilities, flow changes are controversial because of the potential impact on the cost of electricity. To boost spring flows, water must be stored in winter behind upriver storage reservoirs. Because the stored water can't be used to generate electricity, power production downriver may decline. During times of low water, like the current regional drought, utilities that rely on the dams may have to buy some of their power from other suppliers — at a higher cost.

Godard, general manager of the Grant County Public Utility District in Washington, said that uncertainty about power supplies and costs is making it difficult for utilities to plan for the future. There are other uncertainties, too, such as an impending Bonneville Power Administration rate increase and the impact of President Clinton's proposed energy tax.

Jack Speer, chairman of the utilities committee board, said he was concerned about "costs being heaped on Bonneville." Speer, who is Northwest power manager for the Aluminum Company of America in Wenatchee, Washington, characterized the Council's program as "throwing money at the problem," a remark that angered Angus Duncan, one of two Power Council members from Oregon.

"I take exception to that suggestion," Duncan said. "It was better considered than that." Duncan pointed out that fish and wildlife costs are only a small part of Bonneville's proposed rate increase. Prolonged drought, low aluminum prices and costs associated with nuclear power plants are the prime factors in the rate increase, he said.

John Carr, another board member, said his organization "would like to see 'sunset provisions' built into these measures." Carr is the director of Direct Service Industries, Inc., an association of industries that buy power directly from Bonneville.

"Once programs like this get started," he said, "they tend to keep on

going. ... We face a future where we and a lot of other basic industries will no longer be able to compete. You need to prioritize your program so that you get the best results for the best cost."

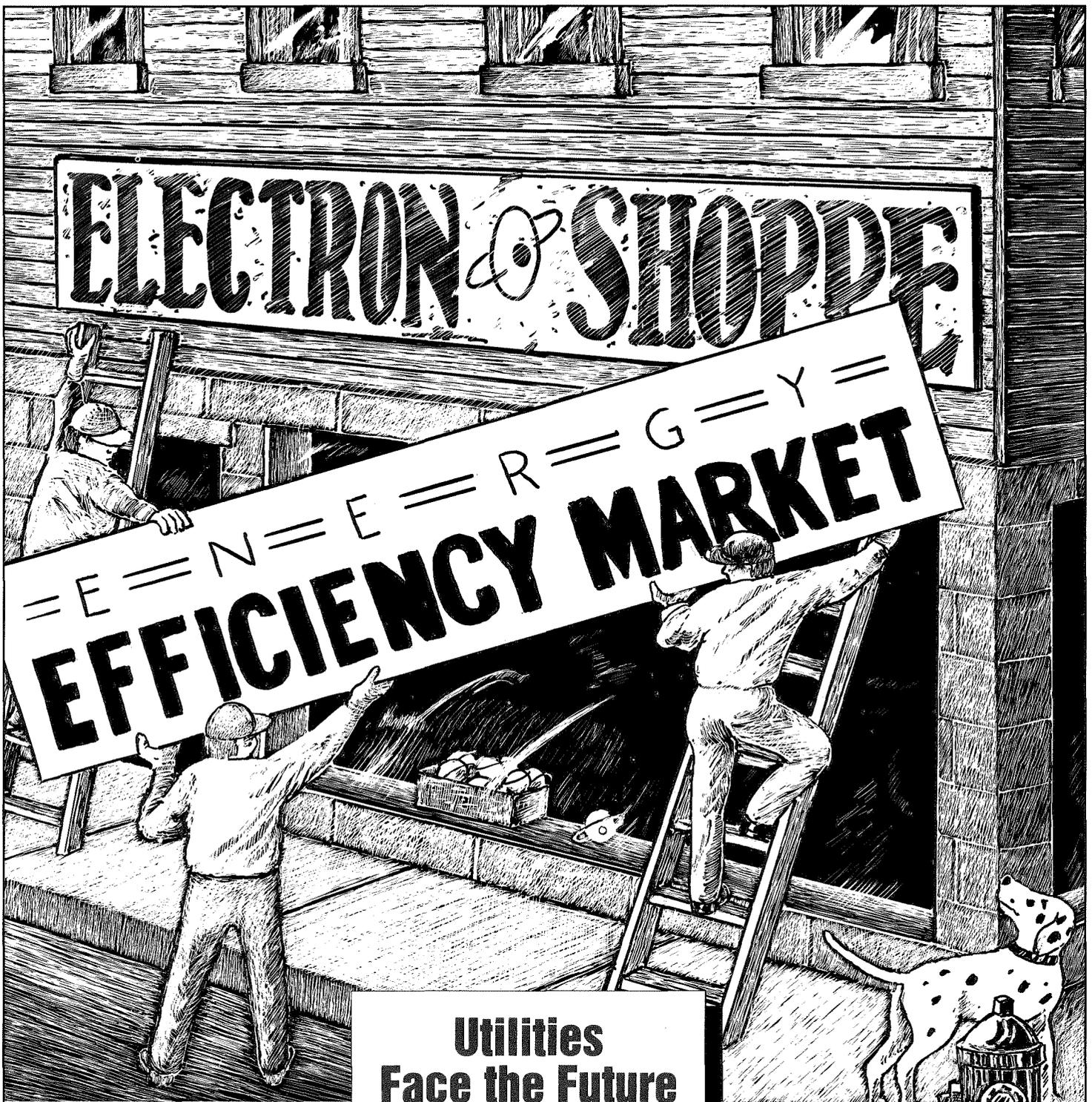
Council members replied that they designed the salmon strategy to be flexible so that it could be changed as new and better scientific knowledge becomes available, but that the region, and the salmon, can't wait for perfect knowledge.

"I stand behind the program," said Tom Trulove, Council member from Eastern Washington. "There are parts I don't like, but I stand behind them because they are important parts of the whole."

Despite their displeasure with the program's impact on hydropower, utility committee board members urged the Council to spend more time promoting the strategy. In part, that was because other agencies were discussing or recommending various higher flows at the time of the March meeting.

For example, the National Marine Fisheries Service was preparing its recommendation on spring and summer 1993 river operations. The Fisheries Service is working on recovery plans for threatened and endangered Snake River salmon, and it is obligated by the Endangered Species Act to protect the fish while the plans are being developed.

Additionally, 1993 flows higher than those in the Council's strategy were recommended to the Fisheries Service by the Idaho Department of Fish and Game, the Oregon Department of Fish and Wildlife, the U.S. Fish and Wildlife Service and the Columbia River Inter-Tribal Fish Commission. The utility and industry officials asked the Council to publicly support the strategy's flow recommendations and urge the Fisheries Service to accept them as adequate for 1993.



by John Harrison

Here's a parable about the business of selling electrons:

The electricity industry is like the man who, searching for gold, ignores the nuggets in favor of low-grade ore because his machinery is designed to handle low-grade ore, not nuggets.

Here's another:

The electricity industry is like the bus driver who complains, "I'd

Utilities Face the Future

Regional conference looks at the new electrical industry

be on time if only I didn't have to stop to pick up passengers."

It's not difficult to find the lesson of these parables, which were shared by regional utility execu-

tives at a February conference in Portland. Like the miner searching for gold, the electric utility industry must be aware of golden opportunities and not ignore them because they don't fit the old way of doing business. Like the bus driver, utilities must not focus so narrowly on one goal that profitable opportunities are missed along the way.

The Regional Utility Conference, co-sponsored by the Northwest Power Planning Council, focused on energy conservation. Its theme was "Laying the Cornerstone for the Conservation Power Plant." The Council's 1991 Northwest Power Plan calls on the region to meet growing demand for power by saving 1,500 megawatts through increased energy efficiency by the end of the century. That amount of electricity, enough for one-and-a-half Seattles, is a conservation power plant, and regional utilities are taking the first steps — laying the cornerstone — toward the goal. While generating resources also must be developed, the region's focus is on conservation because energy efficiency is the lowest-cost, most flexible and environmentally responsible source for new power.

Executives of 10 Northwest electric utilities, the Bonneville Power Administration and several businesses assessed the current state of energy efficiency in the Northwest, reported on progress in acquiring efficiency improvements, and offered predictions about the future of their efforts.

That's where the parables are instructional. Business is changing — the utility industry too, the executives said. That's a point made as well by the conference's guest speaker, Michael Gage. He is president of CALSTART, a Los Angeles company that brought together government and automobile manufacturers to build electric cars and other modes of transportation. Gage also is a former chairman of the board of directors of the city's Department of Water and Power and currently

chairs the board of the Metropolitan Water District for Southern California.

"Why does the senior management at Southern California Edison believe that if they are only pushing electrons by the end of the century, they'll be out of business?" Gage asked. "And why do we, as utilities, assume we will survive the next two decades in competition with fuel cells, storage capacity systems and other inventions that will directly compete with us and take our prime customers off of our grid?"

Utilities, long insulated from competition, suddenly find themselves facing the same competitive pressures other businesses face. Independent power producers can generate low-cost electricity, and research firms are making progress on renewable resources such as solar, wind and geothermal power. Utilities can't afford to be left behind, Gage said.

Utilities must add value to the energy they provide, he said. That value is in the form of energy services such as efficiency improvements.

"In Southern California these days, we talk about energy efficiency as a way to retain businesses," Gage said. "We develop business retention plans. My message is that what you are doing in terms of energy efficiency may not just be good for the environment, may not just be what the community wants, but in fact, may be the cutting edge of your industry in the next two decades.

"As you add value, as you help your customers reduce the cost of increasing rates, you help yourself get competitive. This is what will

allow utilities to survive. I don't believe for a minute that all the utilities today will be here in the year 2010. The question is, who won't be here and why won't they be here?"

Based on comments by executives at the utility conference, they intend that their utilities will be around in 2010. Perhaps none of the region's utilities feels that pressure as keenly as Portland General Electric, which closed its Trojan Nuclear Plant last January and plans to rely heavily on energy conservation, renewable resources, including wind power, and natural gas-fired turbines to make up the 600-megawatt loss and meet increasing demand for power.

"We just ended an era — the nuclear era, and it affected everything we do," said Ken Harrison, chief executive of Portland General Corporation, the parent company of Portland General Electric. "There is no greater antithesis to a nuclear power plant than a conservation power plant. This is an era we're looking forward to."

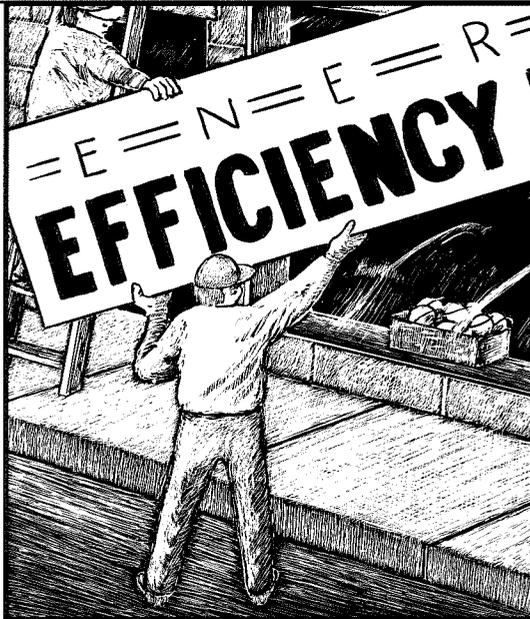
Harrison identified three key characteristics utilities must have to survive the current market transformation: long-term customer education, a steady flow of cost-effective programs to improve energy efficiency and consistent support from state utility regulators.

"The future has to be a portfolio of resources," he said. "There has to be flexibility. We have learned that our industry has to listen to what our customers want, and not give them what we think they need."

Paul Redmond, chief executive of Spokane-based Washington Water Power Company, agreed with Harrison. "Why should we convince our customers to buy less of our product?" he asked. "The reason is competition. Our customers are in competition, and if we don't keep our resource costs low, then our customers will be less competitive, and so will we. They might move away. Our philosophy is that conservation is in our best interest because it keeps all of us competitive."

While Harrison and Redmond represent investor-owned utilities, executives of publicly owned utilities also underscored the importance of energy efficiency. These utilities purchase most of their electricity from the Bonneville Power Administration (BPA) and rely on Bonneville to finance most or all of their energy conservation programs. For Bonneville, it is less expensive to help finance energy-efficiency improvements than to buy electricity from new generating plants to serve its customers' increasing demand for power.

"We are responding to the clear mandate of our customers by escalating energy-efficiency improvements," said Roberta Palm Bradley, superintendent of Seattle City Light. The utility plans to meet all of its anticipated demand for electricity in the coming decade — 100 megawatts — through energy conservation. "We'll go door to door to plan and market conservation programs that meet individual needs," she said.



Randy Berggren, general manager at the Eugene (Oregon) Water & Electric Board, said his utility also is committed to energy-efficiency improvements. "Conservation is the single largest resource in our portfolio," he said.

Both Berggren and Bradley said aggressive conservation programs depend on adequate financing, and each expressed concern about the adequacy of future conservation budgets to get the work done. "By 2010, conservation will account for 19 percent of our total resources," Berggren said. He said his utility estimates its demand for power will grow by 172 megawatts over the next 20 years. Of that amount, the utility plans to provide 82 megawatts in the form of energy-efficiency improvements.

"But there is a problem in the form of insufficient and inconsistent BPA financing," Berggren said. "BPA hasn't been able to finance all of our conservation plan in Eugene. BPA funding for 1993 is the same as for 1992, and is only 45 percent of what our plan calls for."

Bradley echoed Berggren's concern. She said Seattle City

Light anticipates spending \$390 million to acquire its 100 megawatts of efficiency improvements. Of that total, \$280 million would come from Bonneville. As with the Eugene utility, Bonneville hasn't committed to Seattle's total amount, but Bradley said negotiations are continuing. Without a total commitment from Bonneville, the efficiency target likely cannot be met, she said.

Matt Dillon, a commissioner of the Snohomish County (Washington) Public Utility District, chastised Bonneville for not fully financing his utility's aggressive conservation program. Recently, the utility abandoned the program rather than have it financed only partially.

Dillon said Bonneville should recognize that natural gas is more efficient than electricity for some uses, such as residential space and water heating. He said Bonneville should treat utilities experiencing rapid growth, such as Snohomish, differently than slow-growing utilities when it comes to conservation financing.

"No matter how convincing our arguments, we can't get BPA to go along," he said.

Concern about adequate financing for conservation is no secret to Bonneville Administrator Randy Hardy. He spoke at the conference, too, and warned utilities not to ask for the sky.

"We are fully committed to reaching our share — 660 megawatts — of the Council's 1,500-megawatt goal," Hardy said. He said Bonneville will spend \$125 million on energy conservation programs this year and increase spending to \$250 million

by Fiscal Year 1995. Bonneville acquired 10 megawatts of efficiency improvements in 1991 and plans to acquire 40 megawatts this year and 60 megawatts in 1995.

But he said Bonneville must remain a competitive power supplier. Rapidly escalating costs could convince Bonneville customers to buy their power somewhere else — from independent power producers, for example. Electricity from natural gas-fired turbines can cost as little as 3 cents per kilowatt-hour — competitive with some energy conservation programs. He said Bonneville wants to finance conservation programs for its customers, but not if they are so expensive that Bonneville loses its competitive edge.

“In our conservation contracts, we’re looking at about 3 cents (per kilowatt-hour),” Hardy said. “If everyone wants 3.9-cent conservation programs, it ain’t going to work, folks. Especially with gas turbines coming in at less than 3 cents.”

Hardy urged the utilities to investigate third-party financing to supplement money from Bonneville.

“Third-party financing offers you multi-year program stability,” he said. “I can’t give you that stability. Unless you have third-party financing, conservation is a flexible, controllable expense, not a fixed expense.”

Hardy also pointed out two overshadowing issues that he said could have a huge impact on Bonneville’s ability to finance energy-efficiency programs in the future. The first is Bonneville’s authority to borrow money from the U.S. Treasury, which is capped at

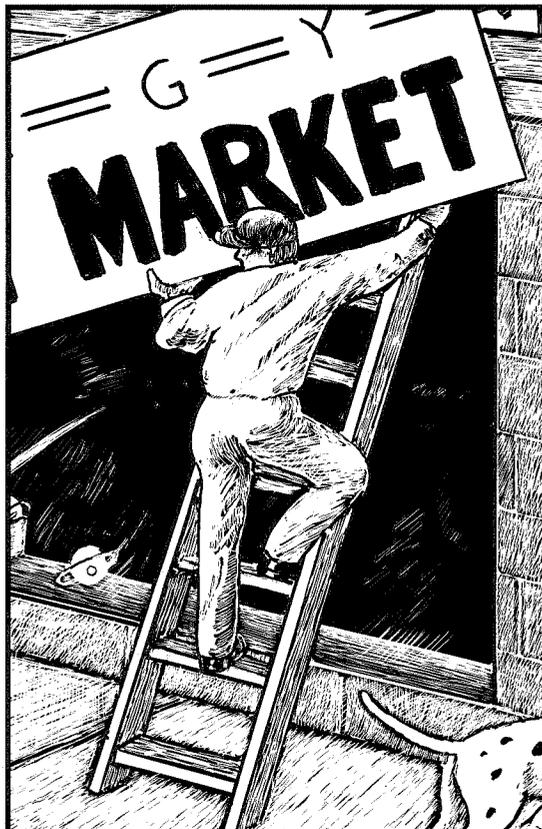
The electricity industry is like the bus driver who complains, “I’d be on time if only I didn’t have to stop to pick up passengers.”

\$3.75 billion. Right now, Bonneville has about \$2 billion in outstanding debt. Unless the borrowing cap is raised, Hardy said, Bonneville will hit its limit in about four years. (Bonneville will reach its borrowing cap for transmission in 1998, but the borrowing cap for conservation spending — \$1.25 billion — will not be reached until 2002.)

Hardy said the second issue is President Clinton’s proposed energy tax. The tax would be based on the heat content of fuel and is aimed at reducing the use of fossil fuels. The tax would increase the cost of heating oil, gasoline and natural gas. The tax also would apply to hydroelectricity, which would be taxed at an even higher rate than fossil fuels. Hardy said he fears the tax would raise the cost of all electricity. In response, utilities might cut back on programs such as energy conservation in order to control their rates.

Bonneville is developing a rate increase to take effect later this year. Hardy noted that Bonneville is feeling intense pressure from its customers to keep the rate increase as low as possible, but worsening revenues for the agency have led to recent announcements that the rate increase could be even higher. He said an energy tax could increase rates and threaten the fragile regional consensus that accepts some level of rate increase to finance energy conservation programs.

Each executive at the utility conference made it clear that decisions in the next few years will dramatically affect the region’s conservation efforts and the cost of electricity. In his remarks, Gage of CALSTART challenged the executives to think creatively: “Einstein once said, ‘Everything has changed but the way we think.’ When we look around today at the restructuring going on in our world,” Gage said, “I think those words might well apply today.”



Council Recognizes Energy Savers

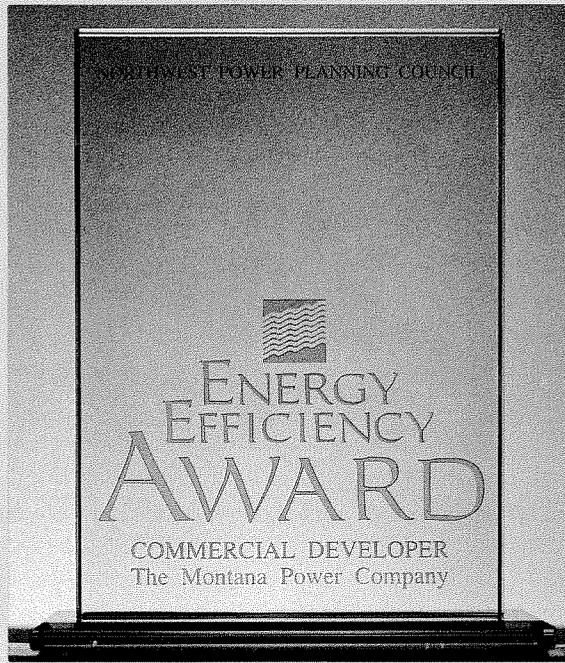
A low-income housing agency, an orchardist who built an energy-efficient community for his workers, and a cement company with plants in Washington and Montana were among six winners of the Northwest Power Planning Council's first annual Energy Efficiency Awards.

The awards were presented February 18 in Portland at the Regional Utility Conference, which the Council sponsored with the Bonneville Power Administration, the Northwest Conservation Act Coalition, the Pacific Northwest Utilities Conference Committee and others.

Electric utilities around the Northwest nominated projects for the Council's Energy Efficiency Awards. Council Chairman Stan Grace presented awards in the following categories:

Total commitment: This was a special category created to recognize a unique project. Orchardist Ralph Broetje of Prescott, Washington, built an energy-efficient community for his farm employees, including 72 homes, 28 apartments, a convenience store and a community center. Columbia Rural Electric Association of nearby Dayton, Washington, helped Broetje secure the expertise and funding to construct all of the buildings to high standards of energy efficiency.

Residential: The award went to the Eugene (Oregon) Water & Electric Board and the Housing Authority & Community Services Agency of Lane County. The agencies collaborated on the construction of 31 energy-efficient apartments for low-income families in Eugene.



Commercial: Snohomish County (Washington) Public Utility District and Washington Mutual Savings Bank shared the commercial customer award for collaborating on a project at the bank's branch in Edmonds, Washington. The project included a comprehensive retrofit of the bank's lighting, heating and cooling systems. As a result, energy-use efficiency of the building was improved more than 300 percent.

The Montana Power Company and 4-B's Inn shared the commercial developer award. Montana Power paid for a design study of a new 4-B's Inn motel planned for construction in Missoula. Before the study, owners of the motel planned to install individual air conditioning and heating units in each of the 65 guest rooms. But results of the study convinced the owners that a new type of heating and cooling system would save them money and be more convenient for motel guests. The design has been patented and can be used in other motels.

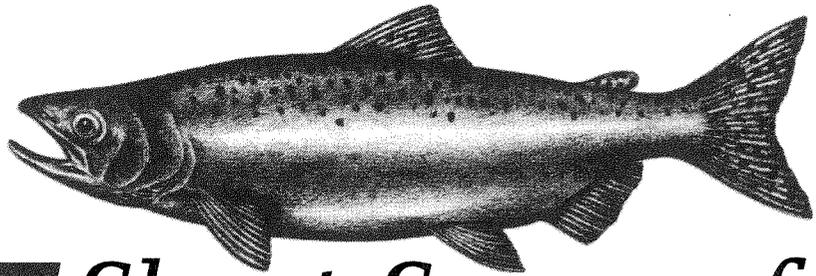
Industrial: The winners were Holnam Cement, Inc., Seattle City Light and the Montana Power Company. They collaborated on projects to improve energy efficiency at Holnam's cement plants in Seattle and Three Forks, Montana. The projects will save the cement company about \$100,000 per year in energy costs in Seattle and \$92,000 a year in Montana.

Honorable mention in this category went to a project of Tacoma City Light and chemical manufacturer Elf Ato Chem, Inc. Energy-efficiency measures will be installed at the plant under an

innovative "pay-for-performance" contract with the chemical company. If the savings don't materialize, the utility doesn't pay for the improvements. The project is expected to save between 16 and 20 megawatts of electricity. That's enough energy for 9,600 to 12,000 homes.

Innovative program: This award honored Seattle City Light and Puget Sound Power & Light Company for joining forces with other groups to distribute free water conservation kits to more than 275,000 homes throughout Seattle and eastern King County, Washington. What impressed the award judges on this project was the cooperation among Seattle City Light, Puget Power, the Seattle Water Department, the Washington Natural Gas Company, METRO, the Bonneville Power Administration and the Seattle Conservation Corps to carry out the project.

— JH



A Short Season for Salmon

Spring 1993 brings no good news for salmon fishers

by John Harrison

Spring commercial fishing seasons were measured in hours and recreational fishing seasons in days this year to protect Snake River chinook salmon, a threatened species.

For the first time, the National Marine Fisheries Service ordered a halt to spring chinook salmon fishing in the lower Columbia River shortly after the states of Oregon and Washington authorized brief fishing seasons. On February 15, the Columbia River Compact, which sets fishing seasons on the lower Columbia River, opened an eight-day commercial season below Bonneville Dam. The eight days were to be spread over two weeks.

But the Compact closed the season after four days, because the Columbia River Alliance for Fish & Commerce, an association of barge lines and other businesses and industries that use the river, threatened to sue. The Alliance claimed the fishing season was illegal because it began before the National Marine Fisheries Service issued its ruling on whether the fishery would further imperil Snake River chinook salmon.

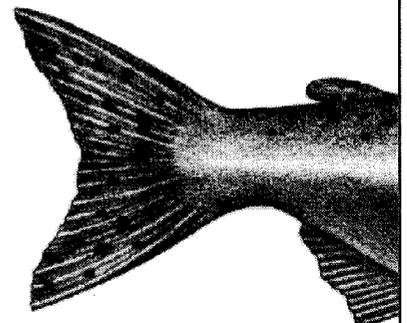
In a news release, the Alliance said fishing is "a legitimate part of the Columbia River system economy," but should not proceed on threatened species without permission of the Fisheries Service. The Fisheries Service is preparing recovery plans for Snake River salmon.

The Compact submitted its request for a Fisheries Service permit to conduct the fishery — required by the Endangered Species Act — in January, but the agency had not responded with its so-called "no-jeopardy" ruling on harvest by the time fish were in the river. The Compact went ahead with the season in February, believing it complied with the Endangered Species Act. But when the business association threatened legal action, the Compact halted fishing to await the Fisheries Service ruling, which came on March 1.

In a quickly convened conference call, the Compact reopened commercial fishing for 20 hours and later extended the season. In all, there were six fishing days.

In terms of catch, it was the worst spring commercial season since 1950, according to Oregon Department of Fish and Wildlife records. Cold river temperatures got most of the blame, prompting fish to remain in the ocean. The catch totaled about 1,600 spring chinook. Of those, 27 were believed to be Snake River wild salmon, based on genetics testing done by state biologists.

Three members of Congress whose districts include southwest Washington and northwest Oregon urged the Fisheries Service to respond quickly when the business association threatened to sue. They were Oregon lawmakers Elizabeth Furse and Mike Kopetski, and Jolene Unsoeld of Washington.



“Certainly we would rather the National Marine Fisheries Service have been able to move more quickly in issuing this no-jeopardy opinion,” Unsoeld said after the fishing seasons were re-opened. “But they were monitoring salmon stocks carefully, and the threat of a lawsuit by the Direct Service Industries was totally uncalled for. It had nothing to do with science and made much more difficult the cooperation and regional approach we need.” Direct Service Industries, Inc., an association of industries that buy electricity directly from the Bonneville Power Administration, is a member of the Columbia River Alliance.

Recreational salmon fishing from the Interstate 5 Bridge to the mouth of the Columbia, which the Compact opened and closed with the commercial season pending the no-jeopardy decision, reopened and was scheduled to continue through April 7. The Compact considers recreational fishing less threatening to the survival of the runs than commercial fishing. On March 2, the Compact also reinstated an Indian tribal fishery between Bonneville

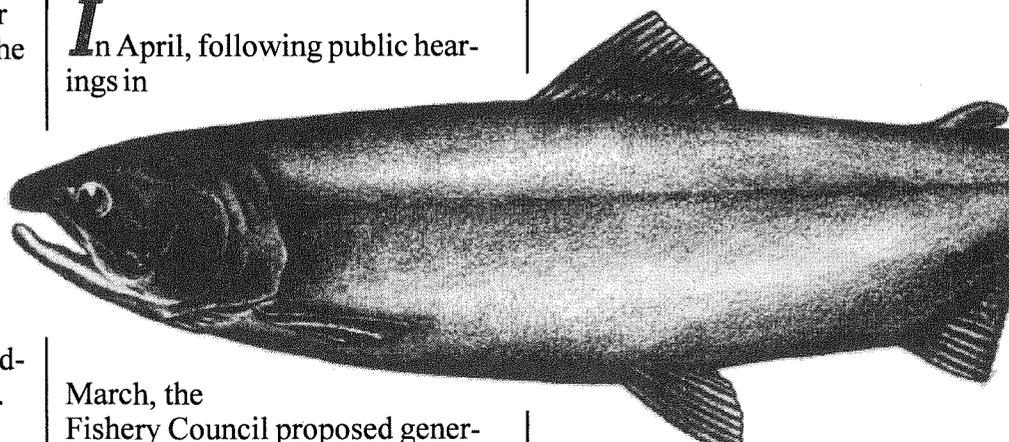
and McNary dams that was scheduled to last through March 20.

Meanwhile, conservation of weak salmon runs also was the driving force behind ocean fishing season options proposed by the Pacific Fishery Management Council. Meeting in California in March, the Council released for public comment options that included closing some key salmon fishing areas. The Council regulates ocean salmon fishing from three miles to 200 miles off the West Coast between California and the Canadian border.

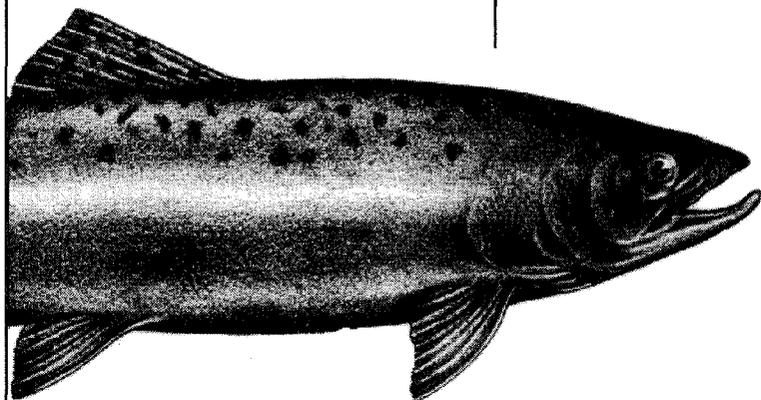
In April, following public hearings in

which is near Tillamook, Oregon, the Fishery Council proposed increased harvest of chinook and coho salmon, compared to the 1992 harvest.

South of Cape Falcon, the Fishery Council proposed higher chinook harvest but lower coho harvest, reflecting the decline of coastal coho runs. The Secretary of Commerce will consider the Fishery Council's recommendations and make the final decision.



March, the Fishery Council proposed generally higher harvests than were allowed in 1992, which was one of the worst fishing seasons on record. North of Cape Falcon,



What utilities need to know about working with building developers

Corporate Conservation



by Carlotta Collette

It's easy for Roger Wright to list the virtues of working with local utilities to save electricity. Wright is a property manager with the commercial developer Wright Runstad and Company (but he's not a relative of the company's founder, he points out). Since 1985, Wright Runstad has pulled together the resources to build 9 million square-feet of office towers, medical complexes and

corporate campuses in Washington, Oregon, Idaho, California and Alaska.

As project developers, the company has created working partnerships among investors, architects, engineers, contractors, potential tenants and — utilities. "It's our goal at Wright Runstad to work with utilities and try to gain as much conservation as possible," says Wright. "We have

saved operating expenses of 36 cents a square-foot, and that makes us more competitive," he boasts.

In the past three years, nine of Wright Runstad's buildings have been refitted with new lights, advanced heating and cooling systems, and more efficient motors, all of which cut consumption of electricity by approximately 2.4 average megawatts. "That's just

for our one, little, regional company," says Wright. "My contact at Puget Sound Power & Light tells me that's enough energy to power 1,750 new houses in their service territory." It's also enough to secure for tenants and managers in those buildings more than \$750,000 in projected annual savings on their energy bills.

When he is marketing his buildings to prospective tenants, Wright can argue that his structures and their energy systems are "state of the art." They are not likely to become obsolete structures in any foreseeable future, he suggests.

"They provide better tenant comfort and minimize tenant operating expenses. When the spaces are empty," he notes, "the owner benefits from lower expenses on the unleased space." Plus, Wright describes plenty of non-energy payoffs, such as actually having more light with less frequent bulb changeouts and ballasts with longer warranties. "The tenants really do perceive the better quality of the new technology," he says.

Wright has found his utility partners are usually willing and able to provide technical energy audits, offer useful suggestions on ways to better manage energy use and, in most cases, provide cash rebates for a portion of the work Wright Runstad carries out. Utility personnel have generally responded quickly and been very cooperative, he adds. "It's very important to us that we get quick turnaround on project inspections and on payments of rebates," he says.

In the past three years, nine of Wright Runstad's buildings have cut consumption of electricity by approximately 2.4 average megawatts.

With all those advantages, why aren't more entrepreneurs taking advantage of the often generous offers by utilities to help underwrite the cost of streamlining their operations? Wright, whose experience has made him somewhat of an expert on the subject, recently explained the developers' point of view to utility executives gathered for the Northwest Power Planning Council's annual conservation conference. (See related story on page 19.)

Wright points first to early failures to communicate clearly what the utility is offering and expecting in return. Utilities also don't seem to understand the needs of businesses. Possibly the single biggest obstacle to partnerships between utilities and corporate developers is the developers' need to see two-year to three-year paybacks

on their portion of any energy investments.

"Even in the best of times," Wright explains, "when the real estate market is good, it's hard for us to come up with investment dollars for energy projects. Right now, the commercial real estate industry is in a depression as a result of the overbuilding in the 1980s. We're finding it extremely difficult to get financing. The last thing we are interested in is a long-term debt that will hinder the financing of the building." Some equity investors in commercial real estate want long-term returns, but many more are in it for the short-haul. These are "more interested in maximizing their current cash flow," Wright explains.

Furthermore, the cost of most efficiency improvements is ultimately passed through to tenants, and most tenants are on five-year leases. If the benefits don't quickly overtake the costs, neither the tenants nor building managers will be interested.

Utilities also need to understand the problems they create when they abruptly change program designs or benefits. Wright tells of one recent experience where building investors, including representatives from the Deutsch Bank in Munich, Germany, met to discuss plans for the Washington Mutual Tower in Seattle, a 1.1 million-square-foot commercial structure. The investors had already agreed to participate in a Seattle City Light conservation program, but then City Light changed its rebate schedule, which, in turn, changed the payback period for the investors.

“We had to wait for another meeting to present the changes, and there was resistance on the part of the partners. So we had to wait until the next meeting, some months later. At that meeting, the partners approved the project, but by that time, Seattle City Light had spent the money they’d allocated for the project.”

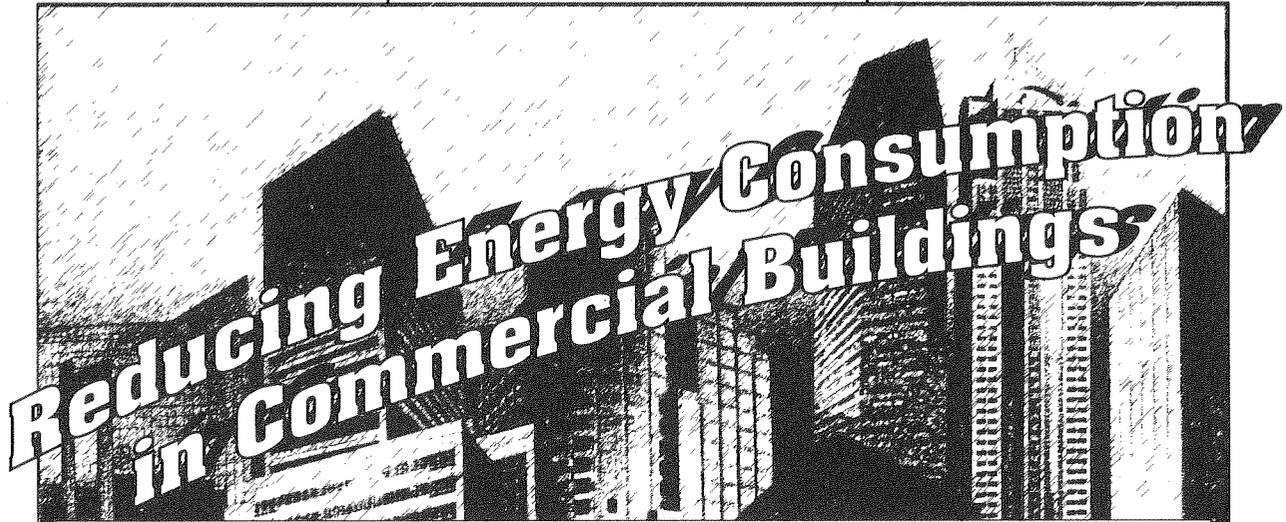
The lesson utilities should learn from the Washington Mutual Tower experience is the need for them to be stable and reliable partners. Utilities don’t often seem to understand the kind of planning building developers do, Wright suggests. Developers are working

on a project one or two years in advance of construction. That’s when they need to have utility buy-in. Wright gives an example of a utility coming in so late in the project, because of “bureaucratic delays,” that “we almost didn’t get the changes done.”

There also have been cases where utility staff have lacked the technical expertise to be judging the worthiness of commercial projects. Building developers and their teams of engineers and architects often have technical needs and preferences that might appear to conflict with a utility program measure. In one case, Wright de-

scribed a disagreement with a utility over a choice of technologies that was resolved by the utility letting the developer test the new approach. The test proved successful, and the utility is now being somewhat more flexible in its program.

While Wright gave specific examples of problems he’s experienced with utility conservation programs, he was clear that, on balance, his experiences have been good. “We congratulate your efforts,” he told the executives at the utilities conference, “and we urge you to continue your programs. We feel it is a win-win situation for all parties.”



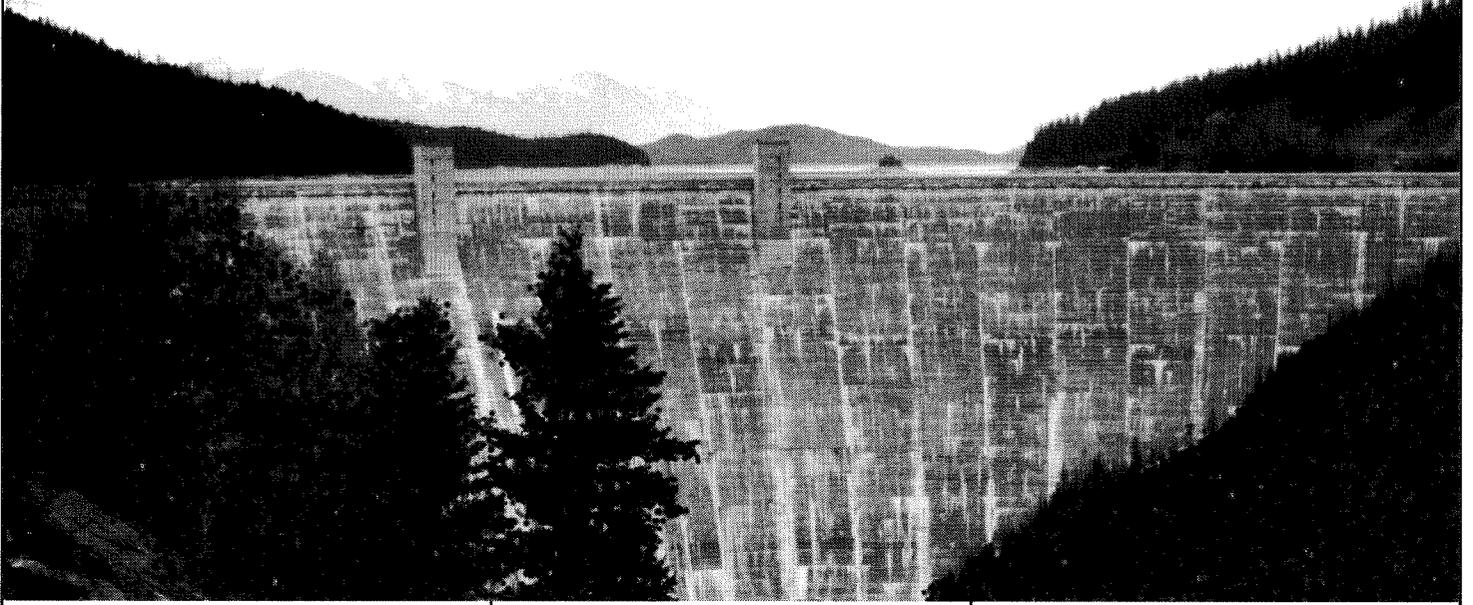
- ☐ Commercial buildings consume 15% of all electricity in the United States
- ☐ The national average cost per square foot for this energy is \$1.30 - \$3.50
- ☐ Technologies exist to profitably reduce more than 50% of this energy use

Implementation of demonstrated building technologies can:

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- ☐ Save \$33 billion from nation’s electricity bills by 2000
- ☐ Prevent \$126 billion of power plant expenditures by 2000

From U.S. Environmental Protection Agency

Balancing assets and debits at Hungry Horse Dam



by Mark Reller and Carlotta Collette

The people of Montana wanted Hungry Horse Dam. Without it, water from the South Fork of the Flathead River would regularly barrel down out of the Rocky Mountains, join up with the North and Middle Forks and flood the landscape near Columbia Falls, just below the confluence.

With Hungry Horse Dam, Montana would gain some control, plus a 30-mile-long lake in a spectacular, undeveloped setting and the added boon of low-cost electricity to attract some industry.

The federal government wanted Hungry Horse, too. The Bonneville Power Administration, which was less than a decade old when the Hungry Horse Act was passed by

Congress in 1944, agreed that the majority of the electricity generated at the dam should remain in Montana. It was an easy accommodation because releases of water at Hungry Horse would multiply the power created at every dam below it.

In the 1940s, there were only three dams on the Columbia — Rock Island, Bonneville and

Grand Coulee — but many more were dreamed of. Congress, Bonneville, the U.S. Army Corps of Engineers and the Bureau of Reclamation had all been combing the northern reaches of the Columbia River Basin seeking potential sites where the annual runoff could be banked. With storage dams, they could extend the hydropower generating seasons for the power system they were building.

One project had been proposed to raise the level of Flathead Lake, but Montanans vehemently opposed it, largely because they had not been privy to the planning process.

Hungry Horse was the natural compromise. It would be at the top of the Columbia's hydropower system in the United States. It could be built tall, 500 feet of concrete lodged

Nearing the **Bottom** of the Dam at the **Top**

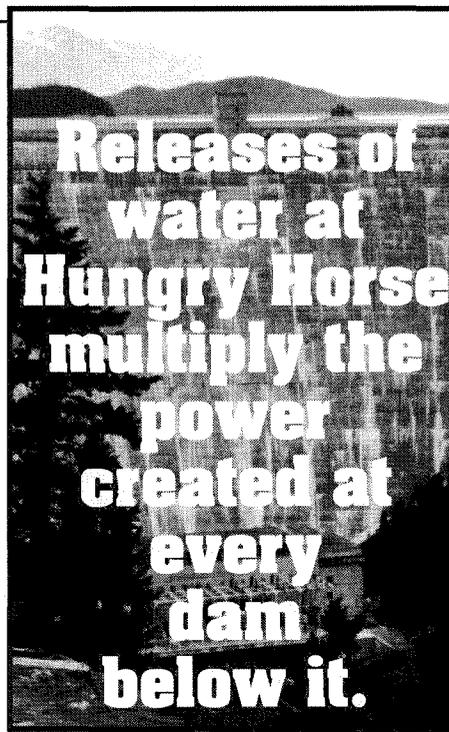
in the sharp-sided gorge cut by the south fork on its way off the Continental Divide.

Hungry Horse would be a giant cistern, holding 3 million acre-feet of water near the headwaters of the Flathead Basin. That's enough water to fill a tunnel the height and width of a football field on end and as long as the drive from Portland, Oregon, to San Francisco—nearly 600 miles.

A cache of that much water would enable dam operators throughout the hydropower system to begin to manage the Columbia. When they closed Hungry Horse's gates, they could capture and hold spring and early summer floodwaters that threatened river towns below it. The year before construction on Hungry Horse was begun, the Columbia deluged the town of Vanport, Oregon, killing 32 people. After Hungry Horse, there would be no more such floods.

As with all dams, there was a price to be paid for the assets of Hungry Horse. Several kinds of trout and kokanee salmon had flourished in the Flathead River Basin. They lived in Flathead Lake and migrated up rivers and streams to spawn. Some of the trout swam more than a hundred miles to find the stream where they were born. They spawned there, and like steelhead in the lower river, they migrated back downstream to prepare for another return.

Hungry Horse Dam, some 50 miles above Flathead Lake, cut off about 40 percent of the lake's spawning habitat. The dam's im-



act on the remaining riverine habitat is complex. Overall, fisheries experts in Montana estimate that construction and operation of Hungry Horse Dam results in the annual loss of thousands of young bull and cutthroat trout, and approximately 100,000 adult kokanee.

The new lake created by the dam's high wall is narrow—about three miles across, but very deep. Still water in the depths of the reservoir is cold, hovering around 40 degrees Fahrenheit year-round. Because of the icy water below, most of the life in Hungry Horse Reservoir concentrates near the surface. There the water is warmer, and the ecosystem is dynamic.

The tiniest creatures and plant forms feed the larger ones. On the edges of the lake, trees, brush and other plants grow, creating shelter for animals, stabilizing the shoreline and releasing to the water vital insects and other materials the fish feed on. The federal status of property around the reservoir means that development, which has compromised the waterside habitat around Flathead and other

northwestern Montana lakes, is largely prohibited around Hungry Horse. The rivers and streams above the lake are mostly still wild. They constitute some of the finest trout spawning habitat in the United States.

But the fish are disappearing. In the upper Flathead Basin, fewer bull trout spawned this year than at any time in the past 13 years. This decline could be catastrophic because Hungry Horse Reservoir contains the second largest genetic store of native bull trout in the country, and bull trout are being considered for listing under the federal Endangered Species Act.

Montanans argue that Hungry Horse Dam should be held accountable for a large percent of the losses. By design, Hungry Horse Reservoir is raised and lowered within established ranges that were set by hydrosystem operators to maximize the usefulness of the dam for power generation, flood control and irrigation.

In 1987, the Northwest Power Planning Council in its Columbia River Basin Fish and Wildlife Program noted that previously accepted fluctuations in water levels were resulting in critical losses of fish and wildlife in the Flathead Basin. The Council amended the fish and wildlife program to keep the reservoir behind Hungry Horse from being drained more than 85 feet from full, except under certain specified conditions.

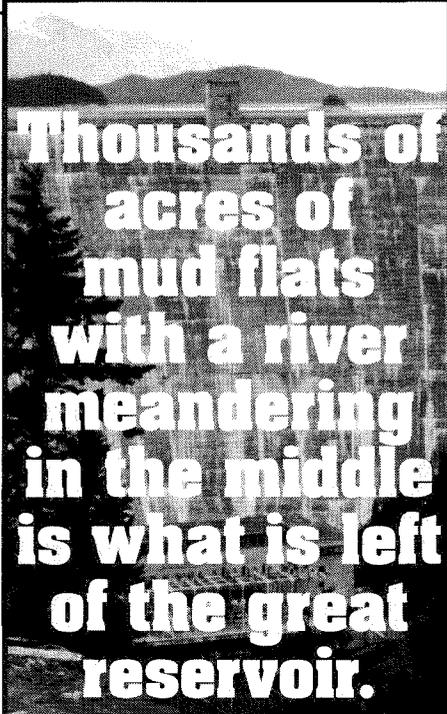
But in these days of increased need for the dam's water, and decreased rain and snowfall to supply it, that 85-foot annual maximum drawdown is regularly

exceeded. In recent years, the dam has increasingly been called on to meet daily power demands. When electric meters across the Northwest are spinning fastest, Hungry Horse Dam helps furnish the power that feeds them. River levels below the dam rise and fall accordingly, sometimes fluctuating several feet in a given day. Hungry Horse also provides some of the water used to flush young salmon in the lower Columbia out to sea. (Recent flows for fish, adopted by the Council in 1992, don't rely on Hungry Horse.)

The rush of frigid water washes down on the Flathead River. Life along the riversides can be submerged in icy water then drained and left in the sun, all in a single day. Populations of many organisms both above and below the dam have fallen off sharply. Only the lake trout that normally reside in Flathead Lake are attracted by the cold water. They follow it upriver, moving into streams near the dam, where they feed, in part, on young bull trout.

And there is further harm. During the recent drought, water from Hungry Horse has been called on so much that the reservoir has a dismal record for refilling. In 1988, the water level reached a new all-time low, 178 feet below full. In 1993, Bonneville is expected to draw the pool down even lower, to 200 or even 224 feet below full.

Already, it is so shallow that the dam can only generate half its usual amount of electricity. The lake's normal water surface has been reduced by 75 percent.



Thousands of acres of mud flats with a river meandering in the middle is what is left of the great reservoir.

Thousands of acres of mud flats with a river meandering in the middle is what is left of the great reservoir.

There is less warm water area, which is crucial for biological activity. Those fish that do survive and find what they think to be spawning streams are likely to have their eggs washed away when the reservoir refills.

The tree-lined "shore" is so far from the "lake" that there are no land-based insects falling into the water to feed the fish. Less food of all sorts is available in the shrunken pool. The fish are left to eat other fish.

The ecosystem effects of such transformations are long-term, biologists have learned. It can take years to restore balance and reestablish life cycles after such disruptions.

Into this context comes the Hungry Horse Dam Fisheries Mitigation Implementation Plan, which was approved by the Council in March, after several years in the drafting. The plan is based on studies of the number and species of fish that are lost annually be-

cause of Hungry Horse, and an assessment of possible ways to reverse those losses.

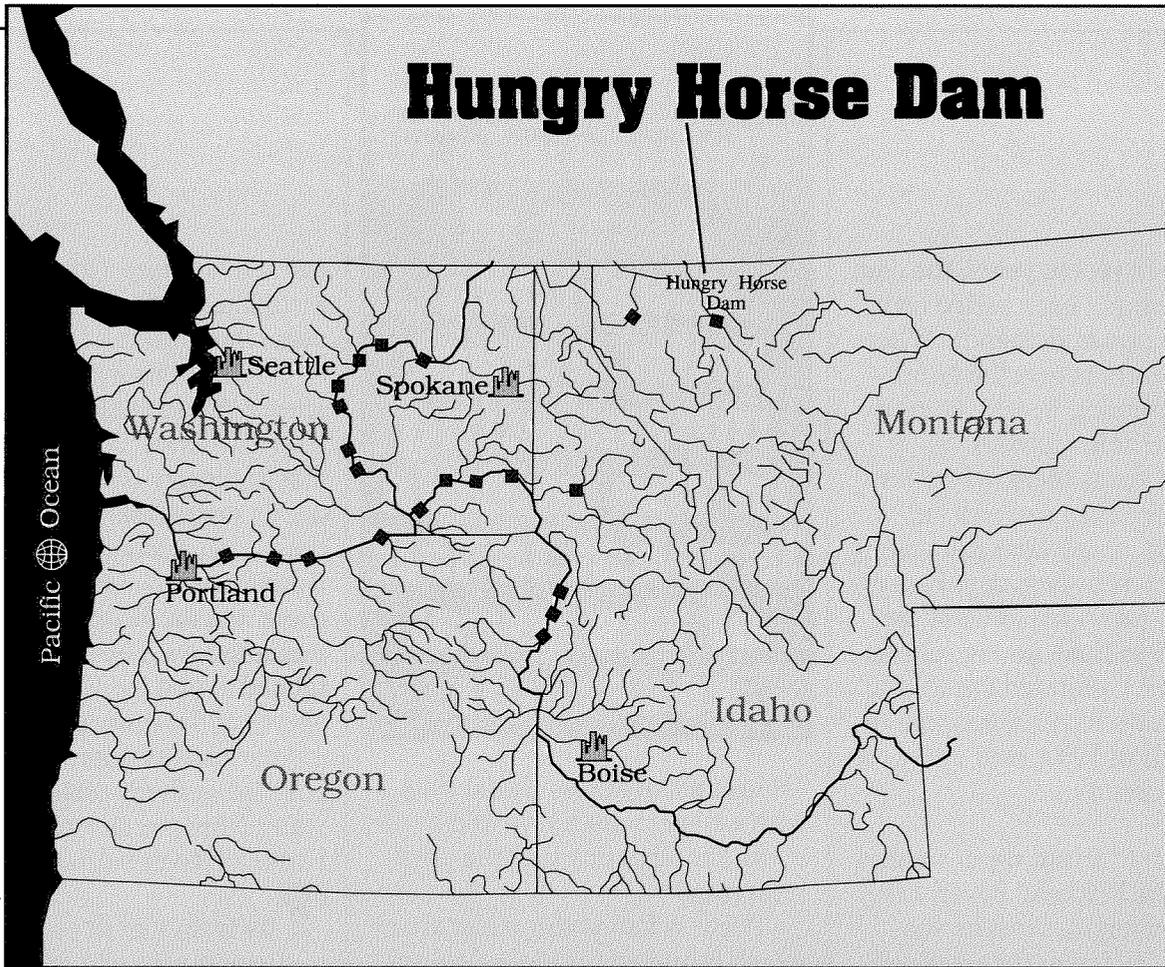
It represents a comprehensive approach to rebuilding Flathead Basin fisheries, with the exception that necessary changes in the dam's operations are being addressed in a separate process by Bonneville, the Corps of Engineers and the Bureau of Reclamation. The only operations-related action the Council approved for immediate implementation was a mechanism that could selectively release warmer water from the dam to benefit the Flathead River below.

The team that developed the mitigation plan was made up of staff from the Montana Department of Fish, Wildlife and Parks, and from the Confederated Salish and Kootenai Tribes. They convened a consultation group that included representatives from fish and wildlife resource agencies, utility groups, local governments, conservation groups and others. The group met publicly for more than 14 months. It presented draft plans at public hearings and heard comment on each draft.

The plan the Hungry Horse team prepared includes ways to minimize and repair damages to the shoreline habitat. It calls for low-cost and temporary hatchery operations to raise kokanee and experimentally test possible genetic consequences of introducing hatchery-bred fish from native stocks into streams with wild fish.

Habitat repairs outlined in the plan stress the need to address the

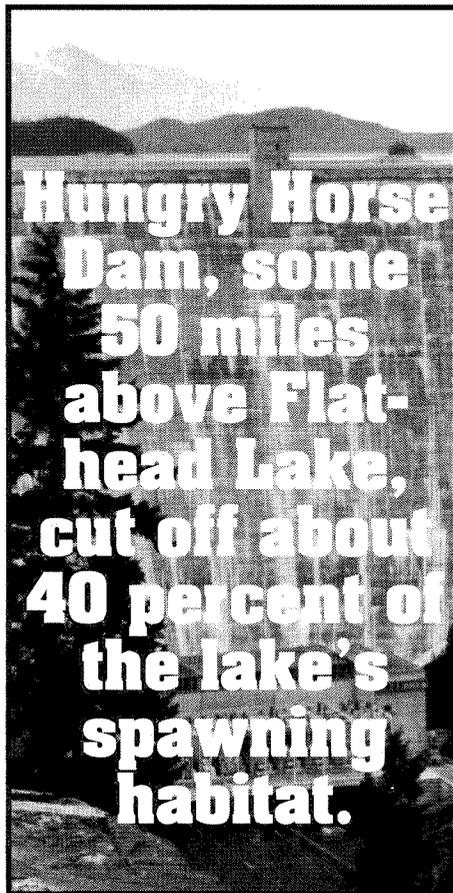
Hungry Horse Dam



entire watershed, not merely the waterways adjacent to the dam. They include work to clear obstructions that impede trout migrations, as well as long-term strategies to reduce siltation and erosion. The planners intend to re-seed shorelines and replant them with trees and shrubs that can eventually shade, cool and stabilize riversides.

In some cases, other lakes in the vicinity will be stocked with young fish to provide fishing opportunities to replace those lost at the Hungry Horse Reservoir and Flathead Lake. The newly stocked lakes also will take angling pressure off waters whose fish populations are particularly vulnerable.

Montanans, particularly those who have followed this fishery through its decline and helped design its recovery, are already



working as stewards of their basin. They are repairing the habitat and raising the new young fish to fill it. But while they work, they are ever mindful that growing needs for power and for flows to secure salmon may reverse any progress they make.

It's clear that changes must still be made in how Hungry Horse Dam is operated if the trout and kokanee, and other wildlife in northwestern Montana, are to thrive there. A balance must be struck between the benefits the dam provides the region, and the price Montana pays for those benefits.



Mark Reller is fish and wildlife program manager for the Montana office of the Northwest Power Planning Council.



The Northwest

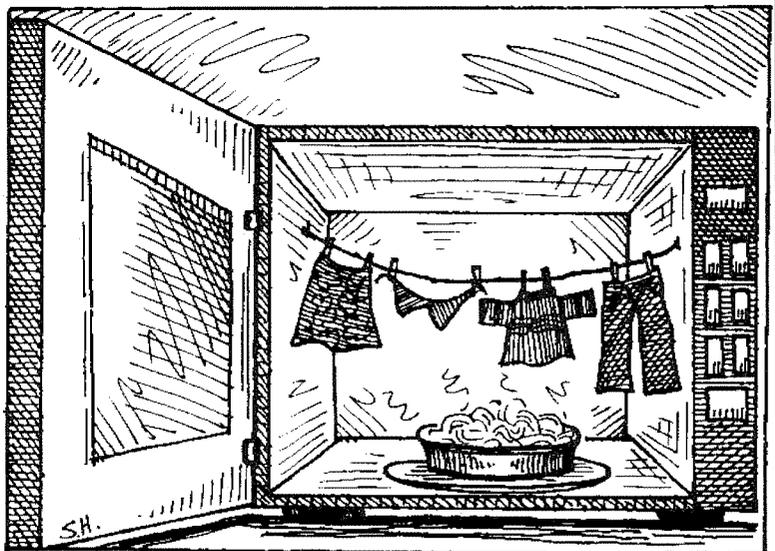
Release of smolts aims to increase downtown salmon fishing. In early March, the Oregon Department of Fish and Wildlife released 40,000 spring chinook salmon smolts at the Riverplace Marina dock in downtown Portland. The smolts were held in net pens for two weeks before their release to acclimate them to the river and increase the probability that those returning as adults in four or five years will linger in the area. This was the second year for the experimental project to improve Willamette River salmon runs and fishing. [Source: Oregon Department of Fish and Wildlife.]

Gas company wants ratepayers to finance filling stations. Washington Natural Gas Company of Seattle, the state's biggest natural gas utility, plans to market its product aggressively as a motor vehicle fuel. As part of a proposed, \$41-million-a-year rate increase, the company wants its ratepayers to pay a one-time \$4 million charge, and some operating expenses, for 16 natural gas filling stations. At the stations, compressed natural gas would be sold for use in vehicles that are equipped to burn it.

Consumer groups are objecting to the proposal because the typical residential gas customer would pay about \$1.30 more per year to subsidize the stations, which the company estimates will lose about \$1.2 million during their first three years of operation because few vehicles in the Seattle area are equipped to burn natural gas. Typical industrial customers could pay as much as \$12,000 a year to finance the program, according to an attorney representing industries that rely on natural gas. The Washington Utilities and Transportation Commission is studying the matter. [Source: Seattle Post-Intelligencer, March 3, 1993.]

The Nation

Microwave clothes dryer will be tested. The Electric Power Research Institute plans to begin testing its prototype microwave clothes dryer with some of its member utilities this summer. EPRI has been performing laboratory tests since 1991. Tests indicate microwave dryers would be about 20 percent more efficient than conventional dryers and would dry clothes more quickly. One problem: thin metal objects such as bobby pins, tend to cause arcing and sparking that can scorch clothes. If the year-long tests go well, you should be able to buy a microwave dryer in about three years. [Source: End-Use News, EPRI, Winter 1992-93.]



Big battery powers trolley system. The San Diego, California, trolley system (San Diego Trolley, Inc.) is testing a really big battery — 576, 1.2-volt lead-acid cells weighing about 100 pounds apiece. The combination will yield about 200 kilowatts. The trolley system plans to purchase off-peak power, store it in the battery, and then operate trolleys off the battery during peak travel periods. San Diego Gas & Electric Company is financing the \$1.2 million experiment. [Source: The Energy Newsbrief, January 14, 1993.]

Utility's study finds no tie between cancer and EMFs in the workplace. A study by Southern California Edison Company found no unusual incidence of cancer among workers who routinely are exposed to high levels of electromagnetic radiation fields (EMFs). The study included more than 12,000 Southern California utility workers. Earlier reports from other parts of the world linked leukemia and other cancers to workplace exposure to EMFs, which are produced when electricity passes through a wire. [Source: The Wall Street Journal, March 15, 1993].

SHORTS

Catalogs list energy conservation devices. Many companies around the country will ship energy conservation and renewable energy products, such as weather-stripping, caulking, air-vapor retarders, water-saving devices and compact fluorescent light bulbs, to consumers. An organization under contract to the U.S. Department of Energy has compiled two free lists of catalogs, "Catalogs of Energy Conservation Products and Devices (VH6)" and "Catalogs of Renewable Energy Products (VH4)" are available by writing to CAREIRS, P.O. Box 8900, Silver Spring, MD, 20907, or by calling toll-free 800-523-2929.

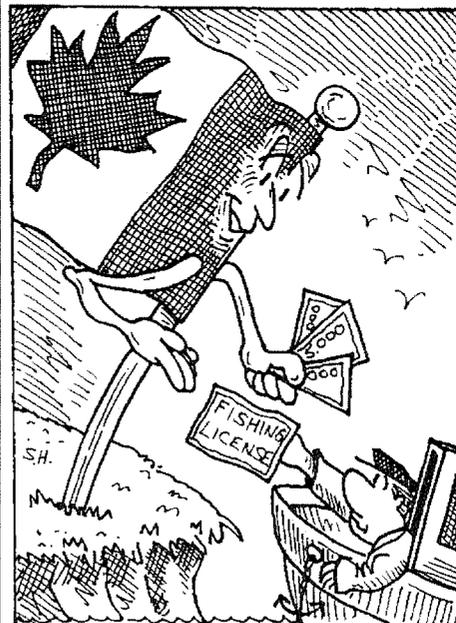
The world

Farmed Atlantic salmon show up in British Columbia streams. Last year 400 Atlantic salmon were caught by sport and commercial fishers in British Columbia, and the government ordered fish farmers to do a better job of keeping their pan-size fish in net pens. There are about 110 salmon

farms in the province, and production is expected to reach 25,700 metric tons by 1995. "There are potentially serious problems," said Harvey Andrusak, manager of fish culture for the British Columbia Environment Ministry. "What we're mainly concerned about is that they could spawn, be successful and end up being competition for steelhead and coho. You're playing with fire when you introduce new species." [Source: National Fisherman, April 1993].

Canada offers to buy back Atlantic salmon fishing licenses. The Canadian government and the Province of Newfoundland are offering cash payments to commercial salmon fishers who voluntarily retire their fishing licenses. The offer is a key part of a program to conserve Atlantic salmon stocks and revitalize rural economies on the Canadian Atlantic seaboard. The two governments have put up a total of \$21.4 million (Canadian) for the effort. Payments to individual license holders are expected to run

from \$8,000 to \$50,000 depending on the amount of salmon they have landed in recent years. The governments blame overfishing and habitat destruction as the prime factors contributing to the decline of salmon runs off Canada's Maritime Provinces. [Source: SFI Bulletin, Number 440, November/December 1992.]



CALENDAR

May 20 — "Buy vs. Build" Conference, Washington Hilton, Washington, D.C., sponsored by The Electricity Journal. Event will explore issues surrounding adding new power resources to utility grids. Luncheon address by U.S. Secretary of Energy, Hazel O'Leary. For more information: Betsy Anderson, 206-448-4078.

June 9-10 — Northwest Power Planning Council meeting, Bellevue, Washington, Red Lion Inn.

June 21-25 — "Innovative Housing '93," Vancouver, British Columbia. International conference will focus on emerging energy-efficient and environmentally responsive housing technologies. For more information:

Karen Grieg, CANMET, Energy, Mines and Resources Canada, 580 Booth Street, 7th Floor, Ottawa, Ontario, K1A 0E6, phone 613-943-2259, FAX 613-996-9416.

June 23 — "Protection and Management of Pacific Northwest Anadromous Salmonids," in Seattle, Washington. Public briefing by the National Research Council's special committee reviewing the environmental requirements of the seven species of Pacific salmon that have been listed as endangered. University of Washington, Savery Hall, Room 239 at 7 p.m. Call Tania Williams at 202-334-2540 for more information.

June 24-25 — "Demand-Side Management and the Global Environment," Hyatt Regency Crystal City, Arlington, Virginia. Conference addresses the opportunities energy efficiency can provide in improving the environmental aspects of electricity production, conversion, transmission and utilization. For more information: Diane Muscella, 215-667-2160, FAX 215-667-5593.

July 7-8 — Northwest Power Planning Council meeting in Jackson, Montana.

—compiled by John Harrison

A more detailed calendar of Council committee meetings and consultations is published each month in Update.

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The Northwest Power Planning Council is required by an Act of Congress to develop a program to protect, mitigate and enhance the Columbia Basin's fisheries and a regional electric energy plan that provides a reliable electricity supply at the lowest cost. For further information, see Pacific Northwest Electric Power and Conservation Act—Public Law 96-501.



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Executive Editor: Carlotta Collette
Art Director: Stephen Sasser
Writer: John Harrison

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COUNCIL PUBLICATIONS ORDER FORM

Please send me a copy of the following publications of the Northwest Power Planning Council. (Note: not all publications are available immediately, but they will be sent to you as soon as possible.)

Publications

- 92-21 Columbia River Basin Fish and Wildlife Program Strategy for Salmon
- 92-21A Columbia River Basin Fish and Wildlife Program Strategy for Salmon-Volume II
- 93-1 Regulatory policies to encourage conservation—the Puget Regulatory Experiment.
- 93-2 The Green Book: Tracking Pacific Northwest Electric Utility Conservation Achievements 1978-1991.
- 93-3 Audit of wildlife loss assessments for federal dams on the Columbia River and its tributaries.
- 93-4 Natural gas price and supply issue paper.
- 93-5 Draft phase 4 rule amending the 1987 Columbia River Basin Fish and Wildlife Program.
- 93-6 Draft 1993 Columbia River Basin Fish and Wildlife Program (all phases integrated).
- 93-7 Mid-Course Review of the Implementation of the 1991 Power Plan.
- 93-8 Information on water quality and quantity contained in the Salmon and Steelhead Subbasin Plans (above Bonneville Dam)

Mailing Lists

Please **add** my name to the mailing lists for the following newsletters. (Note: please do not check if you already are receiving them.)

- Northwest Energy News** (this bimonthly magazine)
- Update** (monthly public involvement newsletter that contains the Council meeting agenda, deadlines for public comment and a more detailed publications list)

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The
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DeFazio

A Short Season for
Salmon

Utilities
Face the Future

Fair Weather
WARNING