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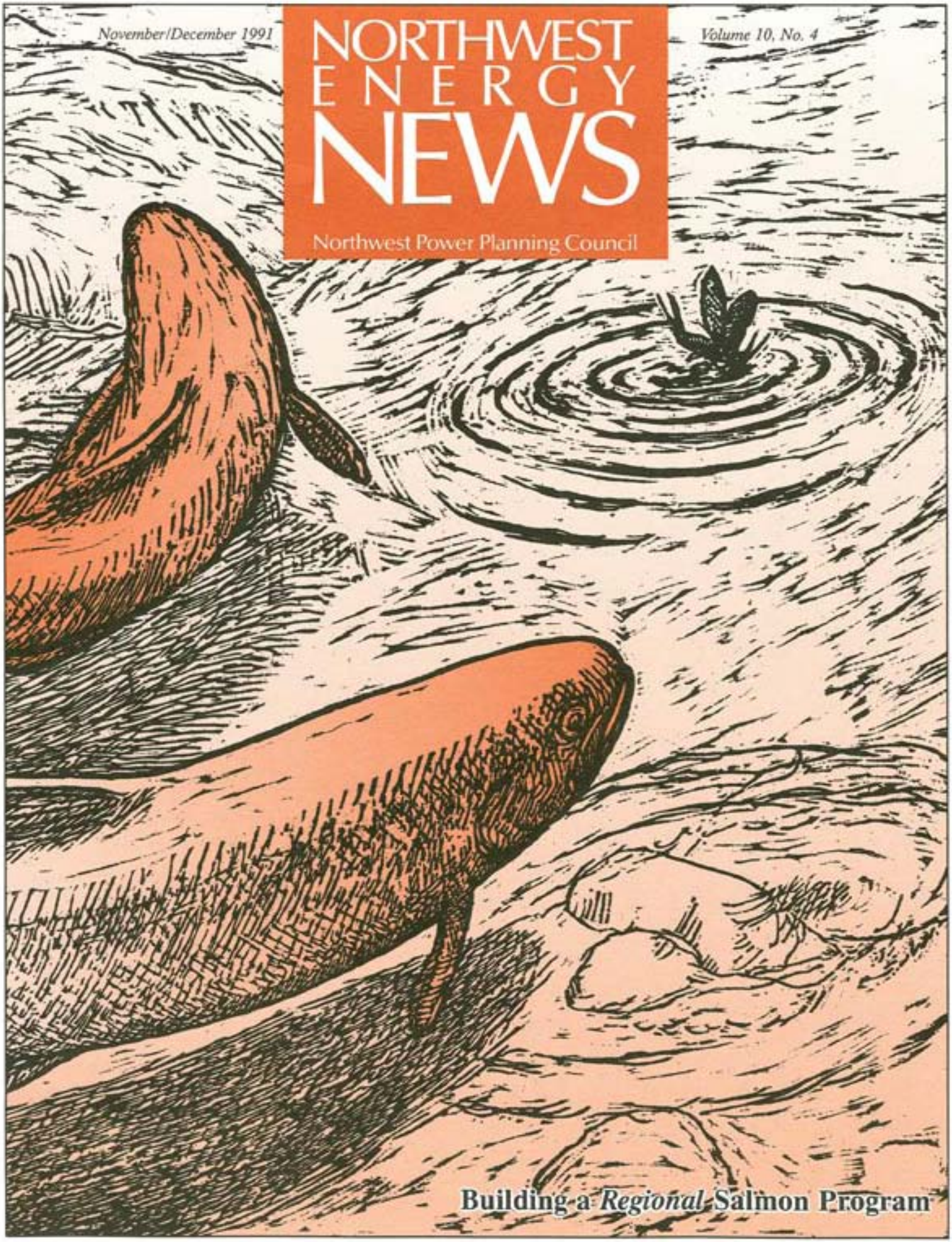


Building a *Regional* Salmon Program

CONTENTS

Editor's Notes

On October 10, the Council voted to elect Oregon Council Member Ted Hallock to serve as chairman and Montana Member Stan Grace as vice chairman for the coming year. Hallock outlines his broad as well as his specific goals for the year, the rest of the decade and the long term, beginning on page 18.

Topping Hallock's list is the rapid acquisition of energy savings called for in the Council's new power plan. Toward that end, the Council is convening a meeting of utility executives, regulators and others to share experiences and begin coordinating this acquisition.

As we go to press, the Council is meeting with people in every Northwest state to hear comments on proposed amendments to the Columbia River Basin Fish and Wildlife Program to increase protection for and production of salmon and steelhead in the basin. The Council hopes its amended program can serve as the basis for a recovery plan for those species of salmon that have been identified as particularly vulnerable to extinction.

This issue's cover illustration is from an original print, "Apprehension," by Tom Prochaska.

LESSONS from the SPOTTED OWL

by John Harrison

Broadening public involvement to build a regional salmon recovery plan.

In August 1991, the intense political and environmental battle over protecting the northern spotted owl by restricting logging operations in its habitat triggered an act of senseless violence: Someone shot a northern spotted owl, cut off its feet and nailed it to a tree.

Spotted owls are considered a threatened species under the U.S. Endangered Species Act. That distinction obligates the federal government to devise a recovery plan for the owl. The plan the government developed included a proposal to set aside 12 million acres of old-growth forest in the Cascade Mountains as spotted owl habitat. This proposal ignited a political battle between government and the timber industry. Negotiations broke down. Lawsuits were filed. Frustrated and anxious, citizens who depend on the forest products industry felt locked out of the government's process.

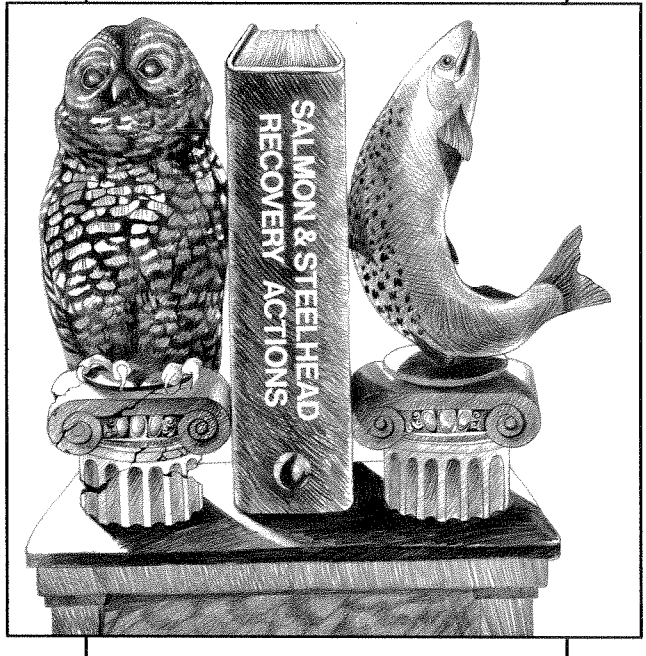


Illustration by Fredrika Spillman

At about the same time that tempers were boiling over the spotted owl, the Northwest Power Planning Council was completing the first phase and beginning the second phase in its four-part revision of the Columbia River Basin Fish and Wildlife Program, a revision spurred in part by the potential listing of Northwest salmon stocks as endangered or threatened. The fish and wildlife program has, since its adoption in 1982, guided much of this region's efforts to

The spotted owl process taught us how not to do it.

reverse the decline of salmon runs in the basin. It was designed as a dynamic document, open for amendment when circumstances required it to be changed. It was produced and is amended with thorough public involvement.

When three Northwest salmon runs were proposed for listing under the Endangered Species Act, it was the Council's public involvement process that led Northwest political leaders to turn to the Council to convene a forum for addressing the endangered salmon issue at the regional, rather than federal, level. If the Council can amend its fish and wildlife program to comprehensively address the failing salmon runs, this regionally developed effort will likely form the basis of the recovery plan the federal government would otherwise have to develop.

"The spotted owl process taught us how not to do it," says Ted Bottiger, one of two Washington Council members. "Because there was no regionwide effort to develop a recovery plan for the owl, there currently is a court injunction in place prohibiting timber harvest."

There are lessons from the spotted owl experience, lessons the Council learned and applied in devising its draft recovery plan for Columbia River Basin salmon and steelhead. The most important is this: Don't cut people out of the process; listen to all sides.

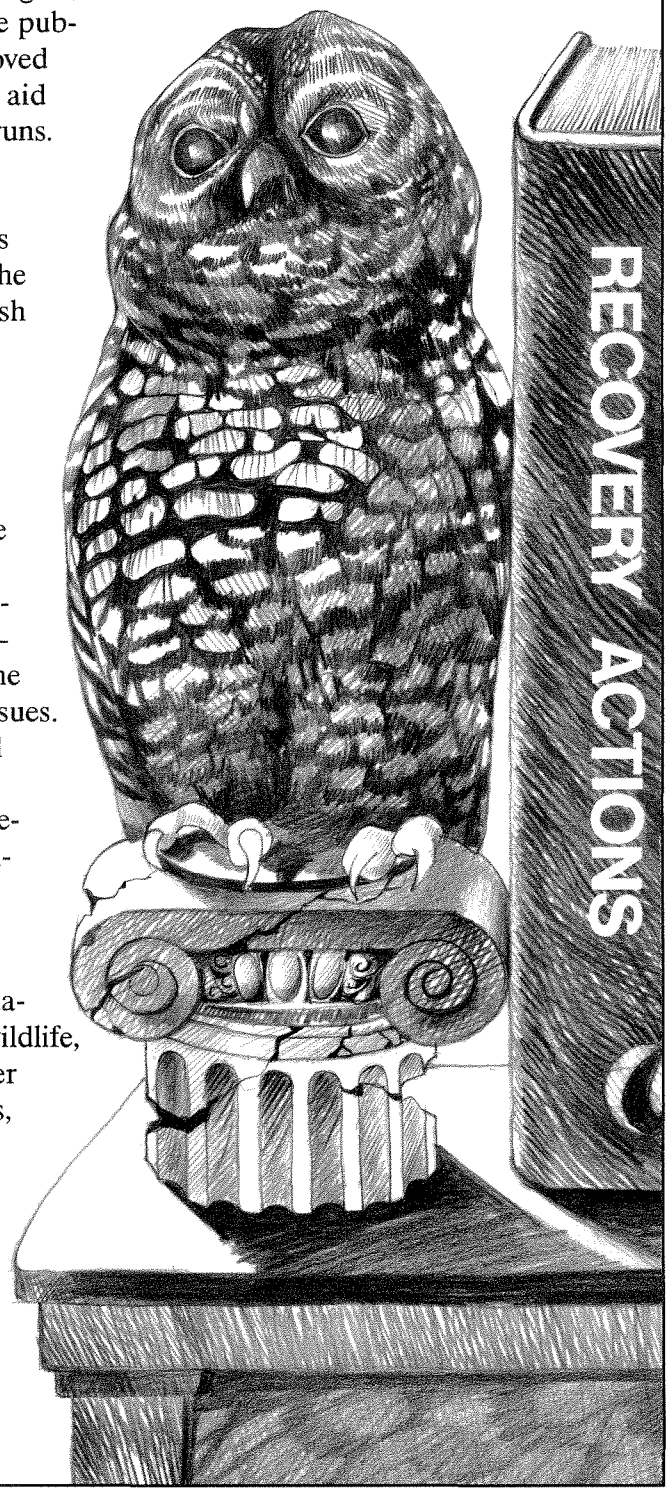
That is what the Council is doing as it amends the fish and wildlife program. In May, the Council called for recommendations for immediate actions to save the salmon. In August, after hearing from the public, the Council approved $18 million in critical aid for depleted salmon runs. (See related story on page 26.)

Now the Council is nearly finished with the second phase of its fish and wildlife program amendment process. This phase takes up the controversial and important issues of salmon survival in the mainstem of the Columbia and Snake rivers, salmon and steelhead harvest and some salmon production issues.

Unlike the spotted owl recovery plan, where government prepared a plan with limited public involvement, much of the Council's plan is based on recommendations from fish and wildlife, land, energy and water management agencies, Indian tribes, utilities and other interested citizens.

"The spotted owl is easy," Bottiger argues. "The goal is to set aside habitat. But with the fish, we're trying to *restore* habitat, and that's a lot more difficult and involves many more people."

The Council's fish and wildlife program is designed to aid salmon and steelhead from the time they are hatched to the time they return as adults to spawn and

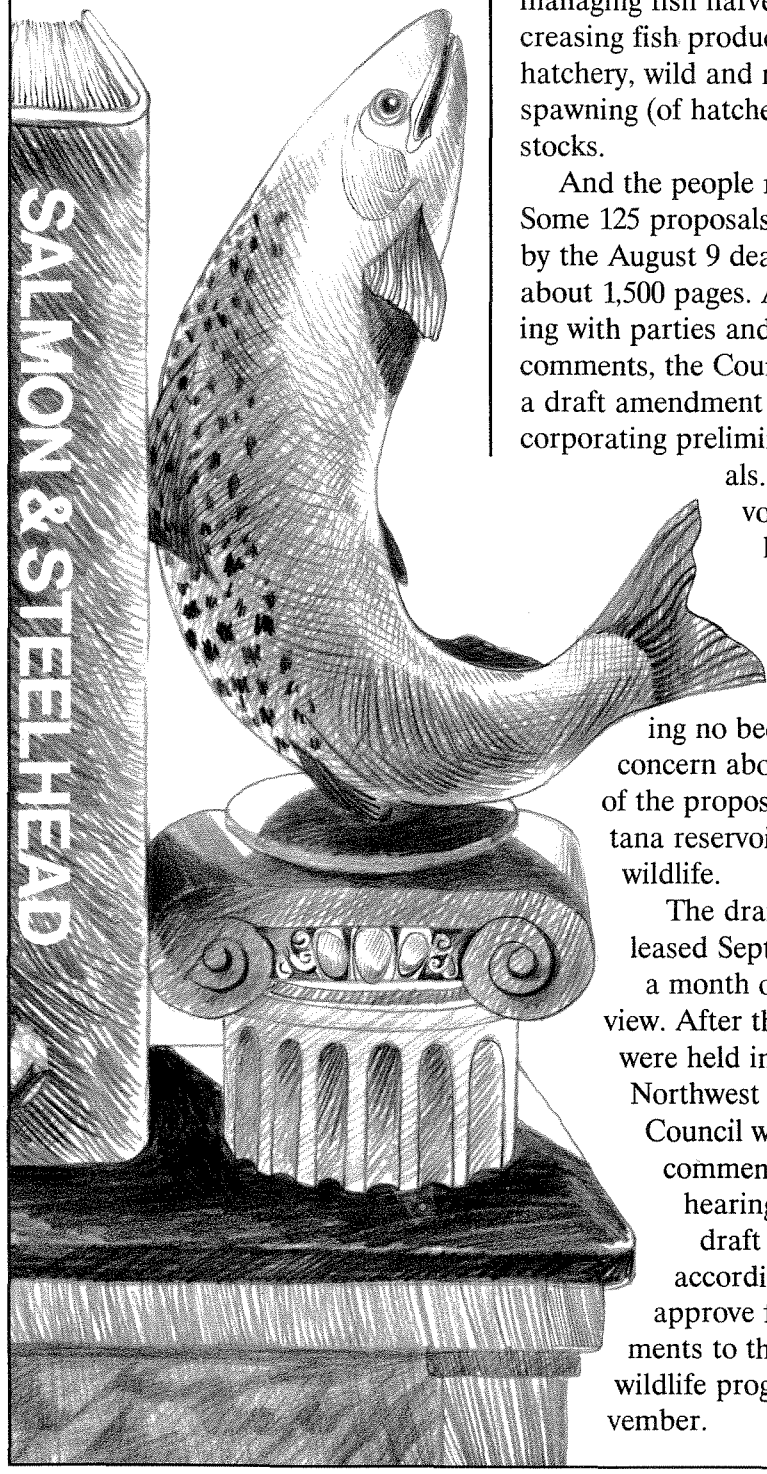


die. The program also addresses other fish and wildlife in the Columbia River Basin, but it is the salmon and steelhead portion of the program that is the focus of the current amendment proceedings. The Council plans to complete the salmon and steelhead process early next year (see chart on pages 12 and 13).

For the current phase of its amendment process (phase 2), the Council invited recommendations from fish and wildlife agencies, and others on ways to increase the survival of salmon and steelhead migrating past the Columbia and Snake river dams. The Council also sought advice on managing fish harvests and increasing fish production for hatchery, wild and naturally spawning (of hatchery origin) stocks.

And the people responded. Some 125 proposals were received by the August 9 deadline, totaling about 1,500 pages. After consulting with parties and reviewing comments, the Council assembled a draft amendment document incorporating preliminary proposals. The Council voted 7–1 to release the draft, with Montana Member John Brenden voting no because of his concern about the impact of the proposals on Montana reservoirs, fish and wildlife.

The draft was released September 26 for a month of public review. After that, hearings were held in the four Northwest states. The Council will review comments from those hearings, revise the draft amendments accordingly and then approve final amendments to the fish and wildlife program in November.



> If any recovery plan is going to work, it will involve some sacrifices for everyone in the region.

"We want to be candid that, if any recovery plan is going to work, it will involve some sacrifices for everyone in the region," said former Council Chairman Jim Goller of Idaho.

"But with a regional plan, we can reduce these impacts and make sure they are shared equitably."

Here are highlights of the Council's draft proposal:

Mainstem survival

While the Council's proposal covers all aspects of salmon and steelhead survival, it acknowledges that much of the focus will be on survival as juvenile salmon and steelhead migrate downstream and adults return to spawn.

Salmon are extremely vulnerable throughout their mainstem migration, whether they are in reservoirs between the dams, where predators and altered water conditions threaten them, or at the dams themselves.

Little Goose and Lower Granite dams on the Snake River by March 1996 and at McNary Dam and The Dalles Dam on the Columbia.

Dams slow the flow of the Columbia and Snake, and create reservoirs behind the dams. These still pools provide excellent conditions for fish that prey on young salmon and steelhead, such as squawfish. In the first phase of its amendment process, the Council approved funding for a squawfish management program that includes a bounty fishery.

In this second amendment phase, the Council sets a goal for that work: reduce by 25 percent the number of young salmon and steelhead that are killed by squawfish. To accomplish this, the Council recommends continuing the squawfish bounty program and modifying bypass structures at the dams. The dam modifications would disperse the young salmon and steelhead as they emerge on the downstream sides of dams to make them harder for squawfish to find.

Since 1981, young salmon and steelhead also have been collected at upstream locations on the Columbia and Snake, and transported in barges to below Bonneville Dam by the Corps of Engineers. The barges carry the smolts past the dams so they can avoid the gauntlet of turbines and predators that have proven so deadly.

Research shows transportation aids steelhead and fall chinook salmon in the Columbia, but benefits for spring chinook, summer chinook and sockeye are less clear. Most scientists agree that transportation can increase fish survival under some conditions.

In the draft amendments, the Council calls on the Corps of Engineers to improve transportation conditions for the fish. This includes fish holding and loading facilities, transporting fish at reduced densities and holding them no longer than two days before transporting them. The Council suggests that the Corps also should work with state fishery agencies and Indian tribes to evaluate techniques for improving transportation, such as cooler water in the barges, and other measures to reduce stress on the fish.

The Council also wants the Corps to disperse fish when releasing them below Bonneville Dam to reduce predation. In addition, the Corps should study the feasibility of "mobile net pens," an alternative stream channel in or adjacent to the river, and collection facilities at the upper end of Lower Granite reservoir or in the tributaries, according to the draft amendments.

All of these measures will be expensive and, possibly, controversial, so the Council calls for careful monitoring of the biological effectiveness of each action. The Council will consider modifying these actions if the data on biological impacts indicates changes may be needed.

Harvest

The term "harvest" refers to the taking of fish in all fisheries—tribal, commercial and sport—both in the river and in the ocean. The Council does not control harvest, but it can make harvest recommendations to the international, federal, state and tribal regulators.

Harvest controls are an important component of the Council's fish and wildlife program, in part, because fish mix together in the ocean. Plentiful hatchery fish swim with depleted wild runs, and wild runs cannot be protected unless harvest is geared to protect them.

Since 1980, ocean harvest seasons and catch limits have been severely constrained to protect depleted stocks. In its proposal, the Council recognizes the regulatory authority of the states and Indian tribes. Further, the Council recognizes that harvest constraints have hurt the economies of tribal, coastal and inland communities. Nevertheless, the Council believes that additional measures are necessary in order to protect depleted stocks.

Accordingly, the Council called for additional reductions in the harvest of depleted stocks, including sockeye and fall chinook. The Council deferred a recommendation on coho salmon to the next phase of the amendment process, which should take place this winter and next spring.

The Council called for development of a program to assist fishery managers in identifying depleted stocks so these fish get better protection in the mixed-stock fisheries.

The Council calls for careful monitoring of the biological effectiveness of each action.

The Council also proposed that the states of Washington and Oregon, the Bonneville Power Administration and regional utilities develop and finance a program to purchase and retire commercial, non-Indian gill-net fishing licenses in the lower Columbia River. The goal is to reduce the fishing pressure on depleted salmon runs through changes in fishing technique, such as emphasizing gear that permits release of wild fish or controlling the timing of harvests.

Council Member Jim Goller of Idaho said he was concerned about the public's reaction if gill-net fishing is allowed to continue.

"If people upriver in Montana, Idaho, Washington and Oregon are going to make sacrifices to save the fish, I don't believe we can continue to allow fish to be taken by nets in the lower river," he said.

Council Chairman Ted Hallock of Oregon agreed to the license buy-back proposal, but he added that the Council needs to look throughout the Columbia Basin to protect fish, as well.

The Council also calls on Bonneville to finance a study of known-stock and live-catch fishery technologies, two approaches that target abundant stocks while protecting depleted stocks.

"The most important thing for us is that we're trying to save these (depleted) runs," said Stan Grace of Montana, the Council's vice chairman. "A priority for us is that we get fish up the rivers to the spawning grounds. If we can do that, we have a better chance of saving those runs."

Habitat protection and improvement

Habitat quantity and quality are vital to maintaining and rebuilding sustainable populations of salmon and steelhead in the Columbia Basin. Throughout the basin, habitat for wild salmon and steelhead has been damaged or eliminated by virtually every aspect of the development of the region.

In the first phase of the current amendment process, the Council adopted a proposal to create at least three "model watersheds," where land and water management, fisheries management and the activities of landowners and other parties will be coordinated.

The Council will take up watershed management in remaining subbasins of the Columbia Basin during the third phase of the amendment process. Most habitat improvements proposed for the current phase were deferred until phase 3.

However, the Council called on Bonneville to convene a committee of experts to identify criteria for salmon and steelhead habitat improvement projects. The Council asked that these criteria be selected and reported to the Council by February 15, 1992.

Production

Salmon and steelhead are produced either in the wild or in hatcheries. Unfortunately, hatchery fish and wild fish may not interact well in the same stream.

For example, hatchery-bred fish tend to overwhelm wild fish, aggressively competing for food and habitat. Sometimes adult hatchery fish interbreed with adult wild fish, and the resulting progeny represent a weakened genetic stock.

The Council hopes to develop a plan that will increase salmon and steelhead runs while protecting the genetic diversity of the basin's wild fish.

To that end, the Council put together an advisory committee of the nation's top salmon and steelhead geneticists. The Council has asked the geneticists to complete an overall framework, by December 31, 1991, for conserving genetic diversity in the basin.

These measures might be impossible to carry out unless the region's economy remains healthy.

The Council also calls for continued research and experimentation on the practice of raising fish in hatcheries using water from a particular stream and then releasing the fish into that stream. The goal of this practice, known as "supplementation" or "outplanting," is to restore salmon populations in those streams using hatchery stocks.

Another team of experts already is at work assessing the impacts of proposed supplementation projects on fish already present in the selected streams. In these amendments, the Council calls on the region's fisheries agencies and tribes to propose a limited number of high-priority supplementation projects by January 31, 1992.

In addition, the Council set a goal that the smolt-to-adult survival rate of hatchery fish should be increased to at least 75 percent of that of naturally spawning stocks from the same watershed.

Recognizing the importance of coordinated hatchery practices to the protection of wild fish in the basin, the Council also called for the creation of an "integrated hatchery operations team" that would develop basinwide policies for hatchery management. The team would include representatives of fish and wildlife agencies in Washington, Oregon and Idaho (the three Northwest states with anadromous fish runs), the U.S. Fish and Wildlife Service, Indian tribes, the Pacific Northwest Utilities Conference Committee, Bonneville, the Council and the National Marine Fisheries Service. The Council's advisory committee of geneticists would assist the team.

The Council wants the team to develop a work plan by January 15, 1992, and an overall policy should be developed by March 6, 1992.

Bonneville, the fisheries agencies and the tribes should audit hatchery performance every five years, beginning in 1992, the draft amendments state. The audit should include recommendations for improving performance and for modifying or terminating hatchery programs. The Council also asks that Bonneville finance a study to show basinwide trends in hatchery fish survival and report findings to the integrated hatchery operations team by January 1994.

Measuring progress

Finally, the Council intends its program to be an integrated set of measures expected to protect and enhance fish and wildlife populations in the Columbia River Basin. To do this, the program will be organized around a framework of overall goals, biological objectives, rebuilding schedules and measurable performance standards.

This framework will provide a logical basis for incorporating new actions into the fish and wildlife program, and it will act as a yardstick to measure the effectiveness of those actions. In addition, the Council wants reports every six months from the agencies and others who do the work detailed in the program.

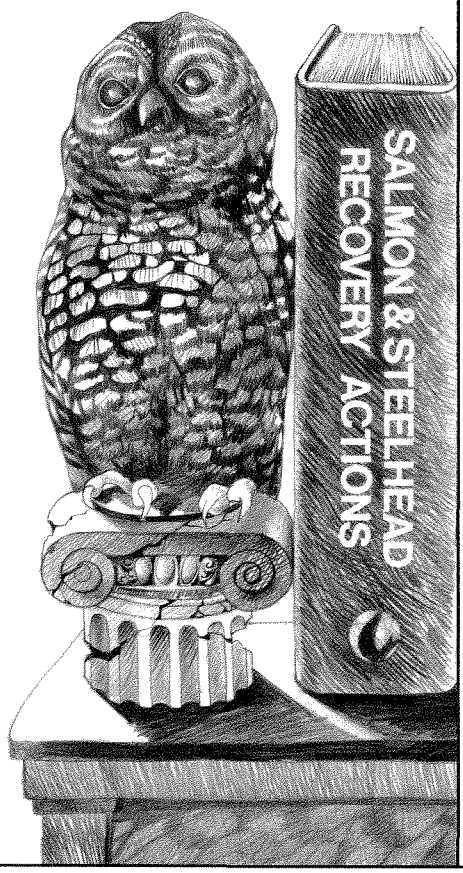
There is no question that the measures included in these amendments will have economic impacts on the region. But all river users must share the responsibility if the region is to make significant progress at rebuilding salmon and steelhead runs.

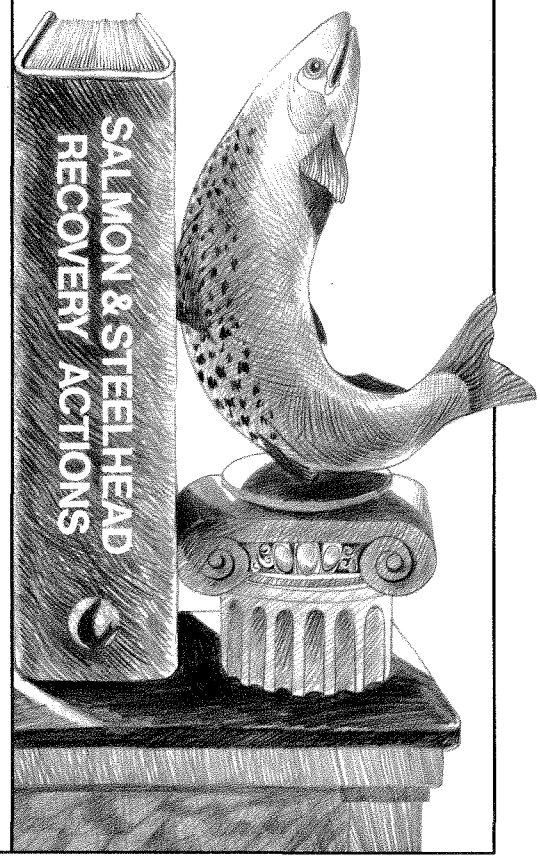
At the same time, the Council recognizes that maintaining the economic health of the basin is vital to the Northwest. In fact, these measures might be impossible to carry out unless the region's economy remains healthy.

The Council is open to suggestions of ways to reduce any adverse effects these proposals could have on resident fish (those that don't swim to the ocean), agriculture, navigation, fishing, recreation and other areas.

But the Council is firm in its determination that the region needs to act with a single will to achieve the salmon recovery goals.

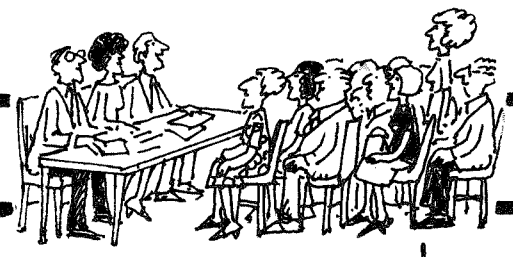
"Our goal is to restore salmon and steelhead runs in the basin, while sharing the burden of cost equitably," Council Member Goller said. "We have listened to all sides in arriving at our amendment proposals, and we believe they are reasonable. We're considering all opinions now as we move toward a decision. We don't want to repeat the bitter feelings and the pain this region experienced over the spotted owl." ■





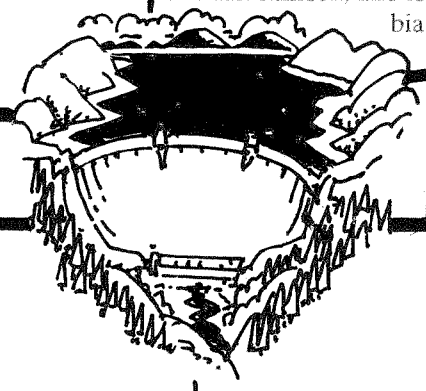
Amending the Columbia River Basin Fish and Wildlife Program

Summer 1987
Columbia River Basin Fish and Wildlife Program amended; integrated system plan begun.



April 1990
Endangered Species Act petition filed for Snake River sockeye.

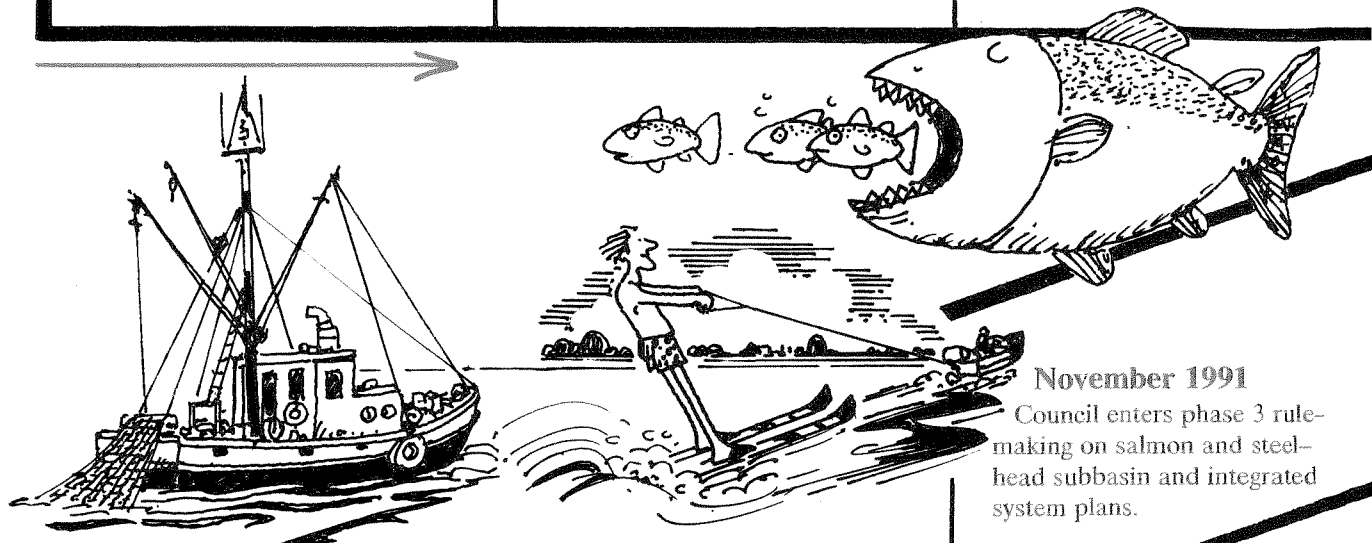
June 1990
Endangered Species Act petitions filed for Snake River spring, summer and fall chinook, and lower Columbia River coho.



June 1991
National Marine Fisheries Service proposes listing Snake River spring/summer chinook and fall chinook as threatened.

June 1991
Public hearings on phase 1 rulemaking.

August 1991
Council decision on phase 1 rulemaking.



November 1991
Council enters phase 3 rulemaking on salmon and steelhead subbasin and integrated system plans.

April 1992
National Marine Fisheries Service final action on Snake River sockeye.

Spring 1992
Council decision on phase 3 rulemaking.

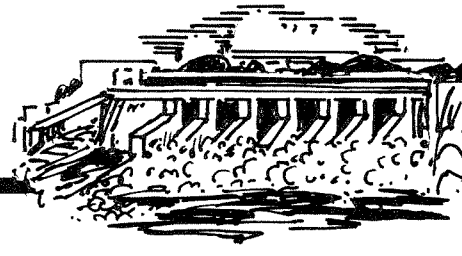


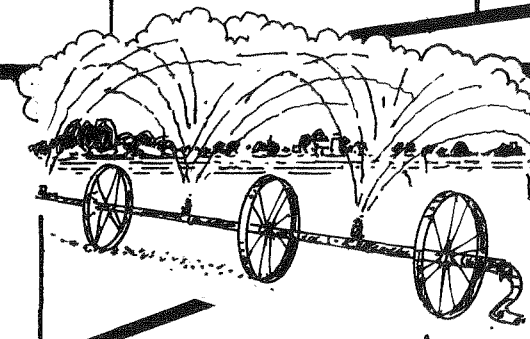
Illustration by Frank Farah

October 1990
"Salmon Summit" convened to respond to salmon petitions; integrated system plan completed.

May 1991
Council enters phase 1 rulemaking on priority salmon habitat and production proposals.

April 1991
National Marine Fisheries Service proposes listing Snake River sockeye as endangered.

March 1991
Salmon Summit consensus on near-term recovery actions.



August 1991
Council receives recommendations for phase 2 salmon and steelhead amendments.

September 1991
Phase 2 draft amendments on mainstem survival, harvest and production released for public review.

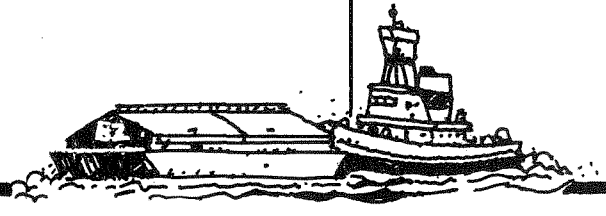
October 1991
Public hearings on phase 2 rulemaking.

November 1991
Council decision on phase 2 rulemaking.

June 1992
National Marine Fisheries Service final action on Snake River spring/summer chinook and fall chinook.

Summer 1992
Council enters phase 4 rulemaking on wildlife and resident fish.

Summer 1993
1993 Columbia River Basin Fish and Wildlife Program completed.



The Power Plant Called Efficiency

Bringing 1,500 megawatts of conservation onto the power grid.

by Carlotta Collette

Illustration by Lyn Nance

It was like adding a city half the size of Seattle in a single year.

In the 12 months from July 1990 to July 1991, the four Northwest states used nearly 500 more megawatts of electricity on average than they had in the same 12-month period a year earlier.

It was a symptom of the region's success.

While the rest of the United States was in its most serious recession in decades, the Northwest economy hummed through 1990 and the first months of 1991 largely unassailed. Businesses and new residents pressed into the region. And demographers published their predictions that Seattle and Portland would remain the nation's third and fourth fastest growing metropolitan areas (after Dallas/Fort Worth and Los Angeles in first and second places, respectively) long into this decade.

The pace of that growth began to taper off around the middle of this summer. Nonetheless, the Northwest's still stellar economy is stressing the region's ability to fuel itself.

Little more than a decade ago, the region's utilities, upon spotting increasing electricity use, would head off to the drafting board to design, site, license, finance and construct expensive new power generating plants. With any luck, the proposed power plants would be completed in-time to meet the needs of the community. In worst-case scenarios, the power plants would be well into construction, hundreds of millions of dollars already committed and long-term debts accrued, just in time to find that the power wasn't needed after all.

This time around, the region's utilities, including the Bonneville Power Administration, which supplies about half the Northwest's electricity, have a better idea. They are working with the Northwest Power Planning Council, state and local governments, businesses and electricity consumers to "build" the region's most promising new power source—the efficiency power plant called for by the Council in its 1991 Northwest Conservation and Electric Power Plan.

How much power can efficiency provide?

This newest Northwest power plant is big. By the year 2000, the region should be able to secure a conservation resource that could equal the combined needs of Seattle and Portland—1,500 megawatts. Improving the efficiency of the region's commercial and industrial enterprises, as well as tightening up the power system itself, can supply more than two-thirds of those savings—1,005 megawatts.

In the past decade, the region managed to obtain a conservation resource as big as a coal plant—more than 500 megawatts—at about half the cost of more conventional resources. Existing state, local and federal building and appliance efficiency standards should bring another 1,300 megawatts over the next 20 years. If the Northwest can take advantage of all the conservation opportunities in the Council's plan, more than 4,500 more megawatts will be saved.

Who builds the efficiency power plant?

The efficiency power plant is built with individual, utility, local, state, regional and national efforts. It doesn't require tons of steel and concrete, or even a fuel source. It is constructed with building and appliance efficiency standards, and new technologies that make homes, businesses and equipment draw as little electricity as possible. Every new energy-efficient home is a supplier of energy savings. Every office building with high-efficiency lighting, space heating and cooling systems is a new resource. As the region grows, the efficiency power plant grows with it.

It is the product of collaborations among utilities, businesses, government bodies, regulators

and ratepayers. No single facility contains the region's conservation "generators." They are spread out across the Northwest, saving electricity in small towns and big cities alike.

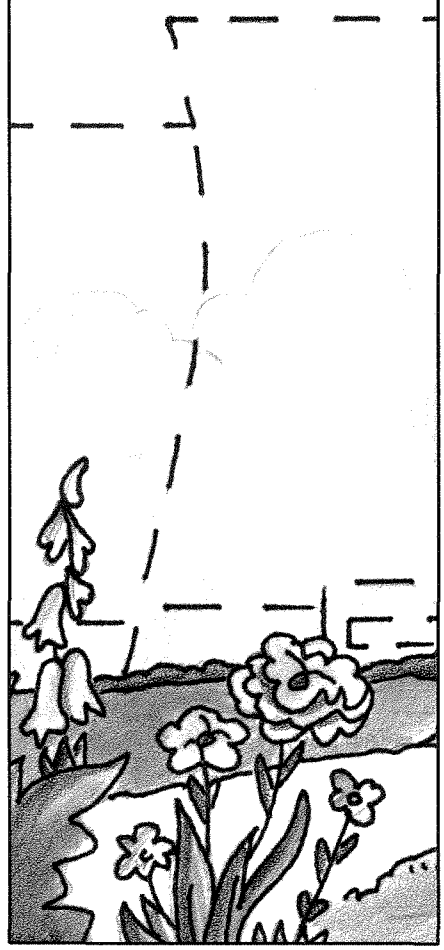
Everyone owns a piece of the efficiency power plant. Everyone is a "plant operator." But much of the initial, large-scale conservation activity will come from the region's utilities and Bonneville. Utilities are used to multimillion dollar investments to build power plants, but the efficiency plant is unlike any resource most companies have ever developed.

It comes from the other side of the "supply and demand" equation the utilities are used to managing. Instead of increasing the supply of electricity by creating new resources, conservation reduces the demand. The outcome, in terms of meeting the needs of customers, is the same, except that conservation is less expensive than supply-side resources.

Groundbreaking for the efficiency power plant

With due recognition of all the past conservation efforts in the region, the Council is, nonetheless, holding a "groundbreaking ceremony" to dig in for the significant increase in effort that will be required to secure the 1,500 megawatts of energy savings called for in the power plan. The Council has invited the chief executives of major Northwest utilities and public utility commissioners from every Northwest state to come to the table to discuss their conservation experiences, existing and planned programs, and the barriers they face in obtaining energy savings.

By the year 2000, the region should be able to secure a conservation resource that could equal the combined needs of Seattle and Portland, 1,500 megawatts.



The gathering is being co-sponsored by the Bonneville Power Administration, the Northwest Electric Light and Power Association, the Pacific Northwest Utilities Conference Committee and the Northwest Conservation Act Coalition. Together, these entities represent utilities, major industrial electricity customers and consumer groups regionwide.

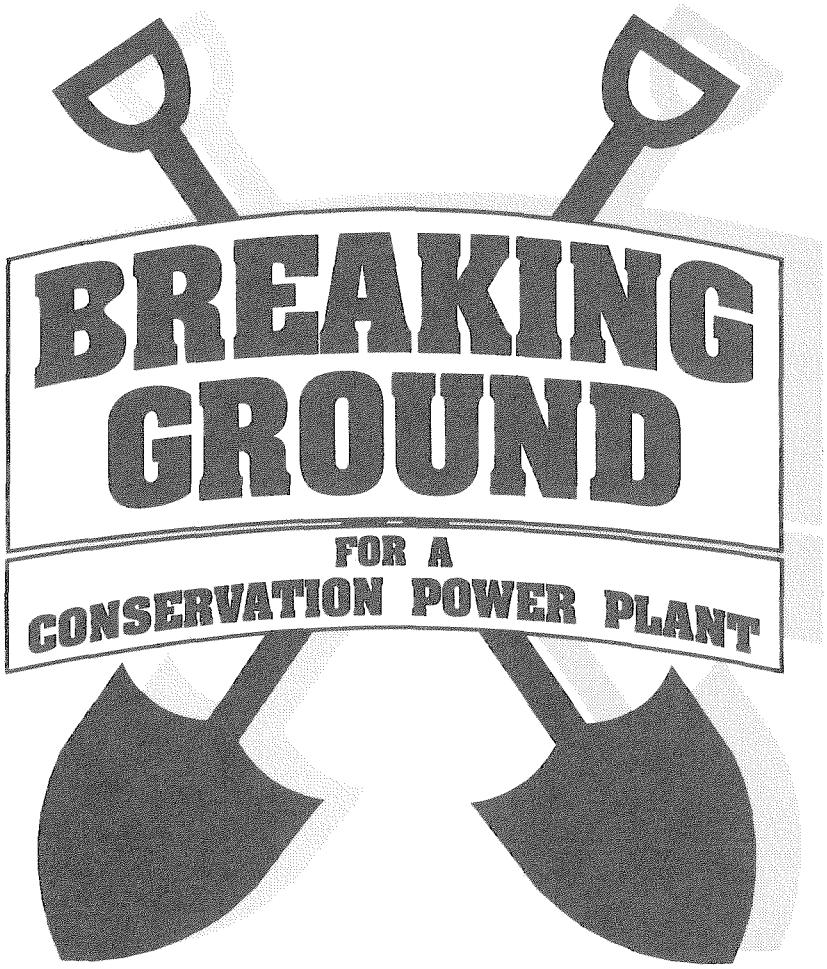
Their shared hope is that the utilities will find in the experience of their colleagues advice and encouragement. The forum could point out opportunities for shared program efforts. With the presence of utility regulators, major regulatory obstacles to conservation can be attacked.

Each of the utility executives will be asked to report on his or her company's strategy for fulfilling the four objectives in the power plan. Those objectives are: 1) acquire more than 2,300 megawatts of conservation and low-cost renewable resources by the year 2000; 2) shorten power plant construction lead times to enable quick and flexible responses to energy needs; 3) confirm the costs, reliability and availability of additional resources; and 4) support regulatory changes to help implement the plan.

By the November 21, 1991, date of the conference, the Council will also have assembled a regional advisory committee to help it draft a more precise strategy—in effect, a blueprint—for the conservation power plant.

A second committee is being formed to explore new conservation technologies. Members of the committees will represent each sector of the Northwest's econo-

my—industrial, commercial, residential and agricultural—as well as utilities, government agencies, regulators and consumers. They will be able to offer their particular expertise and insights as the Council, and the region as a whole, moves toward meeting the goal of the power plan: "To ensure that the Pacific Northwest will have an adequate, efficient, economical and reliable electricity supply well into the next century." ■



IMPLEMENTING THE NORTHWEST POWER PLAN

REGIONAL UTILITY CONFERENCE

NORTHWEST POWER PLANNING COUNCIL

November 21, 1991
The Portland Hilton, Rose Ballroom
Portland, Oregon
8:30 a.m. to 5 p.m.

Speakers

Keynote speaker:
Randall W. Hardy
Bonneville Power Administration

E. Kay Stepp
Portland General Electric

David Bolender
PacifiCorp

Randy L. Berggren
Eugene Water and Electric Board

Joe Marshall
Idaho Power Company

Richard Sonstelie
Puget Sound Power and Light Company

Matt Dillon
Snohomish Public Utility District

Mark Crisson
Tacoma City Light

Les Bryan
Washington Water Power

Robert P. Gannon
Montana Power Company

Invited participants

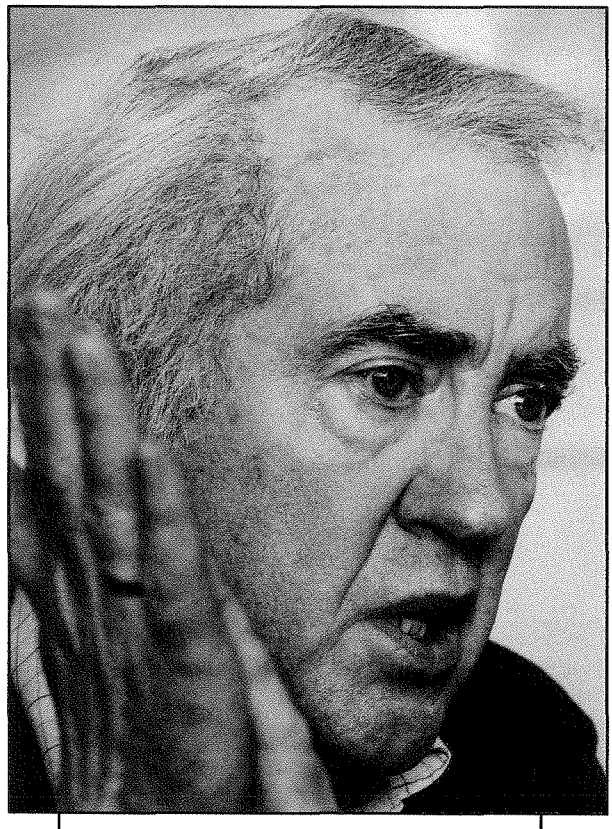
Montana Public Service Commission

Idaho Public Utilities Commission

Washington Utilities and
Transportation Commission

Oregon Public Utility Commission

Chairman TED HALLOCK *Point of View*



with Carlotta Collette

Council passes gavel to Oregon Council member with an agenda.

When the Northwest Power Planning Council voted in October to elect Oregon Council Member Ted Hallock as its new chairman, Washington's Tom Trulove suggested that the Council members should draw straws to see who would take over Hallock's role as "curmudgeon of the Council." But Hallock wants to set Council members' minds at ease on that score: "There won't be any vacancy in the curmudgeon role, if I could be so bold as to pretend I'm the sole player in that part. I will still have an outburst or two."

Biographical notes on who Ted Hallock is and was must cover a remarkably varied past. Left to write his own introduction, Hallock would cull out about two–thirds of his background:

That he was born in California, but raised in Oregon.

That he served as an Air Corps bombardier in World War II (he had to stuff himself with bananas and milk to gain enough weight to be able to enlist). That he earned the Distinguished Flying Cross, the Air Medal with three Oak Leaf Clusters; the Purple Heart also with Oak Leaf; the Presidential Unit Citation; and the Unit Croix de Guerre.

That after the war, he taught himself to play drums, then played with some of the great jazz musicians of the time, or any time. He had his own 16–piece band. Did very well at it.

That after completing work for his bachelor's degree in journalism and hosting his own radio show, he earned the George Foster Peabody Award for radio journalism, one of the top journalism awards in the United States.

Photo by Dale Swanson

In 1959, he started his own advertising agency, one of Portland's oldest, a good business (now owned and managed by his wife Jacklyn). That's still important to him. He was "scrappy" enough, to use his word, to go out on his own, and he made it. This prides him because he grew up poor. He was eight when Wall Street crashed. "A lot of people touched a part of the depression, not me," he fairly shouts. "I went through the whole damned thing."

That's another thing about Ted Hallock; he doesn't just "say" things. He shouts them, or sputters them, growls them or purrs them out with a practiced voice so smooth it's been the narrative score for dozens of documentary films.

His middle name could be "irascible." Rumor has it, he's been a temperamental old codger since he was quite a young man.

But maybe his middle name should be "point man." Whether as an officer in the war, band director, head of his company, Senate majority leader of the Oregon Legislature, or chair of the Northwest Power Planning Council, he has sustained an independent vision.

A utility calls for bids to develop 400 new megawatts, and there's 4,000 megawatts of response.

This is what is important to Ted Hallock now:

He comes from "an absolutely non–partisan family." "I have no Hubert Humphrey or Franklin Roosevelt ideology. I'm that old, but I've not been brainwashed. I chose my ideological destiny myself."

He ran for the Oregon Senate, won office and kept it for 20 years. He wrote legislation that became Oregon's energy laws.

As chair of the energy and environment committee ("some three or four times"), he drafted the legislation that created the Oregon Department of Energy and the Oregon Facility Siting Council. As chair of the land use committee, he helped write and got enacted the first comprehensive land use planning legislation (Senate Bill 100) in the United States.

He also chaired the human resources and housing committees. "In that body of 90 men and women, I did pretty well."

In 1988, he was appointed to the Northwest Power Planning Council by then–Governor Neil Goldschmidt to complete Robert Duncan's term, when Duncan retired. Hallock has twice been reappointed, most recently by Oregon Governor Barbara Roberts, to serve another three–year term, beginning in January 1992.

"Here, at the age of 70," he says, "maybe I know enough about a lot of stuff to put it to use."

On creating economic opportunities

"In the 1970s, lines began forming at U.S. gas stations—imposing a "new energy morality" on us. We were going to weatherize our houses, turn the heat down, the lights out. Overtones of an apparent petroleum shortage were felt everywhere. People began to learn how to install storm windows, so window manufacturers tooled up. Then it all went away, including the shortage.

Now, we're at a time when conservation concerns are again being raised. If we want to save the salmon, then we're down, take

your pick, 100, 300, 500 megawatts over the coming years.

In addition to that, there's a phenomenon that's going to have to find its resolution—nuclear power. The new incoming [Bonneville Power Administration] administrator has said (I'm paraphrasing him only slightly) that nuclear power doesn't appear to him to be viable. I admit that he didn't say "for ever more in the history of man." If there was a new reactor design, maybe that would change.

And in the near term, we have the problem of the tubes at Trojan. If that plant goes down, there's a possible loss of another 800 megawatts.

The Council's regional plan says we could need another 2,000 megawatts by the year 2000—if *nothing changes*. Bonneville says we may have a shortfall of up to 1,000 megawatts soon. I say "soon" without being able to define it in terms of imminent short term, maximum long term, two, three, four or five years.

Then we face deleterious reactions to a lot of other generating modes. Oregon doesn't welcome coal. Concern over global warming grows. Biomass may not be desirable in terms of air pollution. Even methane discharges CO_2 [carbon dioxide]. So on down the list.

We come to the two areas that are now realistically the most logical goals for reasonable men and women: renewables and conservation.

On the renewable side, the environmentalists are beginning to question siting for geothermal, siting for wind, siting for solar. And their concern, while frustrating, is understandable. All this leads us to a new appreciation of energy conservation as being the *only* plausible energy "source" about which there is very little controversy.

Renewables inevitably, in my opinion, will be preferred by the body politic to nuclear, coal or oil.

So now we talk about the 1,500 megawatts of needed conservation that our own power division thought was "reaching for it"—maybe still does. What I've been wondering about and discussing lately with Washington Council Member Tom Trulove, is: Can't we turn our need to do something dramatic in both new resource development and accelerated conservation acquisition into a platform for economic progress in the Pacific Northwest? For example, we could rebuild the contractor and labor forces that were at one time partially mobilized for the weatherization process, at community college, high school and vocational guidance levels; in voc rehab programs, apprenticeship training—on and on.

We could do the same thing with renewable resources. On the power generating side, the new stress is going to be on IPPs [independent power producers]. RFPs [utility-issued requests for energy resources] are bringing them out of the woodwork. A utility calls for bids to develop 400 new megawatts, and there's 4,000 megawatts of response.

Not all of these bids include great big, central power plant nukes, great big, central power plant coal, not at all. There are all sorts of independent providers. Admittedly, there are drawbacks to some of them. And, yes, there are inherent environmental concerns about many. But renewables inevitably, in my opinion, will be preferred by the body politic to nuclear, coal or oil.

I hope the Council will agree to develop a strategy that will embody training a new workforce, creating new jobs, encouraging new entrepreneurs—in the fields of conservation, and renewable resource development, and also in the economic mitigation fields stimulated by our fish program—new transportation facilities, new fish monitoring ideas, new water quality facilitators, new irrigation equipment, etc.

Beyond this point, I get a little metaphysical. There will have to be engineering for irrigators' intake extensions. There will have to be a refocusing on grain merchandising techniques. Perhaps trying to change the buying patterns of international grain purchasers. You can't encroach on nature and harvest patterns, and I don't mean to. But, storage facilities for grain, rail facilities, other transportation modes for produce should be considered. There could be a metamorphosis in the barge industry. Tom Trulove and I have just begun to address the concept of turning negatives to positives.

There are all sorts of elements in the conservation of energy, in the renewables program, and in resolving the salmon problem, and I've only touched on a few industries that could be built up by those actions.

We have to consider, if we are going to force gill-netters out of business, to what extent do we assist them? To what extent might they do other work? Monitoring segments of salmon recovery programs, for example? Using their knowledge *of* fish *for* fish.

For example, in the course of our October Richland hearing, somebody brought up the fact that we will need monitors to validate the results of our fish program. A witness said, "What the hell, you might as well use the gill-netters for that job." They were being sarcastic, but I thought it could be a very good idea. Who knows fish, who dealswith fish, who is able to identify fish, and so forth? Gill-netters!

That's the kind of transformation that spotted owl protection has triggered in the logging industry, a job retraining program for loggers. What if timber workers could look forward to $35,000-a-year jobs in related areas?

A grain wholesaler in Lewiston said to me, "Give me $500,000, and I'm on your side." Meaning, he needs $500,000 to build some rail spurs and new grain elevators. There'll have to be help to do things precisely like that from legislatures of these four states and the Congress of the United States, maybe even from some local governments, as we suggest in the economic mitigation plank of our fish proposal.

Photo by Kraig Scattarella

Why can't we all consider turning this pending set of changes (I'm not going to call it economic adversity) into something that results in an economically uplifting enterprise? That's the main thing I'd like to try to focus our attention on—I'm hesitant to say "bring about"—during my term as chairman.

The list

My agenda of things I want the Council to at least consider is headed by first bringing to fruition aggressive policies stimulating conservation acquisition. I don't think we're moving as fast as we should. I want to get the Council's conservation acquisition advisory committee and staff program management team under way. We need to identify which utilities are energy deficient, where we should aim our marketing first, and what kind of marketing would appeal to which segments of society. I want to have Council members become more intimately involved.

A Council-sponsored economic development program can encourage intensive energy efficiency, bold conservation technologies and services, and new, diverse manufacturing throughout the region, with us leading the way.

We should bring together the four states' public utility commission chairs to meet with the Council more often. The Council should continue urging them to take positive positions on evaluating and quantifying environmental externalities—the costs of environmental mitigation as a part of total resource cost analysis. How should people weigh the economic and environmental overtones of various energy modes? I would hope the Council could work toward a definitive externalities policy, so that *true* values of energy can be identified.

The Council should urge the federal government to work toward a national energy strategy consistent with our own Act [Northwest Power Act of 1980], the Act under which we operate.

We should consider developing a process for our own regional review of utilities' least-cost plans. I don't mean that we're trying to make the Council a master public utility commission; I don't mean that at all. But I'd like to try to get some evaluation in place which could consider one plan's relevance to another; and one plan's place in the regional power picture.

And, of course, I want to step up our involvement and interaction in the Battelle/Bonneville Resource Supply Expansion Program—the "Northwest Initiative."

Like mankind in general, the Council can see its finest, bravest, boldest and most courageous era, can become its most

Photo by Kraig Scattarella

selfless best, when its citizens' supplies of vitally needed energy are threatened. They are. When its wild fauna are threatened. They are. When its environment is threatened. It is.

Can he build consensus?

I'm not interested in just playing in the game. I don't want to fight with my fellow members, conservatives and liberals, on this or that issue. I don't want confrontation anymore than [Idaho Member and former Chairman] Jim Goller did. I am interested in the result just as much as he is or as [Montana Member] John Brenden is.

Let's get right down to it: I'm interested in having the power to do things. To make public policy. I'm not very good as a game player. The *Oregonian* called me a "wounded rhinoceros," in terms of consensus building. But I do have a high legislative success record for goal achieving. As I've aged, I've gotten better.

Consensus building will be difficult for me. I will do my very best. No matter who I am dealing with, whether it's Stan Grace [Council vice chairman fromMontana] or Ted Bottiger [Washington member] or Angus Duncan [Oregon member], we are peers, absolute peers, and no one can receive short shrift at anyone's hands. And if there's any perception of bias, I want it irradicated whether it's pro-fish or anti-fish or pro-nuke or anti-nuke or whatever it might be.

That's why I began with my monologue about the economic development concept—to try to find a more common ground ideologically with John Brenden and Stan Grace and Jim Goller, and the others who also know we need more new jobs.

I'll do my best to walk in each of their moccasins as often or as much as I can without sounding like a toady.

I'd like to use Mr. Goller as a case in point. In the past 18 months, he and I have grown much closer. Yet, in going clear back to the protected areas debate, Mr. Goller proposed five or six amendments, most of which I tried to oppose. He got two or three, I think, and lost the rest. In some amendments I proposed to the power plan regarding nuclear power, the vote was six to two against me. That's still fine. I've done my job.

I'm learning to know Mr. Trulove better. I communicate very easily with him intellectually, and our dialogues seem to be very productive. That's the only way I can think to build consensus.

I want our Montana members and their constituents to know that I do recognize their state's economic needs. I do recognize that their current administration is a conservative administration.

I want my Idaho friends to know that I recognize the viability of Governor Andrus' drawdown request. And my Washington friends to know that I recognize Governor Gardner's feelings on the salmon issues.

I'll do my best to walk in each of their moccasins as often or as much as I can without sounding like a toady. I can't be a toady.

I want everyone to be absolutely aware that my personal beliefs as to fish and energy are unchanged. As an individual Council member, I oppose nuclear power in any manner, shape or form, and nothing will temper that.

But I will recognize that, whenever I speak for myself, I carefully identify those sentiments as my own and distinguish them from anything I represent as a majority Council position. In other words, I retain the same legislative right that I had for 20 years, to submit a minority report, to enunciate a minority opinion, on the floor of Oregon's Senate, or in any forum.

I'm not going to be muzzled, but I will do a good job of representing the majority will of the Council. I will continue to advance my own thoughts and my own agenda as a Council member, through the Council, to work toward getting parts of it enacted into policy. This should be characteristic of all Council members. Our rights to dissent should be zealously protected.

Any majority can rule. If the majority rules without regard for the minority, it's not a democracy, it's an autocracy or an oligarchy or a dictatorship. I would no more think to stifle Mr. Brenden's and Mr. Grace's apparent preference for coal, than to subordinate my own negative reactions to nuclear power. Everyone should speak unfettered.

I understand what it is to preside over a body of men or women with disparate opinions. I *did* it for 20 years—as a state senator, as committee chairman, as majority leader in the Oregon Senate. I understand the chemistry.

The fish program isn't totally acceptable to anybody. That's one of the best things about it.

Toward a regional water policy

The Council is advocating a fish survival program that focuses on the two lifeblood water arterials in at least four states. We're concerned with wasted water; water misuse; water overappropriation from one industry, the agricultural industry; legal as well as illegal diversions, just as we are with obvious things like fish screens at dams and diversion inlets.

We also should be concerned with water quality. When you talk about water quality, for example, you're talking about the effects of pulp and paper mills—the dioxin effluent from chlorine use, for example, or the temperature changes that various manufacturing processes create in rivers. We should be concerned about all those impacts and try to inventory and assess adverse impacts on all the water bodies in our region. We should play our concerns back to the local officials and tell them our recommendations to minimize these impacts, from a regional perspective.

We're dealing with water as it's used to generate power. But fish depend *totally* upon water's quality and quantity for survival. We've got to, therefore, pay attention to more water per se.

I know there'll be people saying, "Oh no, the Council is poking it's nose into states' business." We don't have the statutory power to impose our will upon the sovereign states. We devise power and fish plans, which we offer to governors, which go out to the solons and their legislatures. We suggest "you read this" and suggest "you might consider doing that."

When it comes to water, we can do the same thing. Everybody has to be brought to a table. They have to become more accountable for their actions. They have to accept the consequences of reduction in some of their allotment of water, for the continued existence and wise use of waters that are flowing and healthy for fish, as well as for humans.

My agenda is building on Jim Goller's agenda. Goller has put in place a good power plan with more stress on conservation, renewables, etc. I hope our fish program is going to emerge OK. Our staff has done a fine job, but I think the program doesn't help salmon as much as it ought to yet, and I hope more can be done.

The Council is considered in some quarters to be composed of mossbacks. The Council is considered in some quarters to be moribund. But the new reaction to the Council that intrigues me more is that the Council is considered in growing numbers of quarters to be a pain in the ass, and I *love* that.

The fish program isn't totally acceptable to anybody. We're getting shot at. That's one of the best things about it. It means that thus far, we have spread the "hurt" equally.

If we don't compromise too much, sell out too much, and remain brave as we possibly can; if we really do achieve the kind of—consensus is the wrong word—achieve a solution that everybody detests, but the fish are helped, that will be a good, productive step ahead.

When I wrote the legislation that enabled Oregon to join the Council, I didn't understand about fish. My experience was energy and power. I'm not convinced that all of our staff understands the interrelationships of fish and power issues. And they've got to. I'm not sure that we all understand that.

I've got a feeling that at times maybe there wasn't the dialogue or interweaving that I think there ought to be between the power and fish divisions. And, of course, the public affairs department has got to maximize that interweaving.

I'll do my best to strengthen the Council and its staff. The chemistry of eight people is many times harder than the chemistry of 90 legislators. It's an extraordinarily difficult playing arena. But I'm a grown up. I'm 70 years old. I can be a group player, *and* I have an agenda. ”

Photo by Dale Swanson

SALMON + RESCUE

The Council approves $18 million in aid for depleted salmon runs.

by John Harrison

From the mountain plains of central Idaho to the dry farmland of south-central Washington, help is on the way for depleted runs of salmon and steelhead.

In August, the Northwest Power Planning Council approved $18 million in projects to aid those fish runs. Many projects involve construction of devices to help fish safely pass obstacles, such as screens to keep salmon out of irrigation diversion canals. Another project is financing the work currently under way to recover sockeye salmon runs in the Snake River. Other projects involve research into both the causes and some possible cures for the salmon's demise. All are intended to benefit depleted salmon or steelhead stocks.

Fish runs of particular concern are sockeye in the Snake River, spring, summer and fall chinook in Snake River tributaries, and spring and summer chinook in upper Columbia tributaries including the Wenatchee, Methow, Entiat and Okanogan rivers.

About half of the cost of the priority projects will come from the Bonneville Power Administration, which was authorized by the Northwest Power Act to use its revenues to rebuild fish and wildlife populations damaged by the region's dams. The remainder of the funding will come from other sources, including other federal agencies, the states of Idaho, Oregon and Washington, and private parties.

The projects comprise the first phase of the Council's four-phase process of amending its Columbia River Basin Fish and Wildlife Program (see chart on pages 12 and 13).

The priority projects focus on habitat and production measures that could be put in place quickly to improve salmon and steelhead survival. They include:

Habitat measures

Diversion screens installed at water withdrawals on rivers and creeks, particularly irrigation water withdrawals, keep young salmon swimming toward the mainstem Columbia and Snake rivers and away from irrigation ditches and other water diversions. Fish can die if they swim into water diversion channels, where they can encounter machinery, warmer water temperatures, pollution and farm fields.

"Throughout the Columbia River Basin, over the past decades, there have been programs to install irrigation diversion screens," said Council Member Ted Bottiger of Washington, who chairs the Council's fish committee. "What has become clear is that we, as a region, have not developed a complete inventory and clear priorities to screen the remaining diversions, many of which are in areas inhabited by weak runs of salmon and steelhead."

The Council wants state, federal and tribal fishery managers to identify the highest priority diversions for screening and get that work done with up to $7 million budgeted for screens.

"We're especially concerned about salmon stocks that could be considered threatened or endangered. By December 15 of this year we want to select the first screening projects to protect these fish," he said.

Recently, Congress increased appropriations to pay for screens in areas where they are urgently needed, and that money will be available for this set of screens. Other funds would be provided by Bonneville, the states and private parties.

Some areas with weak stocks of salmon and unscreened diversions include the Wenatchee, Methow, Entiat and Okanogan basins of Washington, which are upper Columbia tributaries; the Salmon River Basin in Idaho; and the Walla Walla Basin of Oregon and Washington, which enters the Columbia just downstream of the Snake River mouth.

In addition, adult fish passage will be improved at Starbuck Dam on the Tucannon River, a Snake River tributary where there is good potential for boosting salmon and steelhead populations.

The Council also called on the federal Bureau of Reclamation to undertake water conservation demonstration projects in the Columbia Basin. These projects can improve spawning and rearing habitat, and could make more water available for fish.

Production measures

Production means just that: producing fish. Fish are produced both in the wild, where they spawn in creeks and tributary rivers, and in hatcheries, where they are raised in large rectangular pools called raceways.

Both types of production are important to the Council. But the Council's emphasis is on wild and

Illustration by Larry Milam

naturally spawning fish (fish spawning in the wild, but having hatchery ancestry) because they are important to the long-term sustainability of the salmon runs. These wild fish serve as a genetic "reservoir" for the fish raised in hatcheries. It is important to protect and improve wild and naturally spawning runs of salmon and steelhead in order to keep their genetic material available as a resource for the future.

"There's been a lengthy debate about the impacts of hatchery fish on wild stocks, and it will continue," Bottiger said. "In the Columbia, we have about 100 artificial production facilities. About 80 percent of the salmon in the Columbia come from artificial production. We need to improve practices in these production facilities."

There is no question that some runs of wild fish are in critical condition. Last April, the National Marine Fisheries Service proposed to list Snake River sockeye salmon as an endangered species under the Endangered Species Act. That run, which has its origin in Redfish Lake in Idaho's Stanley Basin, a 900-mile migration from the ocean, has dwindled to just a handful of fish. This year, only four returned to Redfish Lake to spawn. But those four were greeted with cheers because they were the first sockeye to return to Redfish Lake since 1989.

One approved project, proposed by the Shoshone-Bannock Tribe and the Idaho Department of Fish and Game, could result in a population of sockeye reared in captivity but released to the wild after one generation. It is an experimental effort to restore a naturally migrating run of the fish.

One approved project could result in a population of sockeye reared in captivity but released to the wild.

Another project will trap hatchery salmon near the mouths of the Minam and Wenaha rivers, tributaries to the Grande Ronde River, so they won't interbreed with wild spring chinook salmon. The Grande Ronde River is a tributary to the Snake River in northeastern Oregon. Biologists agree that it is important to keep these wild fish separate in the breeding habitat to maintain the genetic purity of the wild fish.

"We've got a very important resource that the state of Oregon wants to protect because it will provide the foundation for any future activities we do in the Grande Ronde," Bottiger explained. "We've got a really good chance to preserve that genetic material."

The Columbia Basin Fish and Wildlife Authority, an association of fish and wildlife agencies and Indian tribes, suggested building portable facilities that include rearing/holding ponds and trapping facilities to hold and acclimate juvenile fish before they are released to streams. These facilities also would be used to trap and hold returning adult salmon. The Council approved building and testing one of these facilities.

"The Council believes it's important that we get our hands on this technology and demonstrate it in an area where there already is a hatchery program," Bottiger said. "Part of our thinking is that if this technology works, we can use it to protect and rebuild declining runs."

In addition to these measures for wild fish, the Council also approved projects to improve hatchery operations. Here again, the Council's focus remains on the impact to wild stocks from interaction with hatchery fish. The Council supported the work of a nationally recognized team of experts in fish genetics, ordered the development of hatchery guidelines and called for a review of existing hatchery practices to emphasize the recovery of weak naturally producing stocks.

"By the end of this year, we want the fish and wildlife agencies and tribes to develop, in consultation with the team, some basinwide guidelines aimed at reducing the genetic and broader ecological impacts of hatchery fish on wild and naturally spawning stocks," reported Bottiger. "We encourage them to bring to this issue the best scientific knowledge they have and include provisions not only for new facilities, but for changes in practices at existing facilities."

"There's a lot more we need to learn about the effect hatcheries have on the long-term sustainability of production in the basin," Bottiger added.

The Council also approved improvements at the Ringold Hatchery that will allow permanent acquisition of an additional water right for the facility. The hatchery is on the Columbia River near Pasco, Washington.

In addition, the Council recognized the importance of cooperation among landowners in rebuilding salmon and steelhead runs. For example, it is important to get land managers—often it's a combination of federal and state agencies, Indian tribes and private individuals—to agree on habitat improvement measures for watersheds they share and then carry them out in a coordinated fashion.

To accomplish this, the Council approved a "model watershed" proposal to bring all relevant groups together so that fish enhancement will be coordinated in selected subbasins.

Research

Under some circumstances, scientific research might not fit the definition of high priority, but these are not just any circumstances. There are critical questions that need to be answered to support recovery efforts.

Three research projects were approved in this phase of the amendment process. These are a study of the life history of juvenile fall chinook salmon in the Snake River, installation of PIT (passive internal transponder) tag detectors at mainstem Columbia and Snake river dams to provide more information about depleted natural stocks, and a study of tributary water supplies to better understand the availability and quality of water for wild and naturally spawning fish.

The work begins

The Council and the agencies that will carry out these priority projects are moving ahead:

- By the time this issue went to press, the states of Oregon, Idaho and Washington had compiled lists of sites where diversion screens are urgently needed. The sites will be reviewed by the Columbia Basin Fish and Wildlife Authority. The Council expects to review the list by the December 15 deadline. A final list of sites will then be turned over to the appropriate agencies. A construction and operation plan is to be completed and reviewed by the Council by February 1, 1992.
- Idaho fishery experts trapped several hundred juvenile sockeye migrating out of Redfish Lake and the lone four adult sockeye returning to the lake, in the first step toward rebuilding that population. The young salmon will be reared in a special facility.
- The Council has been working with a team of geneticists for nearly two years. The scientists are recommending hatchery policies and a genetic conservation policy to be reviewed by the region.
- Bonneville officials are working with the states and tribes to pick a location to demonstrate a portable facility for collecting adult fish and acclimating juvenile fish.
- Engineers are studying sites in the Minam and Wenaha rivers for construction of traps to separate wild chinook in those tributaries from hatchery chinook.
- Proposals are being collected for subbasins where efforts will be made to provide models for coordination and cooperation of land, water and fish management agencies. ■

Retail chains need an easy route to energy conservation.

Chris Galati, senior mechanical engineer at Fred Meyer, Incorporated, is pragmatic about cutting his company's energy expenses. "Fred Meyer has always looked at its energy consumption," he says. "It's an economic concern. We've been doing energy conservation because it's good business, not because it's popular or noble. We did it before the utilities, before the Bonneville Power Administration. Now we can do more, if we can get utility cooperation."

Bill McQueen, Nordstrom's manager of maintenance and energy, has about the same sentiment. In just 10 months, Nordstrom has reduced electric bills company-wide by nearly $1 million. These energy savings are spread across the eight states in which Nordstrom now operates 66 stores. "We were considering proposing to deliver a megawatt of energy savings in Bonneville's new resource bidding process, but we decided it's too much paperwork. We went to Con Ed [in New York] and in 20 minutes got a better deal for our New York store than we could have gotten going through all the hoops at Bonneville, let alone at all the other utilities."

The new Lloyd Center Nordstrom in Portland, Oregon.

For these two major Northwest retail chains, electricity costs tens of millions of dollars every year. When the Fred Meyer company cuts energy use by 20 percent to 25 percent at each of its hundred-plus stores, the savings are substantial, both to the company and to the region, which is strapped to provide the electricity needed to fuel an expanding Northwest economy.

But Fred Meyer and Nordstrom share a dilemma. Each of them has dozens of stores spread out in every state in the region and several outside the Northwest. Each store is served by a different utility. Each utility (and each state energy office)

LINKING UP TO SAVE ELECTRICITY

by Carlotta Collette

Photos by Stephen Sasser

has its own set of conservation programs, incentives and measures to help customers save electricity. One store might be treated to a complete energy redesign because of the utility program being offered in that area, while another might be lucky to get help with an audit of its energy use.

Galati and McQueen could bring all their companies' outlets up to the highest efficiency levels, and are enthusiastic to keep moving ahead on it, but, right now, they can only do it one store and one utility at a time.

"Nordstrom enjoys excellent relationships with all the utilities we deal with," McQueen says, "and we're developing innovative programs with some of the more progressive companies like Puget Sound Power and Light. Unfortunately, there's been no common table we can bring these pilot programs to. A good program will be good at any utility. A watt is a watt, wherever you are."

The bottom line for the companies is minimizing expenses while obtaining some level of efficiency. "I have to compete with other Fred Meyer departments when I propose a project to our budget committee," explains Galati. "A reasonable return on investment must be shown."

McQueen faces the same constraint. "Very rarely will we embark on a conservation effort without a two-year payback. So we need utility support up front. Besides, we like conservation programs where everyone ends up a winner. That means the utility should contribute something, too," he adds.

For less than 5.5 cents per kilowatt-hour, the Council found 1,650 megawatts of potential energy savings in the commercial sector.

The bottom line for the region is that the Northwest is using more electricity than it produces. Cost-effective energy savings are needed now.

When the Northwest Power Planning Council was reviewing potential energy savings to put in its 1991 Northwest Conservation and Electric Power Plan, savings in the commercial sector were identified as among the most cost-effective. For less than 5.5 cents per kilowatt-hour, the Council found 1,650 megawatts of potential energy savings in the commercial sector—enough to supply Seattle and Portland with electricity. That's about the equivalent of two, large, conventional power plants. Between now and the end of this century, the Council would like to see at least 435 megawatts of that brought into the system.

Several retail chains have voiced an interest in anteing in with the savings they can provide if the process of working with the utilities could be streamlined, and the efficiency measures could be replicated in several stores. What they prefer is a unified approach. If Nordstrom or Fred Meyer could make one phone call, make one set of decisions and have efficiency improvements installed in all of their stores, they are ready to cooperate.

Nordstrom's Bill McQueen turned to Bonneville, the region's major conservation program operator. Does such a program exist, he wondered. Bonneville's Carole Perigo got the call. Perigo had been hired by Bonneville specifically to try to create the kind of program Nordstrom and Fred Meyer require. It topped the list of actions called for in the Council's new power plan, and Perigo was raring to go on it.

"Many corporations complain about the lack of regional coordination of conservation efforts," she explains. "A comprehensive program particularly targeted toward multisited businesses could be a model for other areas. It could be applied to schools, for example."

A "one-stop" regionwide commercial conservation program for retail chains and franchises, which have outlets in the service territories of several utilities, but centralized decision-making, also could be among the simplest and least-costly means to secure regional energy savings.

A program that promises to meet many of the chain's needs is in the works. Representatives from utilities, businesses and energy-related organizations have been meeting to develop it.

They're calling it "Regional Resource Coordination." The companies can approach the regional coordinator or any individual utility, and a process will be set in motion to bring together the utilities and the chain's representatives to negotiate conservation deals. This does not mean a uniform regional program, but it will mean that the region can send a single message to the chains: "We are interested in conservation and open for business."

Chains will benefit from regional resource coordination because they will have coordinated and easy access to all the utilities they need to work with. When they are scheduled to bring in a new store or remodel an older one, they will know where to turn for advice. They can establish ongoing relationships with program operators so that new technologies, as they emerge, can be integrated into their operations. They can even incorporate energy-efficient redesigns and new designs into their long-range expansion plans, knowing that utilities have coordinated the types of conservation measures they are willing to support.

Manufacturers and vendors of efficient products will be able to gear up production, knowing that demand for their products is assured. With a long-term guaranteed market, the cost of manufacturing the efficiency supplies likely will decrease.

Utilities should benefit from the lower administrative costs when working with the chains. For example, after one utility has analyzed a building proposal for conservation measures, other utilities can borrow from it. It is likely that the approach will result in standardizing energy-saving requirements.

The region as a whole will benefit because there is more comprehensive capture of all the conservation in stores remodeled or built by a chain.

The participants who developed the regional coordination approach did not take the final step the chains would prefer—they did not arrive at a single payment administered by a single source. That was primarily because the utilities do not want to lose their customer relationships with these stores. Given time and some experience with the effort, it is likely the program and process will evolve to better suit the needs of both the chains and the utilities.

The regional coordination approach is likely to result in the same type of help that has been given to Fred Meyer's Galati in the past by "corporate account executives," such as Jack Majors from Portland General Electric. Majors has introduced Galati to utility personnel at Seattle City Light, Utah Power and Light and the Sacramento Municipal Utility District in California, among others. Majors was able to explain Fred Meyer's operations and energy needs to the various utilities, and help the company work its way through program applications at each utility.

"Majors speaks 'utility-ese' for us," says Galati. "He puts us in touch with the person who can help us, wherever we go."

"We utilities are not easy to deal with," Majors says. "We need to learn more about taking care of the customer's needs. We'll all be a lot better off, and we'll serve the customer better, too. As it is, we've barely touched the tip of the iceberg. There's a lot more conservation out there."

Perigo concurs. She's concerned that the approach agreed to by utilities

The new Johnson Creek Fred Meyer near Portland, Oregon.

may not fully meet the chains' needs and, consequently, may not capture all the potential energy savings. "This compromise is not as far as some people would like to go, but a lot further than others would ever have gone," she says. "Utilities will have to take the responsibility to bring retail chains into this forum, but at least there's a meeting place. The retailers don't have to go to everyone. The responsibility for getting the savings will rest on the utilities," she adds. "The regional resource coordination approach is a positive first step. It's a flexible approach that will evolve over time as the market dictates." ■

THE PEOPLE FACTOR

Nordstrom is known for its one-line employee policy: "use your best judgment," which extends to the company's energy conservation strategy. "If you're really going to get sophisticated about saving energy," says Nordstrom's corporate manager of maintenance and energy, Bill McQueen, "it's the people you need, not just the equipment."

In fact, in Nordstrom's four-part energy strategy, the actual conservation measures don't appear till the bottom of the list. The idea, explains McQueen, is that individual actions have a big effect on how much energy is used at each store. Decisions made at corporate headquarters in Seattle could have less importance than the employees who turn lights on and off.

Nordstrom's store level energy strategy has these four elements:

1. A written description of the energy use in each store, including on and off times for each item.
2. A list of specific energy uses that can be controlled by people, not by the building's automated system.
3. Up-to-date energy accounting and a written description of the rate structure of that specific building.
4. An ongoing list of new energy conservation measures in place or under consideration.

The focus in this strategy is on each employee taking responsibility for his or her energy use, to the degree that it's practical.

Another big piece of Nordstrom's efficiency package is its preventative maintenance program for equipment. "The biggest immediate and, frankly, most cost-effective impact anyone can have on their electricity costs is through preventative maintenance," declares McQueen.

On regular schedules, all equipment is checked, cleaned, retooled, whatever is necessary to keep that equipment working efficiently. About two-thirds of the energy savings the company experienced in the past year are attributable to the companywide maintenance program. That amounts to nearly three-quarters of a million dollars in savings so far this year. ■

—CC

REGIONAL ROUND-UP

Solar Simplicity

After a boom in the 1970s, the solar hot water heating industry in the United States nearly collapsed. The systems were too complex. Frequently they failed to work properly.

But an Oregon company has reinvented solar hot water heaters, and their marketing edge is simplicity; there are no moving parts. Maintenance on the collector system is virtually nil. In the rare event that replacement parts are needed, they can be found at any plumbing supply outlet.

In 1989, *Popular Science Magazine* listed it as one of the best 100 technologies that year. *Fine Homebuilding* magazine called it "by far, the most innovative system on the market."

Its inventors at Sage Advance Corporation, in Eugene, Oregon, call it the "Copper Cricket." It never freezes and is efficient to operate, two assets that, when married to the collector's reliability and low-maintenance requirements, make it the perfect system for remote locations such as campground shower facilities.

This year, the Copper Cricket's suitability for such applications was recognized by the U.S. Forest Service, which selected Copper Crickets to supply hot water to shower houses at the Tonto National Forest campgrounds in Arizona.

The Copper Cricket's technology is equally suitable for residential installations. A mixture of methanol and water is heated by the sun and then pushed through the system by a geyser-pumping action, similar to a coffee percolator. As the fluid boils, it is lifted along with the rising gas bubbles. This shoots steam and water to the top of the collector.

The heated fluid is then pumped around a loop that includes a heat exchanger at the base of a water tank inside the house.

Physicists Bob Block and Eldon Haines created the system. Block ran a research and development company in the early 1980s with Haines, who designed the Copper Cricket's geyser pumping system. The two men claim the Copper Cricket can supply at least half of the hot water for a family of four over a year's time—more in the summer, less in the winter. Copper Cricket owners in the sunbelt states have met as much as 96 percent of their hot water needs with the system, Block and Haines said. ■

—Lisa Karnopp
Oregon Council Staff

Spokane's Garbage is Turning to Electricity

Spokane, Washington, has a new waste-to-energy plant that began burning garbage on September 6, 1991. The September startup was part of a six-week test.

"We are currently fine tuning the process," said Dammon Taam, project manager. "At the end of our test period, we will run a full-load acceptance test, and, if passed, we will switch to a fully operational contract."

The $105-million project is designed to handle 800 tons of garbage a day and produce 22 megawatts of power. Puget Sound Power and Light Company will purchase the steam-generated electricity at the low cost of 1.8 cents to 3 cents per kilowatt-hour for the first nine years. The price will escalate to 9 cents per kilowatt-hour in the year 2000. Over the 20-year anticipated life of the plant, net energy sales should equal about $146 million.

The solid waste combustion process creates steam, which drives a turbine generator expected to produce more than 123 million kilowatts of electricity each year—enough to meet the lighting requirements of 9,400 homes.

When the garbage is burned, there is a 90-percent reduction in volume and a 75-percent reduction in weight, resulting in an ash similar to coarse gravel. Exhaust from the combustion is treated in a

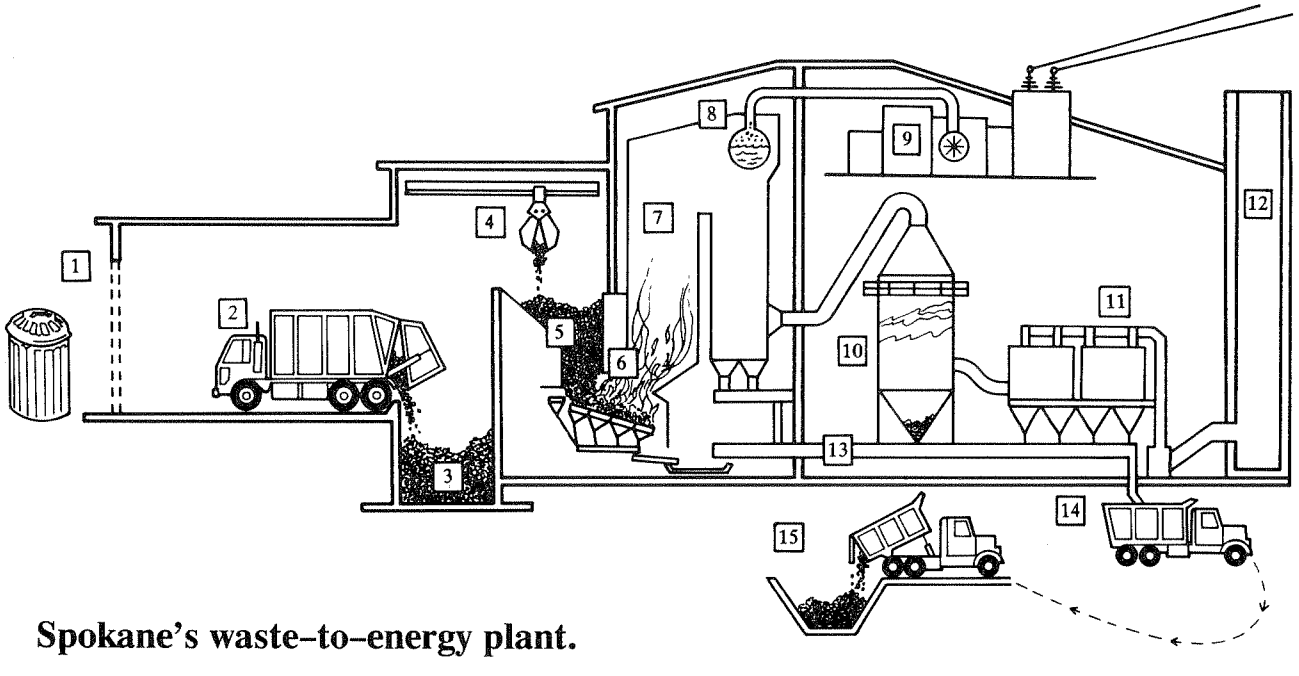
state-of-the-art air pollution control system, which includes acid gas scrubbers, fabric filters and a nitrogen oxide removal process. A landfill in south central Washington has been designed to accommodate ash disposal.

Spokane's waste-to-energy plant is unique in several ways. The facility was developed as part of a four-part strategy to cope with increasing quantities of garbage in the Spokane area. Reduction of solid waste; recycling, including curbside programs; energy recovery, also called waste-to-energy; and residue landfilling with new, environmentally sound methods are all incorporated into Spokane's plans. The waste-to-energy plant itself includes a public drop site for recyclables, large reuseable items, and yard, garden and household hazardous wastes.

The plant also is governed by a unique contract agreement. Because the plant is located near Spokane's airport, officials fear that cooling tower condensation from the plant has the potential to further decrease visibility during times of fog and low visibility from other causes. As a safeguard, the facility is required to shut down when airport visibility is likely to be affected.

Wheelabrator Technologies, Incorporated, built the plant and operates it under municipal ownership. This type of project is not new to Wheelabrator. It has built 12 other waste-to-energy facilities throughout the United States, ranging in capacity from 200 to 3,000 tons of garbage per day. Its first facility, located in Massachusetts, has been operational and meeting all required standards since 1974. ■

—Carol Raczykowski
Washington Council Staff



Spokane's waste-to-energy plant.

1) Garbage delivered to plant; 2) trucks deposit garbage on tipping floor, which covers approximately 1.4 acres; 3) garbage is pushed into pit where it is mixed for better burning; 4) overhead crane transfers garbage to refuse feed hopper—5); 6) garbage is burned at temperatures exceeding 2,000 degrees Fahrenheit; 7) heat from burning garbage rises into boiler. The hot air heats tubes of water, which in turn makes steam in the steam drum—8); 9) steam drives a turbine that generates electricity; 10) scrubber neutralizes acid gases with a slurry of lime; 11) baghouses trap particulate matter with fabric filters; 12) stack exhausts scrubbed and filtered hot gases; 13) ash conveyors remove residue now reduced to 10 percent of original volume; 14) ash is loaded into trucks; and 15) trucks haul ash to special landfill.

Illustration by Jubal Nance

REGIONAL ROUND-UP

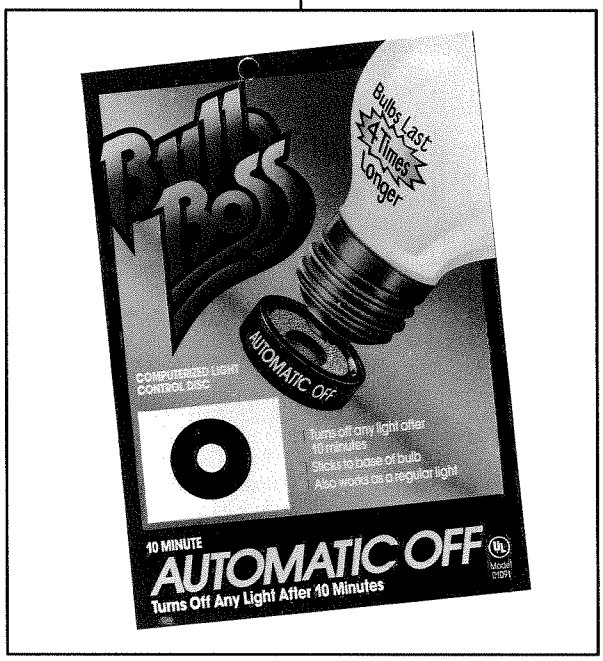
Computerized Light Bulbs Are Here

A new technology has been developed in the Northwest that can reduce the energy used by incandescent light bulbs. Beacon Light Products of Meridian, Idaho, has developed a tiny computer switch that attaches to the base of a standard incandescent light bulb. The computer switch calculates the time the light is on and turns the light off after a predetermined number of minutes. It will gradually dim over a five-minute period to warn the user that the light is about to turn off. If the user needs more time, the light can be switched off and on again.

The computer switch can be installed easily without any wiring. The small size of the product allows it to be attached to the base of a standard bulb with a small adhesive ring. The bulb and the computer switch are then twisted into a standard socket. When installed, the computer switch ring raises the light bulb less than one-eighth of an inch in the socket.

Beacon's product is ideally suited for infrequently used lights. The 10-minute version, for example, works well in closets, garages, attics and basements. A 30-minute version can be used in children's rooms, bathrooms or anywhere lights are left on inadvertently. One-hour and two-hour versions also are available for hotel and motel rooms.

While conservation experts promote energy-conserving fluorescent bulbs and ballasts for situations in which lights are left on for long periods, the incandescent switches could be ideal for short-term lighting needs, particularly in residences. More than 2 billion incandecent light bulbs are sold in the United States each year. The average U.S. household has 20 standard base sockets. With 3 million households in the Northwest, that adds up to about 60 million incandescent lights.



In addition to the automatic-off computer switch, Beacon Light Products has developed a four-level dimmer, a dimming nightlight, a soft-off sleep light, an emergency flasher for porch lights and an automatic timer.

The company is capable of manufacturing millions of the tiny computer switches annually. Current marketing efforts are concentrated on California utilities because of their large markets and higher electricity prices than in the Northwest. One large California utility recently offered free 10-minute computer switches to their customers. The response was favorable and was summed up by one customer, "Every time I go to the light switch and it is up (in the on position), I know I just saved some electricity."

The retail price for the automatic-off computer switch is between $5 and $7. Using an average Northwest electricity rate of 4.55 cents per kilowatt-hour, the automatic switch shows a positive cash flow in the first year if up to five hours of lighting are saved each day. ■

—Karen Nelson
Idaho Council Staff

SHORTS

A study at Simon Fraser University in Vancouver, British Columbia, concluded that energy conservation has a greater economic benefit to the province than building new hydroelectric projects. The study measured the potential economic benefits of the controversial "Site C" dam proposal against the benefits of BC Hydro's "Power Smart" energy conservation program. The researchers said Power Smart would increase income in the province by $762 million more than the dam through lower construction costs and a greater number of jobs created. [Source: *The Province*, Vancouver, British Columbia, August 22, 1991.]

The world's 10 largest market economies spent more than $170 billion on pollution control in 1989, creating some 5 million jobs. Meanwhile, recycling is emerging as another major industry. Twice as many people now work in aluminum recycling as in primary aluminum production. And in another conservation-related matter, weatherizing U.S. households could create 6 million to 7 million job-years of employment. [Source: *Worldwatch Paper 104, Jobs in a Sustainable Economy*, Worldwatch Institute, Washington D.C., September 1991.]

A nationwide survey shows the four Northwest states have the nation's least expensive electricity. The July 1990 survey by the National Association of Regulatory Utility Commissioners compared the cost of 500 kilowatt-hours of electricity for residential use in every state except Nebraska, which does not regulate retail electric rates. The results: Idaho was lowest at $24.56, followed by Oregon ($25.77), Washington ($25.99) and Montana ($26.53). At the other end, New Jersey was at $54.86, California ($55.15), New York ($62.25) and Illinois ($64.26). [Source: *The Missoulian*, Missoula, Montana, August 19, 1991.]

The Sacramento Municipal Utility District is pursuing energy conservation with refrigerator replacements, tree plantings and a fleet of "energy doctors." The California utility is replacing its customers' older, inefficient refrigerators with newer, more efficient models. The utility also signed a $2-million contract with the Sacramento Tree Foundation to plant shade trees in areas where pavement and building walls radiate heat, raising surrounding temperatures and increasing air conditioning use. In addition, the utility's energy advisers, called energy doctors, will visit every interested customer to discuss energy savings and loans to pay for conservation measures. [Source: *Public Power*, September-October 1991.]

By 1993, Minnesota will have an energy-conserving building code based on the Council's model conservation standards. The new law that calls for the rigorous energy code says that the model conservation standards should be considered the minimum standard of savings. The new code goes into effect on February 1, 1993. [Source: *Energy Design Update*, July 1991.]

Oregon scored highest among the 50 states in a ranking of 256 environmental indicators compiled in a recently published book. The rankings, compiled by researchers at the Institute for Southern Studies in Durham, North Carolina, include energy production and consumption, water pollution, toxic and hazardous waste, public health services and work-place safety, land use, recreational opportunities and "green" policy. Maine was second. Washington was ninth and Idaho 19th. The bottom five, in order from 46th to 50th place: Texas, Mississippi, Arkansas, Louisiana and Alabama. [Source: *The* (Portland) *Oregonian*, August 12, 1991.]

A bill introduced in Congress by U.S. Representative Jolene Unsoeld (D-Washington), calls for a nationwide study of potential energy savings. Unsoeld's bill calls on the National Academy of Sciences to investigate the potential for cost-effective efficiency measures and alternatives to fossil fuels in the United States. Unsoeld said the Academy would be asked to look at the Northwest Power Act as a national model for energy conservation and savings. [Source: News release from Representative Unsoeld, July 25, 1991.]

CALENDAR

November 3–7—"Fifth International Conference on Artificial Habitats for Fisheries" at the Hyatt Regency Hotel in Long Beach, California. Sponsored by the California Department of Fish and Game, California Sea Grant College, National Marine Fisheries Service, U.S. Fish and Wildlife Service and others. For more information: Robert S. Grove, Section of Fishes, Natural History Museum, phone 213–744–3373, FAX 213–746–2999.

November 6—"Geothermal Northwest—A New Beginning" at The Riverhouse in Bend, Oregon. Sponsored by the Bonneville Power Administration and others. For more information: Char Gruessing, Washington State Energy Office, 809 Legion Way, S.E., FA–11, Olympia, Washington 98504–1211, 206–956–2049.

November 11–16—"11th International Symposium on Lake, Reservoir and Watershed Management" at the Sheraton Tech Center Hotel in Denver, Colorado. For more information: North American Lake Management Society, P.O. Box 217, Merrifield, Virginia 22116.

November 12–13—"Northwest Natural Resources: Public Policy at a Crossroad" conference at the Washington State Agricultural Trade Center in Spokane, Washington. Sponsored by the Spokane Area Chamber of Commerce, the Bonneville Power Administration, the Northwest Power Planning Council and others. For more information: Cary Hegreberg, Spokane Area Chamber of Commerce, 509–624–1393.

November 12–14—Northwest Power Planning Council meeting at the Park Plaza Hotel in Helena, Montana.

November 14–15—"1991 Northwest Energy Code Conference" at the Elkhorn Resort in Sun Valley, Idaho. Sponsored by the Bonneville Power Administration, the Idaho Department of Water Resources Energy Division, the Association of Idaho Cities and the Idaho Association of Counties. For more information: Deni Hoehne, Association of Idaho Cities, 3314 Grace Street, Boise, Idaho 83703, phone 208–344–8594, FAX 208–344–8677.

November 21—"Regional Utility Conference: Implementing the Northwest Power Plan" at The Portland Hilton in Portland, Oregon. Sponsored by the Northwest Power Planning Council, the Bonneville Power Administration, the Northwest Conservation Act Coalition, the Northwest Electric Light and Power Association and the Pacific Northwest Utilities Conference Committee. For more information: Judi Hertz, Northwest Power Planning Council, 503–222–5161 or 800–222–3355.

November 21–22—"Pacific Northwest Landscapes: Habitat Conservation and Restoration" conference at LaSells Stewart Center, Oregon State University, Corvallis, Oregon. Sponsored by the Committee on Conservation Biology, Department of Fisheries and Wildlife, and the Agricultural Experiment Station, Oregon State University. For more information: Committee on Conservation Biology, 104 Nash Hall, Oregon State University, Corvallis, Oregon 97331–3803.

December 5—"Energy '92," the seventh annual business and technical energy conference at The Hotel Vancouver in Vancouver, British Columbia. Sponsored by the Canadian Institute of Energy. For more information: Gail Edwards, Meeting Management Group, phone 604–681–5701, FAX 604–681–8601.

December 11–12—Northwest Power Planning Council meeting at the Council's central office in Portland, Oregon.

January 8–9, 1992—Northwest Power Planning Council meeting in Idaho.

January 29–30—"Environmental and Licensing Conference" at the Hyatt Regency in Bellevue, Washington. Sponsored by the Northwest Hydroelectric Association in cooperation with the Federal Energy Regulatory Commission. For more information: Northwest Hydroelectric Association, P.O. Box 3610, Salem, Oregon 97302, phone 503–363–0121, FAX 503–371–4926.

March 25–26—"Globalcon '92: The Marketplace for Energy and Environmental Technologies" conference at the San Jose Convention Center in San Jose, California. Sponsored by the Association of Energy Engineers, Western Area Power Administration and others. For more information: Ruth Bennett, Association of Energy Engineers, 4025 Pleasantdale Road, Suite 420, Atlanta, Georgia 30340, phone 404–447–5083, FAX 404–446–3969.

June 1–12—"Earth Summit," the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, Brazil. For more information: UNCED, Room S–3060, United Nations, New York, New York 10017, phone 212–963–5959, FAX 212–963–1010.

A more detailed calendar of Council committee meetings and consultations is carried each month in *Update*. See order form inside back cover.

—Compiled by Judy A. Gibson

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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.

NORTHWEST ENERGY NEWS

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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

- ☐ 91-04 1991 Northwest Power Plan—Volume I
- ☐ 91-05 1991 Northwest Power Plan—Volume II
- ☐ 91-07 1991 Directory of Organizations
- ☐ 91-11 Priority Salmon Habitat and Production Proposals
- ☐ 91-12 Priority Salmon Habitat and Production Proposals: Stock Analyses
- ☐ 91-16 Final Integrated System Plan
- ☐ 91-25 Proposed Amendments with Technical Appendices to the Columbia River Basin Fish and Wildlife Program on Mainstem Survival, Harvest, Production and Other Measures to Protect Salmon and Steelhead
- ☐ 91-26 1991 Annual Report to Congress
- ☐ 91-27 Priority Salmon and Steelhead Production and Habitat Amendments
- ☐ 91-29 Priority Salmon Habitat and Production Proposals—Summary and Response to Comments
- ☐ 91-31 Final Amendments with Technical Appendices to the Columbia River Basin Fish and Wildlife Program on Mainstem Survival, Harvest, Production and Other Measures to Protect Salmon and Steelhead (those who received document 91-25 will automatically receive this)
- ☐ 1987 Columbia River Basin Fish and Wildlife Program

Mailing Lists

Please add my name to the mailing lists for the following newsletters. (Note: 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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(Or call Judi Hertz at the Council's central office, 503-222-5161, or toll free 1-800-222-3355.)

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The Power Plant Called Efficiency

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