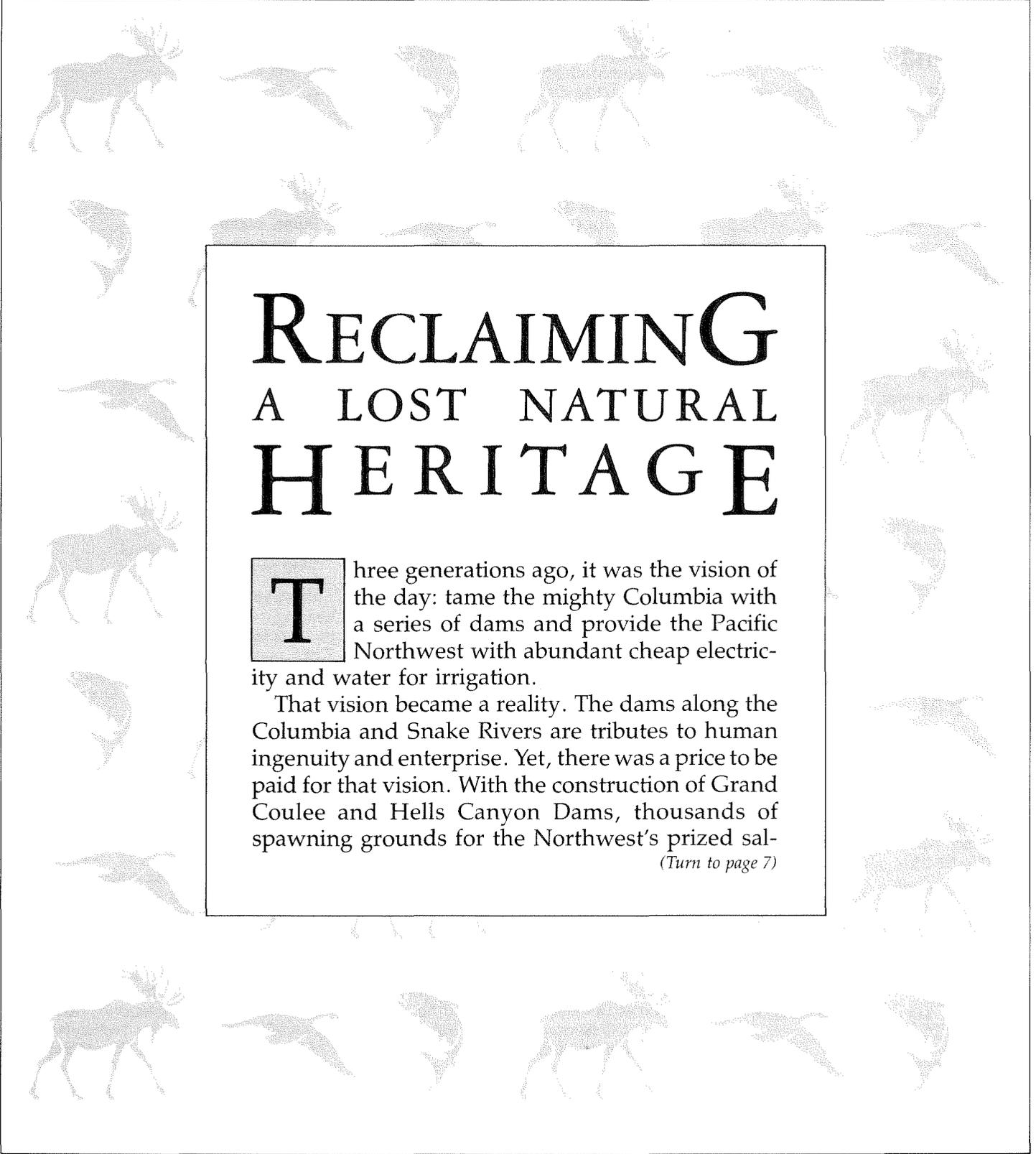


N O R T H W E S T ENERGY NEWS

Volume 1, No. 5

Northwest Power Planning Council

September/October 1982



RECLAIMING A LOST NATURAL HERITAGE

Three generations ago, it was the vision of the day: tame the mighty Columbia with a series of dams and provide the Pacific Northwest with abundant cheap electricity and water for irrigation.

That vision became a reality. The dams along the Columbia and Snake Rivers are tributes to human ingenuity and enterprise. Yet, there was a price to be paid for that vision. With the construction of Grand Coulee and Hells Canyon Dams, thousands of spawning grounds for the Northwest's prized sal-

(Turn to page 7)

Idaho

Northwest Power Planning Council
Statehouse Mail
Towers Building
450 West State
Boise, Idaho 83720
Telephone: 208-334-2956
Council Members:
W. Larry Mills
Robert Saxvik

Montana

Northwest Power Planning Council
Capitol Station
Helena, Montana 59620
Telephone: 406-449-3952
Council Members:
Keith Colbo
Gerald Mueller

Oregon

Northwest Power Planning Council
155 Cottage Street NE
Salem, Oregon 97310
Telephone: 503-378-5487
Council Members:
Roy Hemmingway
Alfred Hampson

Washington

Washington State Energy Office
400 East Union
Olympia, Washington 98504
Telephone: 206-754-0701
Council Members:
Charles Collins
Daniel Evans

Central

Northwest Power Planning Council
United Carriage Building
700 S.W. Taylor, Suite 200
Portland, Oregon 97205
Telephone: 503-222-5161
Toll Free: 1-800-547-0134
(1-800-452-2324 in Oregon)
Executive Director:
Edward Sheets

N O R T H W E S T ENERGY NEWS

is published monthly by Northwest Power Planning Council,
700 S.W. Taylor, Suite 200, Portland, Oregon 97205.
Editor: John Arthur Wilson
Managing Editor: Annette Frahm
Contributors: Sam Sperry, Susan Skog

The Northwest Power Planning Council is required to develop a program to restore the Columbia's fisheries and a regional electric energy plan, to be carried out by the Bonneville Power Administration, emphasizing cost-effective conservation and renewable resources.

Cover photo © Louis Bencze 1982

N O T I C E S

Comments welcome on fish, wildlife draft

The Northwest Power Planning Council's draft fish and wildlife program is now available for public comment. The council has responsibility under the Northwest Power Act to develop a program to "protect, mitigate and enhance" fish and wildlife damaged by the development of hydroelectric dams in the Columbia River Basin.

Written comments on the draft program are welcome. The Council will hold public hearing on the draft in mid-October in locations in Idaho, Montana, Oregon, and Washington (see details below). The public comment period will close October 25, and the final program will be adopted November 15.

To obtain a copy of the draft program, call Ms. Beata Teberg at the Council's central office, 1-800-547-0134 (in Oregon, call 1-800-452-2324), or use the form on page 24.

Energy workshops to be held

The Washington State Energy Office will hold workshops on the Northwest Power Act October 5 in Spokane and October 19 in Seattle.

Dan Evans and Chuck Collins, Washington's two representatives on the Northwest Power Planning Council, will attend the workshop to hear the views of Washington citizens on the Council's upcoming energy choices.

The workshops will focus on three approaches to achieving conservation in the region: regulatory, incentive, and market. After panelists present the three approaches, working groups of citizens will debate the choices involved, come to some conclusions, and later present their conclusions to Council members Evans and Collins.

Panelists include Randy Hardy, executive director of the Pacific Northwest Utilities Conference Committee; Ralph Cavanagh, director of the Natural Resources Defense Council; and Ed Whitelaw, ECO Northwest, Ltd., and professor of economics, University of Oregon.

For more information and to register for a workshop, call Mickey Riley or Cheryl James at the Washington State Energy Office, (206) 754-0700.

Fish, wildlife hearings announced

The Northwest Power Planning Council will hold a series of public hearings on its draft fish and wildlife program. The hearings will be held in:

Portland, Oregon

October 12, 1982
8:00 a.m. - 5:00 p.m. and
7:00 p.m. - 9:00 p.m.
Hilton Hotel
921 S.W. Sixth Avenue

Boise, Idaho

October 15, 1982
8:00 a.m. - 5:00 p.m. and
7:00 p.m. - 9:00 p.m.
The Hall of Mirrors
700 West State Street

Missoula, Montana

October 18, 1982
9:30 a.m. - 5:00 p.m. and
7:00 p.m. - 9:00 p.m.
The Holiday Inn
1609 West Broadway

Yakima, Washington

October 22, 1982
8:00 a.m. - 5:00 p.m. and
7:00 p.m. - 9:00 p.m.
The Holiday Motor Hotel
1300 North First Street

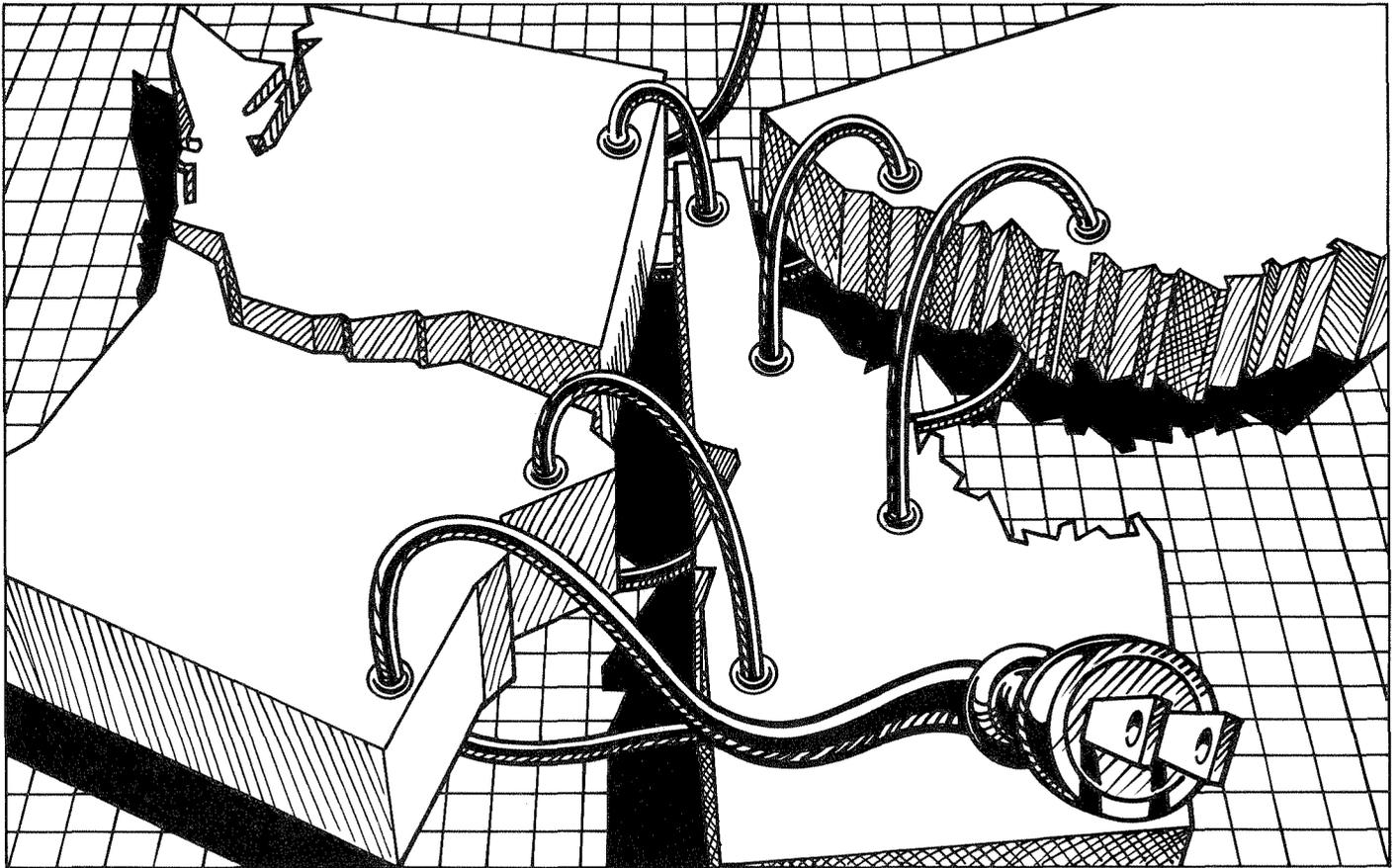
If you wish to present oral testimony at a hearing, please request a time slot at least five workdays in advance of the hearing. Time may be reserved by contacting (Ms.) Beata Teberg at the Council's central office, 1-800-547-0134 (in Oregon, call 1-800-452-2324).

Montana workshops scheduled

A series of public workshops will be held in Montana to consider some of the Northwest Power Planning Council's major energy planning issues. The workshops will be structured around small group discussions of the issues.

Workshops are scheduled for Butte on October 4; Dillon on October 25; Missoula on October 26; Libby on November 17; Kalispell on November 18. The workshops will run from 7:00 p.m. to 10:00 p.m.

For more information and to register for a workshop, contact Bernd Hoffman at (406) 449-3952.



Finally - the region signs on

Most NW utilities take BPA power sales contract offer

Finally the waiting game was over. After months of negotiations, some rhetorical rancor and various court challenges, most of the region's utilities and major industries decided they would enter the sweeping new planning experiment envisioned in the Northwest Power Act of 1980.

By the midnight August 28 deadline, 145 customers had turned in signed power sales contracts to the Bonneville Power Administration, the regional wholesaler of federal power.

The new 20-year contracts marked a major milestone in

the implementation of the landmark legislation which changed the charter of BPA, created a new regional power planning agency, and made conservation the top priority in getting new power developed.

Under the Northwest Power Act, BPA was required to offer new long-term contracts to its existing customers and any newcomers. Once the new accords were signed, there was finally a list of who would be playing — and who would not be playing — the power planning game spelled out in the law.

Given that list, the new planning agency, the Northwest Power Planning Council, must develop a 20-year forecast of the power demands of those customers and a plan to meet those requirements.

"Bonneville, the regional council, and the region's utilities can now move forward together — with a commonality of interest — to implement the remaining purposes and benefits of the regional act," said BPA Administrator Peter Johnson.

Under the contracts, BPA agreed to meet the present and future power require-

ments of various utilities and federal agencies and to provide power directly to a handful of energy-intensive industries on an interruptible basis. The contracts laid out the terms of the power sales, which rate schedules would apply (although not specifically what the rates would be), conditions for power curtailment if BPA should unexpectedly come up short, and a provision seeking cooperation with the Council in development of the plan.

Johnson said the federal power marketing agency received contracts from 115 pub-

lic utilities, all eight of the region's private utilities, 15 of the direct service industries and seven federal agencies. Six of BPA's present customers rejected the new contracts, preferring to hold on to existing agreements which would remain in effect for up to the next 10 years. Those customers were Pend Oreille County PUD, Mason County PUD No. 3, Pacific County PUD, and the cities of Centralia, Wash.; and Canby and Cascade Locks, Ore. Stauffer Chemical Co. of Butte, Mont., an industrial customer, also rejected the pact, saying it could strike a better deal with Montana Power Co.

The execution of the contracts brought to a conclusion months of speculation over who would actually sign and what impact the various lawsuits would have on BPA's revised customer list.

For example, following months of protests and speculation that Idaho Power Company might not sign, the Boise-based private utility finally penned a power sales agreement with BPA, saying it wanted to keep "in the mainstream" of regional power planning.

While Idaho Power won't immediately be buying extra power from BPA, Jim Bruce, company president, said the contract "puts us in a hold position for the benefits" of the Northwest Power Act. In fact, the utility could receive a \$4 to \$5 million reimbursement from BPA for its conservation efforts since the law passed in late 1980, Bruce said.

Bruce said the company wanted assurances from BPA that it would not be required to shift to "critical water" planning — which would reduce the projected power available from the company's Snake River dams — from the average water method mandated by the Idaho Public Utilities Commission. Bruce said the utility also sought, and received, a promise from the Council that the power sales contract would be used as the vehicle to implement the panel's Fish and Wildlife Program now under development.

Another surprise signer was

Montana Power Company, which serves much of western Montana.

Also among the last-minute holdouts was the region's largest municipally-owned utility, Seattle City Light. Seattle officials said the BPA contract offer gave too much control to the federal agency. City Light sought to have BPA lift a notice of insufficiency attached to its existing contracts — the notice issued in 1976 when the federal agency thought there would be an electricity shortage instead of a projected surplus — so it could continue receiving power under present terms.

When BPA balked, the city filed suit and won a temporary injunction extending the August 28 deadline. On appeal, however, BPA had the injunction overturned and, following a special Friday night session of the City Council, Mayor Charles Royer ended up signing a new contract anyway.

"I think we did OK," Deputy Mayor Bob Royer told *The Seattle Times*, after the city renegotiated some of the terms with Bonneville. Royer said the city is still concerned about BPA's proposal for a billing credits plan, a provision in the act designed to encourage local utilities to develop power resources. Royer says the city is afraid BPA's proposal may actually thwart the intent of the provision. He predicted the billing credit controversy would be debated before the regional power council as part of its master energy plan.

Council Chairman Dan Evans said he was pleased that so many parties signed the contracts and agreed to work with the Council.

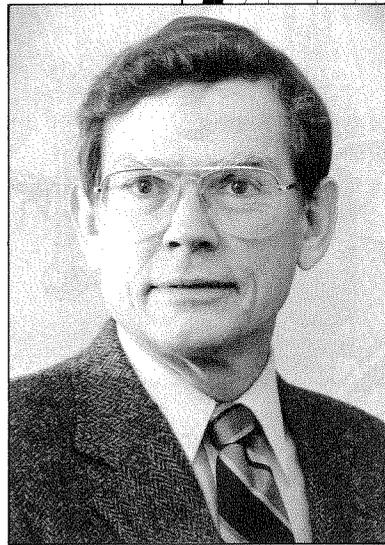
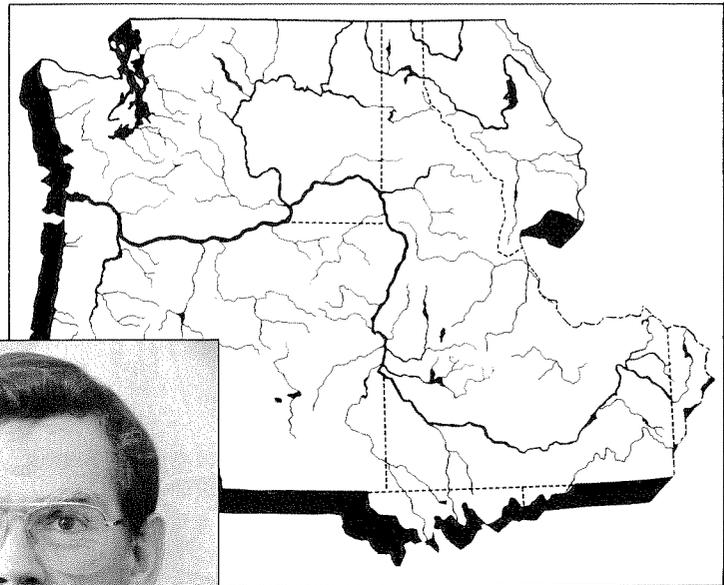
"The law has given us many innovative tools," said Evans, "not otherwise at our disposal — regional financing and implementation of energy conservation, a chance to restore the once bountiful fish runs of

the Columbia and its tributaries, and an open, independent public planning process to assure we have the electricity we need at the lowest possible costs."

Mueller views conservation

It may make sense to raise electric rates now to pay for conservation if it will save the Pacific Northwest money in the long-run, Gerald Mueller told an audience of energy officials in Kalispell, Montana.

Saying that the Northwest Power Planning Council is wrestling with how to plan for energy conservation at a time of near-term projected electricity surpluses, Montana Council Member Mueller reiterated the Council's dedication to



A commonality of interest: BPA Administrator Peter Johnson says that the region can now work together to implement the Northwest Power Act.

making conservation the basis for its energy plan to be released next spring.

"I think it is safe to say that the Council views cost-effective conservation as the most important resource in our regional supermarket," Mueller told the Consumer Services/Conservation Conference of the Northwest Public Power Association.

"Instead of placing all our eggs in the large, inflexible, long lead time resource basket, we intend, as our Chairman Dan Evans has said, to develop a supermarket of electrical resources. The shelves of this supermarket," Mueller described, "will be stocked with many different kinds of resources, from conservation programs to cogeneration projects to small hydro generators to prepackaged thermal plants. By creating a wide variety of flexible supply options, we can increase our ability to adapt to changing conditions and reduce the costs of inevitable forecasting error."

Of all these resources, Mueller said, conservation is the cheapest resource, is quick, and is labor intensive — an important characteristic at a time of high unemployment in the Northwest states.

Studies now underway for the Council will help determine what types of conservation programs may be a cost-effective buy in a time of electrical surpluses. Mueller speculated that long-term conservation such as designing energy-efficient buildings or buying energy-efficient major appliances could be good conservation purchases now. A program that increases our knowledge of conservation could also be useful, Mueller said. One such program could be the project in Hood River, Oregon. This program would test comprehensive, community-wide application of conservation measures at marginal costs for new power, instead of at average costs for both new and existing power.



The most important resource: Montana Council member Gerald Mueller reiterated the Council's commitment to conservation at a recent public utility meeting.

BPA boosts rates 60 percent

The Bonneville Power Administration announced a rate increase that will boost its average wholesale price for power from 1.13 to 1.80 cents per kilowatt-hour, or roughly 60 percent, for publicly owned utilities and for residential and farm customers of private utilities.

The rate request was forwarded to the Federal Energy Regulatory Commission (FERC). If FERC grants interim approval pending full review

of the filing, the increase will go into effect October 1, 1982.

Bonneville Power Administrator Peter T. Johnson said the overall increase in all rates is \$230 million less than was estimated in March.

"The most important factors affecting this significant reduction were a slowdown in the construction of Supply System project 1, a drop in the load forecast, and cost-cutting measures suggested by our customers," Johnson said. "These

factors enabled us to hold the increase in priority firm to 60 percent."

BPA adopted most of the cost-cutting measures suggested by its utility customers during an extensive public hearings process.

Johnson said the effect of BPA's proposed increase on retail rates will vary from utility to utility.

"BPA sells wholesale to retailing utilities," Johnson said. "Retail rates are a combination of an individual utility's operating, maintenance and power costs."

The proposed rates in fiscal 1983 are expected to increase BPA revenues from \$1.4 billion to \$2.2 billion, an increase of \$815 million or 58 percent.

Under the proposed rate schedules, the rate for BPA's direct-service industrial customers would rise from 1.73 cents per kilowatt-hour to 2.59 cents, an increase of 50 percent.

"The rate for direct-service industries is based on the cost of rate relief for the farm and residential customers of investor-owned utilities," Johnson said. "The direct-

BPA rate increase

Figures in cents per kilowatt-hour

	Old rate	Proposed	Final
Priority Firm	1.14	1.85 to 2.05	1.8
Direct Service Industries	1.73	2.1 to 2.25	2.59

Priority firm refers to power sold to public utilities and to private utilities' small farm and residential customers.

service industries will pay a higher rate in order to provide a higher level of rate relief to these customers."

Johnson also said that about 74 percent of the increase for utilities is due to BPA's obligation to pay costs of Washington Public Power Supply System plants 1, 2 and 3.

"BPA's wholesale rates are still among the lowest in the nation," Johnson said. "They are expected to remain so. In uninflated dollars, our rates today are about where they were in 1960.

"The low cost of power in the Pacific Northwest is and will continue to be an important economic incentive to the growth of our region."

Northwest residential rates are expected to stabilize after 1985. Most of the costs associated with the Supply System will have been incorporated into the rates by then.

The new rates will affect 125 utilities and other power purchasers and 16 industries who receive power directly from BPA.

Northwest aluminum producers, who make up the majority of BPA's direct service industrial customers, protested the large rate increase. Bonneville's preliminary rate proposal, issued in March, had placed the new cost at 2.2 cents per kilowatt-hour, up from the present rate of 1.73 cents per kilowatt-hour. The final increase was set at 2.6 cents per kilowatt-hour.

Harry V. Helton, vice president, Primary Metals Division of Reynolds Metals Company, said the new increase in power rates will have a "critical impact" on his firm's Northwest operations.

"High power rates coupled with reduced demand for aluminum have already forced Reynolds to sharply curtail operations and employment at our reduction plants at Troutdale, Oregon, and Longview, Washington," Helton said.

"These higher rates will make our Northwest plants less competitive, seriously delay the recovery of already depressed industries and discourage capital investment which would help economic recovery in the Northwest."

Brett Wilcox, executive di-

rector of Direct Service Industries Inc., said the industrial customers are more than willing to pay the cost of serving their load. He added, however, that "many costs have been improperly included in the direct service industries rate" and that "procedural fairness was violated in the Bonneville rate setting process." Wilcox said the industries are exploring all legal remedies.

Low-income weatherization effort launched

Puget Sound Power and Light Company and the Washington State Planning and Community Affairs Agency have launched a cooperative effort to weatherize low-income homes at no cost to the owner.

The utility and the state will seek to provide 100 percent of the cost of weatherizing 2,000 low-income homes the first year. The "partners" eventually hope to weatherize up to 25,000 low-income homes in Puget Power's service area.

Washington Governor John Spellman termed the joint project a "good example of what cooperation between government and private industry can accomplish for low-income people of our state. Conservation and weatherization are keys to our energy future."

Puget Power will provide 71.8 percent of the cost of weatherizing low-income homes through the company's regular cash grant program. The Federal Energy Assistance Program will provide the remaining funding through community action agencies in eight counties and the King County Housing Authority. The Washington State Planning and Community Affairs Agency will administer the federal pass-through funds.

The local agencies, Spellman said, will determine who qualifies for the program, and Puget Power energy auditors will establish the home's weatherization needs. After local agencies have completed the contract arrangements and the weatherization is finished, Puget Power inspectors will check the conservation measures. Once the community action agencies certify the work, the contractors will be provided funds through the joint program.



House-tightening help: A new utility — government program pays to weatherize low-income homes.

PNUCC to hold workshop

The Pacific Northwest Utilities Conference Committee will be sponsoring its fifth annual Model Input Workshop October 18 and 19 at the Red Lion Motor Inn/Jantzen Beach, Portland. The purpose of the workshop is to obtain public and utility views on key assumptions about the regional economy and population, assumptions which will be used in PNUCC's forecast of electricity use.

During the workshop, recognized experts will make presentations and answer questions on possible economic, demographic, and energy futures. Following the discussions, each participant casts an anonymous ballot reflecting his or her own assessment of the most likely future for each of the key variables.

Each participant's ballot will be used to "cross-check" PNUCC's more traditional "sum-of-the-utilities" load forecast as one means of checking its validity.

Idaho Power signs cogen pact

Faced with an Idaho Public Utilities Commission order, Idaho Power Company completed a power sales agreement in August to buy the output of a Wyoming cogeneration plant planned by Afton Energy, Inc., of Everett, Washington.

Afton Energy had filed a complaint with the Idaho PUC, stating that Idaho Power had refused for nine months to buy the power from the proposed 6.5 megawatt wood waste-fueled cogeneration project. Under the 1978 National Energy Act, utilities are required to purchase power from any independent producer who can deliver it to their system.

RECLAIMING A LOST NATURAL HERITAGE



Free Flowing: The Columbia River once rushed over falls like Celilo Falls, near where John Day Dam now is.

(From page 1)

mon and steelhead were permanently lost, and over the past 40 years the fish runs themselves have been nearly destroyed.

In passing the Northwest Power Act of 1980, Congress said it fell to this generation to reclaim a part of the region's lost natural heritage. As the region charted a new energy future, it would also seek to restore the fish and wildlife imperiled by the Northwest's numerous dams.

In mid-September, the Northwest Power Planning Council, the four-state panel charged with laying out a new order for fish and power development, released a draft fish and wildlife program for public comment.

The proposal, to be put in final form November 15, heralds a new era in the use and management of the Columbia and its many tributaries. While the program calls for scores of physical improvements to aid

the depleted fish runs, perhaps its most significant feature is a fundamental restructuring of the institutional relationships between fisheries and power interests. At last, an armistice has been declared, with fish *and* power accorded equal

The program calls for a fundamental restructuring of relationships between fisheries and power interests.

claim to the river's uses. In the words of one observer, "Congress said you can't have just an energy program. They said you have to correct the years of problems with fish, too."

To meet that mandate, the law directed the Council to develop a program "to protect, mitigate, and enhance the fish and wildlife, including related spawning grounds and habitats on the Columbia River and its tributaries, while maintaining an adequate, efficient, economical and reliable power supply." In addition, the law required the Council to develop the fish and wildlife program first so that from the onset it could be incorporated into the panel's master energy plan.

Organized around the life cycle of the salmon and steelhead, the program focuses on physical and institutional changes needed to aid the young fish around the dams and out to sea, then back upstream to their original spawning

*The rhythm of the life-cycle
was broken as dams were
built for irrigation and hydroelectricity*

grounds where the next generation of these fish are to be born. The program also deals with the problems of upstream resident fish remaining in the region's many rivers and lakes tied to the Columbia River System. It also addresses ocean fishing problems, natural and artificial fish production, and wildlife habitat. Perhaps most importantly, the program aims at creating a new partnership between fisheries and power concerns in planning and operation decisions about the river.

It hasn't always been this way. Generations ago, when Lewis and Clark explored the Pacific Coast, salmon and steelhead freely traveled the region's rivers. From spawning grounds as far inland as the Columbia River in British Columbia and the upper reaches of the Snake in southeastern Idaho, the young fish swiftly headed downstream to the Pacific. In the ocean, they would feed and grow for two to five years until their biological clock finally signalled their time to return to the rivers. With their amazing homing instinct, they would fight their way over falls and past other obstacles until they returned to their original spawning ground. There, they would lay their eggs — another generation of fish to begin their own life cycle. In sync with nature, this migration pattern provided an abundant supply of fish for local Indians and the wild animals and birds that would hunt along the river.

But the rhythm of the life-cycle was broken as dams were built for irrigation and hydroelectricity.

By the 1970s, the Columbia and Snake, and many of their tributaries, were dammed into a series of languid lakes. The flow of the river, once in time with the biological clocks of the salmon and steelhead, was placed in harmony with man's timetable; not the fish's. Massive reservoirs rose and dropped to the cadence of a technological society. For the fish, this manipulation of the river and the neighboring habitat was too much. With nature's life-cycle thrown off stride, the fishery declined.

Certainly, the hydroelectric projects weren't the sole culprits. Improved fishing methods meant ever larger numbers of fish were caught in the ocean and rivers.



The Beginning: The photograph shows the beginning of the salmon's life-cycle, the fertilized egg.

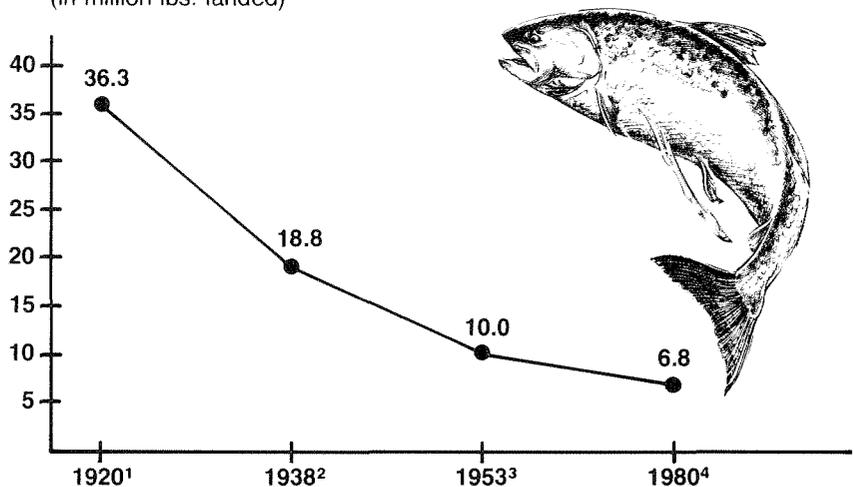
Irrigation and flood control projects also altered the environment where fish once flourished. But it was the hydroelectric dams, perhaps more than anything else, which threatened the ability of the fish to survive, let alone thrive.

Take Grand Coulee Dam. For years prior to the first federal project, the Columbia River had been the focal point of a growing debate. Some wanted the river tamed for navigation. Others wanted it tapped for irrigation. And still others wanted it harnessed for electrification. When Grand Coulee was completed in 1941, it stood 550 feet tall, backing up water for irrigation and producing some of the world's cheapest electricity. If Grand Coulee fulfilled the vision of the irrigation and power advocates, it also reflected the lack of concern about the river's fishery. Behind the awesome concrete mass thousands of acres of spawning ground were lost, cut off forever to fish migrating upriver. Some runs disappeared; others were nearly eradicated.

(Turn to page 15)

Columbia's declining fisheries

Annual in-river harvest (commercial and sport) of all species of salmon and steelhead (in million lbs. landed)

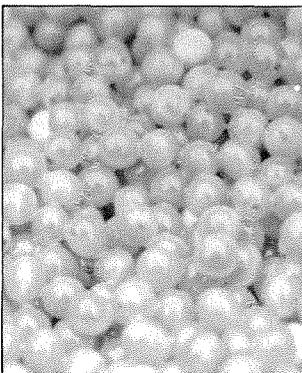
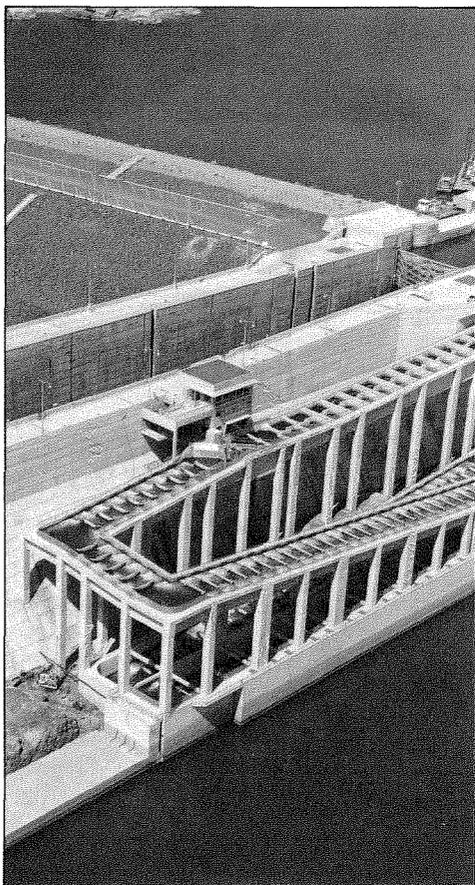
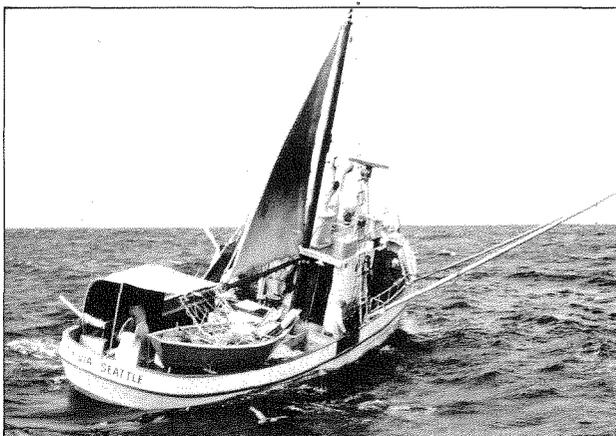
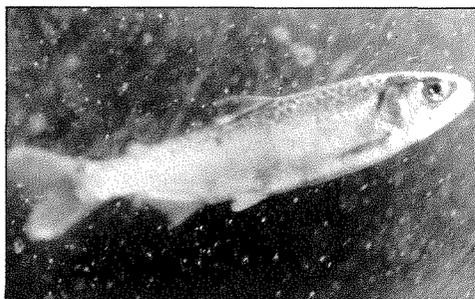


¹Prior to major dam development

²Bonneville Dam completed

³McNary Dam completed

⁴Most current figures available



Draft Program | At A Glance

The Northwest Power Planning Council's draft fish and wildlife program is drawn from 2,200 pages of recommendations and is composed of numerous specific proposals. To give our readers a quick look at what was recommended and what the Council is actually proposing, on the following pages we have grouped elements of the draft into 13 parts. If you would like a copy of the actual draft, please see page 24.

Water Budget

The Problem: The hydroelectric dams along the Columbia and Snake Rivers have artificially regulated each river. The dams provide storage reservoirs which store spring runoff for other periods when runoff is low. This allows maximum use of the runoff for generation of electricity. But another consequence is alteration of those essential conditions salmon and steelhead trout need for successful migration downriver to the ocean.

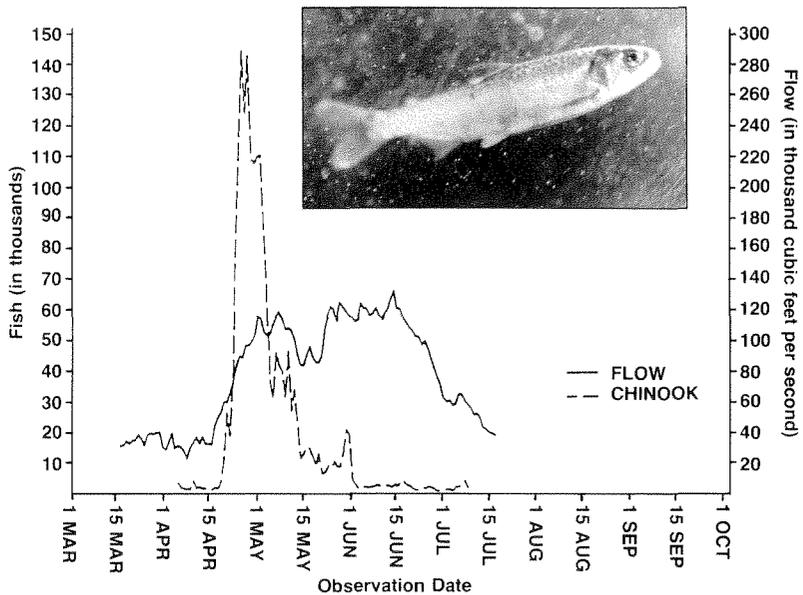
As spring runoff is held back for power, slower river flows increase the travel times for fish migration. Slower flows result in high water temperatures, greater disease, and greater exposure to predators.

The Recommendations: The fish and wildlife agencies recommended a sliding scale of minimum flows at the Snake's Lower Granite Dam, the Columbia's Priest Rapids Dam, and The Dalles Dam. The sliding scale would be raised to optimum flows when forecasted runoff increased. Thus, the fish would share with operation of the power system the benefits of high water in those years when the runoff was good. The tribes, however, said treaty obligations required the Council to adopt optimum flows independent of runoff.

Council Proposal: The Council proposes creation of an innovative river management device called a "water budget" to be used to help young fish travel downstream. Separate water budgets are proposed for Priest Rapids (58,000 cubic feet per second months) and for Lower

Fish and Flows

River flows vs. juvenile fish numbers at Lower Granite Dam, 1980. Water budget goal is to match the flow curve peaks to the fish curve peaks.



Granite (20,000 cubic feet per second months). Because stream flows at these dams determine the flow at The Dalles, no flow standard is set for that mainstem project. These blocks of water could be "shaped" during the critical migration periods of April 15 to June 15 and would be managed by the fisheries agencies and the tribes. The use of the water budget, however, would have to be con-

sistent with flood control requirements. If adopted, the effectiveness of the water budget for salmon survival would be studied to find out what, if any, changes were needed. Use of the water budget would result in a hydroelectric power production reduction of about 550 megawatts, or about 2.9 percent of the region's total power capability.

Bypass and Transportation

The Problem: Salmon and steelhead attempting to migrate down the Mid-Columbia and Lower Snake Rivers face several hazards. Grant, Chelan and Douglas County PUDs built their five Mid-Columbia dams with no bypass facilities. The Corps of Engineers also built Lower Monumental, Ice Harbor and John Day Dams without bypass facilities. Consequently, fish are drawn into power turbines where they can be injured or killed by the shearing action of turbulent water. The turbines also cause the fish to become disoriented, which makes them easy prey for squawfish waiting at the base of the dam or for watchful, hungry birds.

The Recommendations: The agencies and tribes recommended design and installation of bypass facilities at the eight PUD and Corps dams. They recommended spilling sufficient water in the interim to reduce fish mortalities during spring and summer migration. Grant County PUD and the Corps proposed study of transportation systems for fish around Priest Rapids (Columbia) and Lower Monumental (Snake). The agencies and tribes believe such systems will not be effective.

Council's Proposals: The Council proposes immediate implementation of an interim spill program for five Mid-Columbia dams. The draft program also calls for study and installation of bypass facilities at four of those dams. The Council

agreed to testing of a transportation system for Priest Rapids. The Council said it would examine the success of transportation and, if unsuccessful, bypass facilities would also have to be built at Priest Rapids. The Council also proposes direct participation by the agencies and tribes in the study, design, construction and evaluation of the Mid-Columbia bypass projects. The Council proposes to act as arbiter to settle any disputes which may arise among the several parties. The same kind of recommendations were accepted for the Corps' dams: immediate interim spills, and design and construction of bypass facilities, except at Lower Monumental, where the Corps would be allowed to complete testing of its transportation bypass alternative.

Ocean Survival

The Problem: Salmon and steelhead reaching the ocean must survive and thrive in numbers so they may return to their rivers and streams of origin to reproduce and maintain the fishery. Several obstacles in the ocean exist. Some of these are natural, such as changing weather conditions, food availability and predators. Other impediments are artificial, principally the increase of mixed stock fishing. Since the 1940s, more vessels troll for fish, and as harvests have

increased, fish naturally spawned have borne a disproportionate share of the consequences. Overfished, the natural stocks cannot be replenished until better controls are instituted on ocean fish harvests to resolve indiscriminate ocean taking of naturally born fish.

The Recommendations: The Council received no recommendations regarding ocean survival. The Council recognized the importance of this issue to the success

of its program to repair and care for the Columbia River Basin fishery.

Council Proposals: The Council proposes regular consultation with a number of agencies which have responsibilities for ocean fishing. Principal among these are the Pacific Fishery Management Council and the North Pacific Fishery Management Council which are the primary regulators of domestic ocean fishing. Others to be consulted would be the fish and wildlife agencies and tribes, the Salmon and Steelhead Advisory Commission, the states of Alaska and California and the U.S. Department of State. These consultations would aim to ensure coordination between the Council's Fish and Wildlife Program and ocean harvest management.

At present, the United States and Canada are negotiating an interception agreement, an effort by each nation to stabilize and protect its own anadromous stocks. Such a treaty would serve to augment the Council's efforts to protect, mitigate and enhance the Columbia River Basin fishery. Similarly, the Council will consider coordinated funding of implementation of appropriate portions of the Salmon and Steelhead Conservation and Enhancement Act of 1980 as a means to augment and support the objectives of its own Fish and Wildlife Program.



Upstream

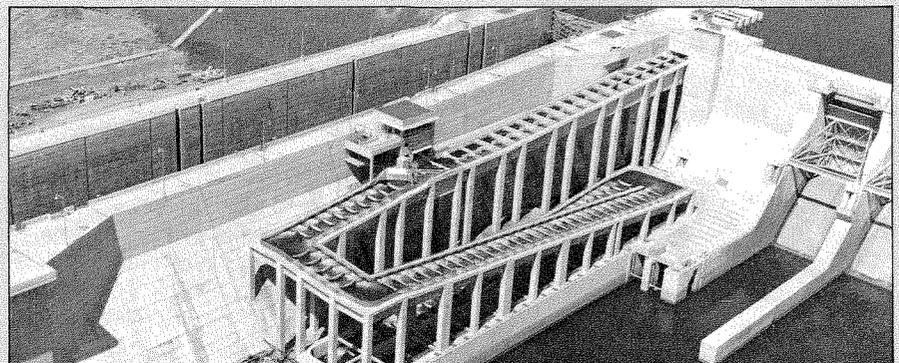
The Problem: Ocean fish returning to spawn in the Columbia River Basin face several serious hazards. Old fishways do not always improve upstream travel. Some fishways lack sufficient water levels to ensure fish passage. Spills and flows at the base of dams mask fishway flows necessary to attract upstream fish into the fishway passages. Poor design, maintenance and operation combine to further impede upstream migration. Overcrowding in some fishways can lead to spreading of disease.

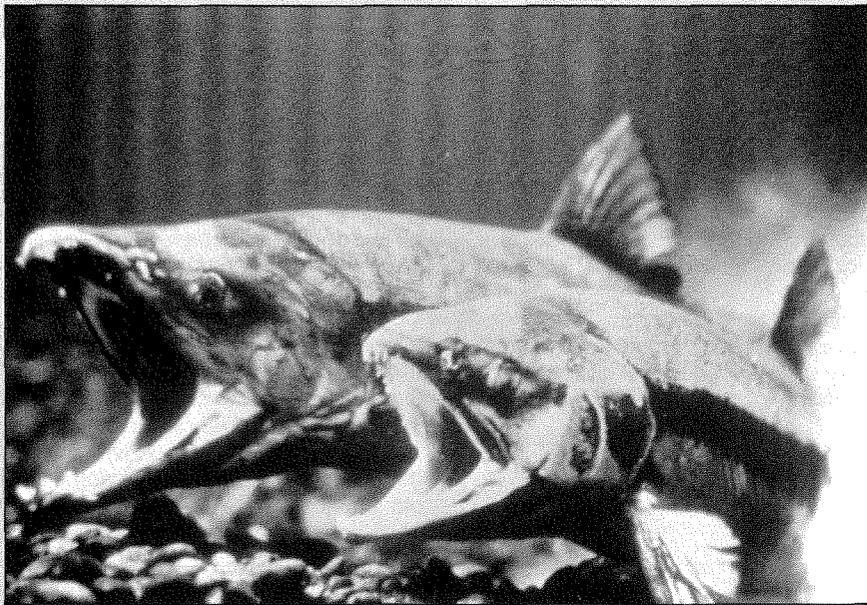
The Recommendations: The agencies and tribes recommended improving fishways both in design and in maintenance and operation. Additional studies were suggested, particularly with respect to problems associated with disease.

Council Proposals: The Council proposes specific studies to determine improvements in fishway designs, maintenance and operation, and other hazards,

along with specific completion dates. Studies would delineate spill and flow criteria for Columbia and Snake River Dams, particularly the Mid-Columbia dams. The draft proposes requiring the Corps to permanently solve problems associated with unreliable pumps that supply auxiliary water to fishways. Studies would be funded to establish criteria for fishway operations at the five

PUD Mid-Columbia dams. The Council proposes installing a facility to trap adult fish at Portland General Electric's Willamette Falls project in order to provide information on fish passage problems. The Council also proposes studies of passage problems at PGE's Clackamas River complex and Chelan County's Tumwater and Dryden hydroelectric projects.





Spawning salmon

Tributary Flows

The Problem: Small hydro projects and reregulation dams on streams and rivers throughout the Columbia River System cause flow fluctuations harmful to fish habitat. Juvenile fish require minimum stream flows year-round for migration and rearing. Returning adults also require certain minimum water levels to reach spawning grounds. Fertilized eggs need circulating fresh water to survive. Once hatched, the young fish need access to streambank vegetation for protection from predators.

The Recommendations: The fish and wildlife agencies and tribes recommended a series of specific minimum flow levels for the Columbia's tributary streams. In many instances they asked the Council to adopt the same flow levels already required by federal licenses for hydro projects. And they asked for continued study of tributary fish problems.

Council Proposals: The Council proposes accepting existing fish flow levels for Portland General Electric's Pelton and Round Butte Dams, Tacoma City Light's Mayfield Dam, and Pacific Power and Light's Powderdale Dam. The Council proposes continuation of flow studies for spawning and incubation below Priest Rapids Dam, and starting similar studies for Hells Canyon, Dworshak Dam, the Willamette and Lower McKenzie Rivers. The Council also proposes a study of potential dedication of unallocated water to meet fishery flows throughout the Basin.

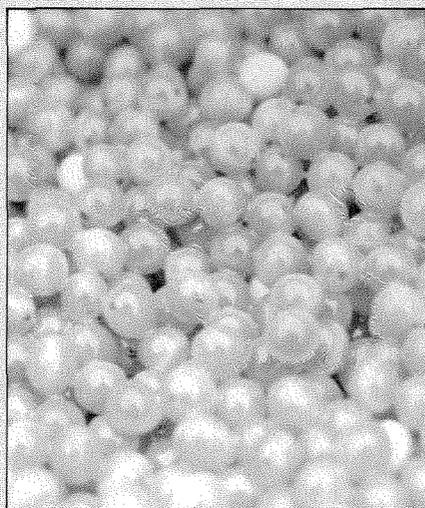
Natural Production

The Problem: Hydroelectric development throughout the Columbia Basin has damaged or eliminated much of the natural habitat fish need to reproduce. Changes in water levels in reservoirs, streams and rivers, loss of shoreline vegetation, and operation of hydropower facilities during spawning seasons all hamper the fishery's ability to reproduce naturally.

The Recommendations: The tribes and agencies recommended measures to protect mainstem stretches still free-flowing to ensure that the habitat remains unspoiled. These would apply principally to the Columbia's Hanford Reach and the Snake's Hells Canyon. The recommenda-

tions called for reestablishment of adult passage to tributary spawning grounds, and improvements to habitat well suited to spawning and rearing.

Council Proposals: Based upon the recommendations, the Council proposes a series of measures to enhance fishery habitat in the Columbia and Snake drainages with special emphasis on tributary enhancement. The measures include improved flows, spawning, incubation and rearing habitats, and new or restored access to reproduction habitats. The Council proposes an expert team to aid the Council in future decisions on natural production issues.



Artificial Production

The Problem: Production of hatchery fish has added large numbers of fish to the ocean fishery. Despite this, artificial production techniques have done little to increase upriver stocks, particularly in tributary regions. Hatcheries have tended to be large, with releases at relatively few locations.

The Recommendations: The agencies and tribes recommended improvements to existing hatchery operations, identification of new hatchery sites, and research to improve techniques for upgrading artificial production of fish.

Council Proposals: The Council proposes adoption of the majority of the tribes' and agencies' recommendations. The proposed measures cover selecting new sites for new hatcheries, new release sites for hatchery-reared fish, improving production at existing hatcheries, emphasizing better design and testing of low-cost hatcheries and techniques, and devising plans to integrate natural and artificial production of fish. The Council proposes an expert team to aid the Council in future decisions regarding artificial production issues.

Yakima Basin

The Problem: The demand for water to meet agricultural and fishery needs in the Yakima Basin is greater than the supply. As a consequence, flows are insufficient for both ocean-going and resident fish. In addition, inadequate fish ladders actually impede upstream migration.

The Recommendations: The tribes and agencies recommended enlargement of Bumping Lake east of Mt. Rainier to increase the Basin's supply of water. The agencies and tribes also recommended construction of new, improved fishways, improved operation of fishways, improved fish screening facilities, hatchery construction, and establishment of fish flows.

Council Proposals: The Council proposes enlarging the water storage capacity in the Basin, but has not endorsed any specific project. Based upon studies underway by the Bureau of Reclamation on additional storage and the U.S. Fish and Wildlife Service on a comprehensive Basin fish flow regime, the Council would



Irrigation is one of the many uses of water in the Yakima Basin.

consider the actual site of additional storage. The Council further proposes increasing efficiencies in irrigation practices and a reregulating dam to improve flows for fish. Once sufficient information is developed, the Council would consider fish hatchery construction in the Yakima Basin.

Resident Fish

The Problem: Resident upstream fish populations in the Columbia River Basin have suffered many of the same problems from hydroelectric operations as have anadromous fish which migrate to the ocean. Water releases from dams cause fluctuations in stream flows and reservoir levels. Such changes alter the aquatic habitat: regulation of stream flow interferes with spring runoff flows which clean spawning beds; changing reservoir levels at the shoreline deny fish access to food and refuge from predators. The result is dwindling resident fish populations.

The Recommendations: Recommendations to improve conditions for resident fish focused upon stream flows, reservoir operations and habitat quality. The majority of the recommendations, submitted on a state-by-state basis, came from Montana. With virtually no anadromous fish in western Montana waters, the state has a heightened concern for protecting and enhancing resident fish.

Council Proposals: The Bureau of Reclamation and the Corps of Engineers would be required to develop and carry out specific operating procedures for Libby and Hungry Horse reservoirs in

western Montana. These would include limitations on drawdown of reservoir water for hydroelectric purposes. Also, the Council proposes that BPA fund studies to determine the consequences of drawdown on resident fish populations. The proposed drawdown procedures, based upon the studies, would become permanent before November 15, 1987.

Early drawdown of reservoirs would be subject to Council approval to ensure that downstream fisheries and reservoir habitat were protected. Specific flow levels for the Flathead River below Hungry Horse Dam and purchase of water from the Painted Rocks Reservoir to protect the Bitterroot River would be established. The Council proposes to study the level of fishery enhancement necessary on Lake Pend Oreille and then build a hatchery if warranted. Other proposals were accepted to ensure that Program measures for resident fish would not conflict with those set for anadromous fish.

Wildlife

The Problem: The consequences of hydroelectric development for wildlife in the Columbia River Basin have been mixed. Irrigation projects, developed in conjunction with hydroelectric reservoirs, have provided some added nesting and wintering habitat. Both upland game birds and wildlife have benefited. Other fowl and wildlife have fared worse. Reservoirs inundated floodplains and shoreline habitats. Fluctuating water levels stripped some vegetation zones bare, leaving wildlife exposed to predators. Artificial changes to the land — construction of roads and buildings, draining and filling of wetland, stream channeling and shoreline riprapping, and transmission corridor siting and management have led to increased access to and harassment of wildlife.

The Recommendations: The agencies and tribes recommended an overall program to protect wildlife and wildlife habitat. The recommendations made clear that much more research is needed to develop such a program.

Council Proposals: The Council proposes that the tribes and agencies return to the Council by February 15, 1983, with a proposed comprehensive process for their participation in power system planning, management and operation. The Council also proposes funding the tribes and agencies to carry out additional research, including a status report detailing the data and conditions of wildlife habitat, systemwide mitigation plans (including land acquisition), and other studies focusing upon wildlife habitat issues. The draft calls for establishment of a wildlife coordinator position to ensure cooperation among the agencies, tribes and power interests. The new coordinator would also coordinate and monitor the implementation of the Council's wildlife measures.





Management Coordination

The Problem: As the Columbia River System was harnessed for electricity, maximum power production became the first priority for uses of the river. Fish and wildlife received secondary consideration, and their numbers were reduced as a result. Hydroelectric development in the Columbia River Basin was not, however, the sole cause of the degradation of fish and wildlife populations. But the Northwest Power Act contemplated remedial steps be taken to improve management and operation of the system's electric energy resources in balance with the needs of the fishery and wildlife habitat.

The Recommendations: Essentially, the agencies and tribes recommended that fish and wildlife considerations become part and parcel of the institutionalized management and operation of the power system. These recommendations include not only the provisions of the Northwest Power Act. They also include the Pacific Northwest Coordination Agreement (among public and private utilities) and the Columbia River Treaty (governing Canadian storage water).

Council Proposals: The Council proposes that provisions of the Fish and Wildlife program stand as "hard constraints" in the management and operation of the hydropower system. It also proposes other measures to assure that fish and wildlife needs are integrated into hydropower planning and that power interests, tribes and fish and wildlife agencies coordinate their activities.

Fish and Wildlife Committee

The Problem: The Council received many sound, well documented and complete recommendations. However, many other recommendations require further investigation, collection of information, analysis and thought. Much of this work will be funded by BPA. To ensure that the region's interests as a whole are served, this work needs to be commissioned and carried out from as independent a point of view as possible.

The Recommendations: The Council received no recommendation on this item. The Council recognized that many agency recommendations could have merit if supported by sufficient, reliable scientific data.

Council Proposals: Council proposes establishing a committee of the Council

to oversee all aspects of the Fish and Wildlife Program, including implementation of the program and design and coordination of research. One Council member from each of the four states would be named to the body, which would be established with adoption of the program, November 15, 1982. All actions of the proposed committee would be subject to approval by the full Council. The Fish and Wildlife Committee would receive funding by the Council and would have its own staff, with additional funding from BPA for additional work necessary to conduct the program. *Only* those measures approved by the Committee would be funded. And the Council proposes the Committee consult on a regular basis with the tribes and fish and wildlife agencies, the principal operating federal agencies, and BPA customers.

Future Hydro

The Problem: While individual hydroelectric projects may have little effect on fish and wildlife, the potential development of large numbers of these projects may have quite harmful effects. Regionwide, almost 800 potential projects are under study. Many are in the Columbia River Basin. Federal methods for licensing projects are now designed to review proposals on a project-by-project basis only.

The Recommendations: The fish and

wildlife agencies and tribes recommended Council involvement in Federal development and licensing of new hydroelectric dams in the Columbia River Basin. They proposed that the Council develop standards to ensure that cumulative impacts are considered and that adverse effects on fish and wildlife are mitigated. They also recommended that certain pristine streams be designated as critical habitat areas, protected from all future hydroelectric development.

Council Proposals: The draft program includes a study to develop methods to assess cumulative impacts of hydroelectric projects on fish and wildlife. The draft calls for regular Council review of hydroelectric development to ensure that new development is consistent with the Fish and Wildlife Program. The Council proposes a systemwide study of means to designate critical habitat areas. Certain priority areas would be protected while the study is carried out.

RECLAIMING A LOST NATURAL HERITAGE

(From page 8)

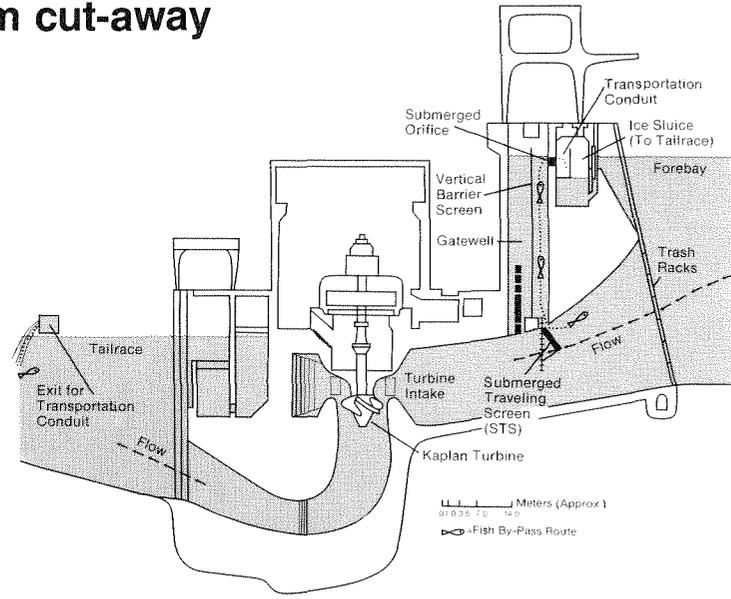
And upstream trout were affected, too. Reservoirs allowed changing water levels and temperatures, flooded spawning gravel, leaving the beds either exposed or inaccessible. In addition, the dams allowed the river to be manipulated, the flow altered as if the Columbia was a faucet and each dam-reservoir a giant spigot.

The dams could be literal killers. As the power turbines spun, fish were sucked into the turbine portals and the whirling blades. Those fish that did survive the tortuous trip through the turbines were often disoriented, easy prey for waiting predatory squawfish or birds. As the natural stocks dwindled, fish hatcheries were added to boost the raw number of fish in the river. With ocean fishing increasing, however, a disproportionate number of naturally spawned fish were being caught. For those adult fish which did elude the nets, the upstream journey proved just as threatening. Early fish ladders were poorly maintained and ineffectively operated. In some cases, they would become so overcrowded that disease would easily spread. Pumps that provided water flows to attract fish to the ladders and water in the ladders experienced chronic breakdowns.

Congress recognized the inverse relationship between the hydroelectric system and the fishery and wildlife habitat. As the former developed, the latter declined. For years, the fish and wildlife had been without a champion, without an advocate at the table where decisions about the use and the management of the river were made. John D. Dingell, a Michigan congressman and avid outdoorsman, was the Capitol Hill champion of fish. As one of the Hill's most powerful figures on energy matters, Dingell was also concerned about the fate of the fabled Northwest salmon and steelhead. To resolve his concern, Dingell inserted the fish and wildlife provisions into the law.

It was a historic turning point in the operation and use of the Columbia River System. By law, fish and wildlife considerations would be — in the terms of the river operators — a "hard constraint" on

Dam cut-away



the hydro system, one of those fixtures which had to be dealt with.

To develop the program, the Council was required to solicit recommendations from various federal and state fisheries agencies and treaty Indian tribes along the Columbia and its tributaries. Last No-

vember, the agencies and tribes submitted more than 2,200 pages of proposals. Following a series of March hearings, Council members and staff sifted through the proposals and testimony to place the recommendations in three categories: those proposed for adoption; those proposed for rejection, with reasons detailed in the appendix; and those proposed for adoption with modification.

The recommendations that went into the draft program (highlighted in the center section of this edition of *Northwest Energy News*) fall into actions the Council seeks to have taken immediately, those which will be phased in, and those which require more information before being implemented.

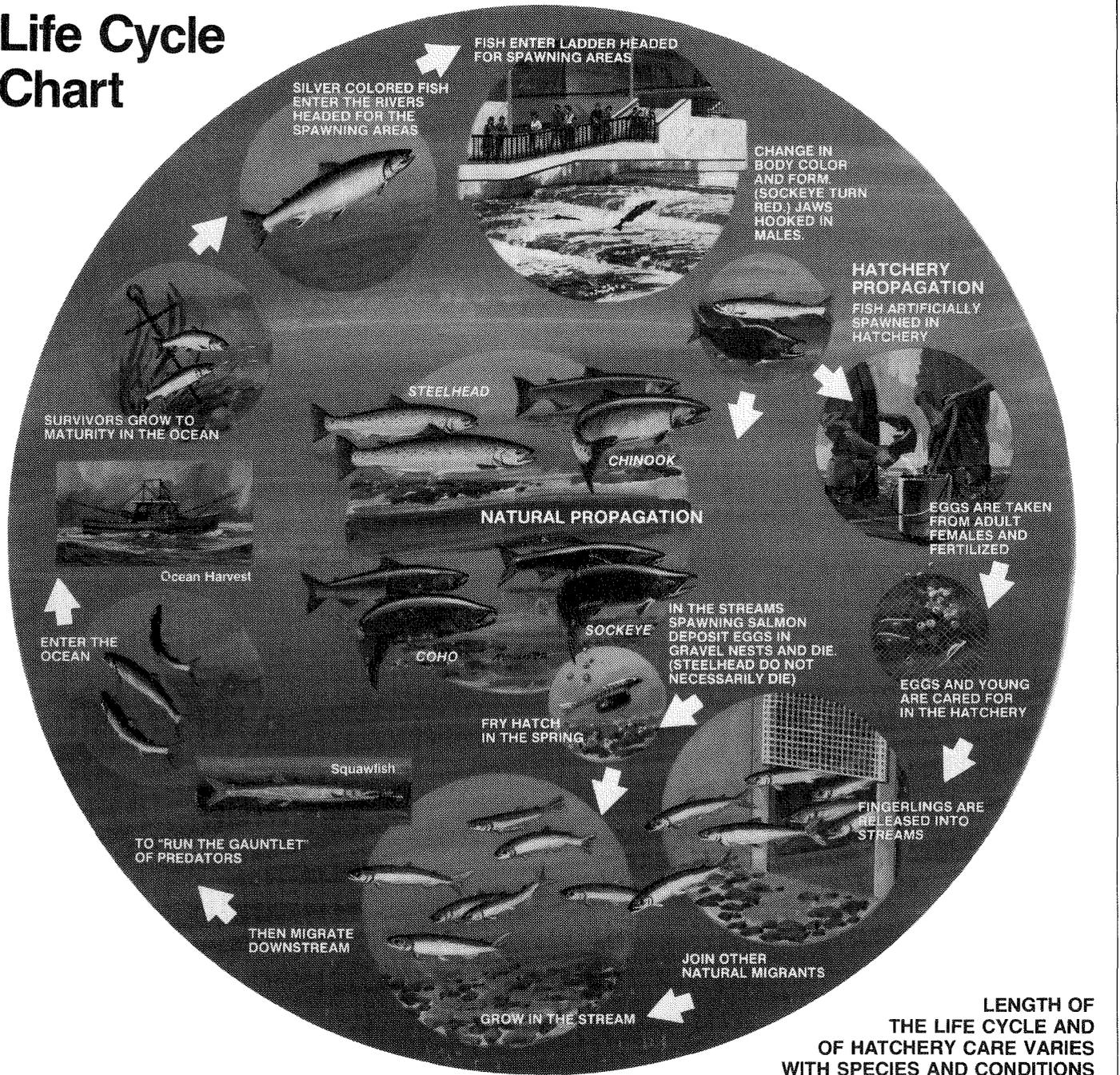
One of the most fundamental and innovative steps is the development of a water budget.

The water budget attempts to address two of the basic problems facing the fish — the physical problem of making the transition from fresh water to salt water in time, and the equal standing of fish in use of the river. The water budget would allocate a block of water which could be used during the peak migration period from April 15 to June 15 to accelerate river flows and carry the fish out to sea. The flows would be 58,000 cubic feet per second-month at



Augmenting runs: When the runs of natural fish began to decline, the region turned to fish hatcheries to augment natural stocks.

Life Cycle Chart



Priest Rapids on the Columbia and 20,000 KCFS-month at Lower Granite on the Snake. These blocks of water, to be managed by the fisheries agencies and the tribes, could be shaped to give the young fish the best chance of getting past the dams and the turbines. The key change, of course, is that the fisheries interests would finally have some influence over river operations.

And while the water budget may offer great promise, it is not without problems. Some utility and fishery officials wonder how the actual use of the budget will work. Council members acknowledge that the water budget may have to be refined as experience dictates.

In addition, like the dams once before, the water budget is not without a cost. The water budget along with other stream flow requirements could reduce the power production ability of the hydro system by 550 megawatts, or about a three percent reduction in the total regional power system. The cost of replacing this power, combined with the cost of all the recommended physical improvements, would run into the millions over a 20-year period and cost \$2 to \$2.25 a month for the average electric ratepayer, or less than the price of a Big Mac, large fry and a tall cola.

Yet, the good of the water budget and all the other measures could be for nothing if certain other steps aren't taken, says

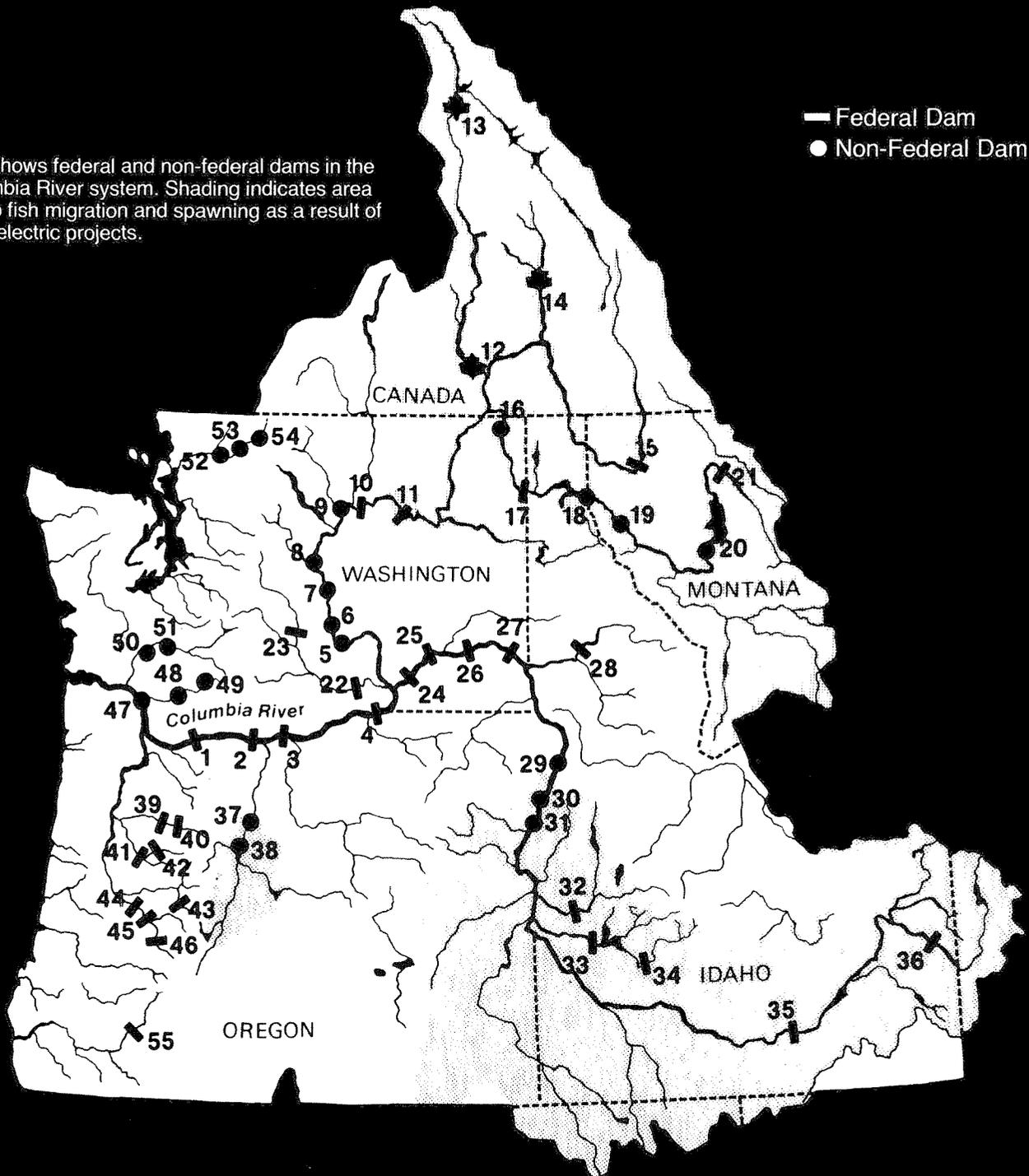
Council Chairman Dan Evans of Washington. Going the next step, says Evans, means better coordination between what's being done to help the fish in the river and the ocean fishing practices regulated by the Pacific Fishery Management Council and the North Pacific Fishery Management Council. The draft program proposes on-going consultation with both groups.

"It would be silly to build up our Columbia Basin fish stocks only to have them taken at sea, particularly by fishermen of other countries," says Evans.

Beyond better coordination, another concern, says Council member Charles Collins of Washington, is the eventual es-

Lost spawning grounds

Map shows federal and non-federal dams in the Columbia River system. Shading indicates area lost to fish migration and spawning as a result of hydroelectric projects.



- | | | | | |
|-----------------|------------------|---------------------|-------------------|------------------|
| 1 Bonneville | 12 Keenleyside | 23 Roza | 34 Anderson Ranch | 45 Lookout Point |
| 2 The Dalles | 13 Mica | 24 Ice Harbor | 35 Minidoka | 46 Hills Creek |
| 3 John Day | 14 Duncan | 25 Lower Monumental | 36 Palisades | 47 Merwin |
| 4 McNary | 15 Libby | 26 Little Goose | 37 Pelton | 48 Yale |
| 5 Priest Rapids | 16 Boundary | 27 Lower Granite | 38 Round Butte | 49 Swift |
| 6 Wanapum | 17 Albeni Falls | 28 Dworshak | 39 Big Cliff | 50 Mayfield |
| 7 Rock Island | 18 Cabinet Gorge | 29 Hells Canyon | 40 Detroit | 51 Mossyrock |
| 8 Rocky Reach | 19 Noxon Rapids | 30 Oxbow | 41 Foster | 52 Gorge |
| 9 Wells | 20 Kerr | 31 Brownlee | 42 Green Peter | 53 Diablo |
| 10 Chief Joseph | 21 Hungry Horse | 32 Black Canyon | 43 Cougar | 54 Ross |
| 11 Grand Coulee | 22 Chandler | 33 Boise Diversion | 44 Dexter | 55 Lost Creek |

*The program is a chance for the public
to assess the Council's ability to serve as a referee
between often conflicting sides . . .*

establishment of more specific, numerical goals for enhancing the fishery. Without a numerical target, says Collins, a significant tool of accountability will be lost. The draft program contains general conceptual goals with plans for developing more specific goals in coordination with the new Salmon and Steelhead Advisory Commission.

For the past several months, Council members have been meeting with fish and wildlife officials, dam-operating utilities, various Indian tribes and key federal agencies, such as the Bonneville Power Administration, the Army Corps of Engineers and the Bureau of Reclamation, trying to get a better sense of how to balance the needs of power and the needs of fish and wildlife. With little fanfare, the Council unanimously voted September 16 to release the draft program for public comment. Between now and October 25, the public will have a chance to submit written comments or present testimony at a series of mid-October hearings in the four states. By November 15, the Council will make any changes in the draft and adopt a final version. For the



Cautionary note: Council Chairman Dan Evans says it will do little good if the Columbia's fish runs are improved without improvement in ocean harvest management practices.

Council, the final program will be its first tangible product in the trilogy of a fish and wildlife program, a forecast of energy demand, and, finally, an energy plan next April 28.

For the public, it will be a chance to

assess the Council and its ability to serve as referee between often conflicting sides. And it will, perhaps, be a chance for all of the citizens of the Pacific Northwest to reclaim a natural resource intrinsic to the region which might otherwise be lost.



Council to listen: Council members will seek public comments from around the region in a series of public hearings to be held in October. The hearings will be held in Portland, Missoula, Boise and Yakima. For more details, see the Notice section of this newsletter.

Council planning schedule update

Energy plan issues to be considered

The Northwest Power Planning Council is entering a phase of considering and deciding major issues that will become part of the regional energy plan.

Each issue will follow the same process:

1. Council staff will write an issue paper to be distributed to the Scientific and Statistical Advisory Committee, state staffs, and interested parties.

2. Following review of the paper by the SSAC and others, the staff will write a decision memo for the Council incorporating comments received.

3. Staff will present the decision memo to the Council at one of the Council's regular meetings.

4. The Council will seek public comment on the decision memo by the close of the next Council meeting.

5. At the following Council meeting, one month after the initial presentation, the Council is expected to make a decision on the issue.

Following is a schedule of issues and decisions. Each issue is assigned a letter and a number. A = Forecasting issues; B = Conservation issues; C = Resources issues; D = Reliability of power system issues. A3, for example, is the third issue on the Forecasting list.

The various decisions are designed to lead to final decisions on the forecast range and the conservation and resource plan. A "portfolio" of the cheapest, most flexible resources will be part of the Council's regional energy plan.

The issues are explained beginning on page 20. THIS SCHEDULE IS SUBJECT TO CHANGE.

SEPTEMBER 16 MEETING

Staff Presentation:

- A1 — Economic and demographic assumptions
- C4 — Incorporating environmental impacts in resource plan

OCTOBER 6-7 MEETING

Staff Presentation:

- B4 — Rate designs as model conservation standards
 - B5 — Conservation program evaluation and selection
 - B6 — Agricultural conservation programs
 - B7 — Industrial conservation programs
- Public Comment closes on:** A1, C4

OCTOBER 20-21 MEETING

Council Decision:

- A1 — Economic and demographic assumptions
 - C4 — Incorporating environmental impacts in resource plan
- #### Staff Presentation:
- A2 — Fuel price forecasts
 - A3 — Double counting of conservation in forecast
 - A4 — Evaluation of key forecast model sensitivities
 - B8 — Fuel switching
 - C5 — Interregional exchanges
 - D2 — Power shortage costs
- Public Comment closes on:** B4, B6, B7, C5

NOVEMBER 3-4 MEETING

Council Decision:

- B4 — Rate designs as model conservation standards
- B6 — Agricultural conservation programs

- B7 — Industrial conservation programs
- C5 — Interregional exchanges

Staff Presentation:

- B9 — Building codes and model conservation standards
 - B10 — Surcharges (if, when, how?)
 - C3 — Constraints to development of resources
 - D3 — Aluminum ingot storage
- Public Comment closes on:** B8

NOVEMBER 17-18 MEETING

Council Decision:

- B8 — Fuel switching

Staff Presentation:

- C6 — Options — how will they work?
- Public Comment closes on:** B9, B10, C3

DECEMBER 1-2 MEETING

Council Decision:

- B9 — Building codes and model conservation standards
- B10 — Surcharges (if, when, how?)

Staff Presentation:

- B11 — Establishing conservation targets
 - C7 — Developing resource and option targets
 - E1 — Resource portfolio
- Public Comment closes on:** C7

Public comment and Council decisions on the resource portfolio and energy demand forecast are expected in late December and early to late January. The draft energy plan is expected to be released for public comment in late January. The final regional energy plan is due in April, 1983. THE ABOVE SCHEDULE IS SUBJECT TO CHANGE.

OCTOBER							1982	
S	M	T	W	T	F	S		
					1	2		
3	4	5	6	7	8	9		
10	11	12	13	14	15	16		
17	18	19	20	21	22	23		
24	25	26	27	28	29	30		
31								

NOVEMBER							1982	
S	M	T	W	T	F	S		
	1	2	3	4	5	6		
7	8	9	10	11	12	13		
14	15	16	17	18	19	20		
21	22	23	24	25	26	27		
28	29	30						

DECEMBER							1982	
S	M	T	W	T	F	S		
			1	2	3	4		
5	6	7	8	9	10	11		
12	13	14	15	16	17	18		
19	20	21	22	23	24	25		
26	27	28	29	30	31			

Upcoming issue papers

Following are brief descriptions of issue papers to be presented to the Council. To order a copy of a paper, use the form on page 24.

FORECASTING

A1 — Economic and demographic assumptions

What will the regional economy look like in the future? How many people will live in the Pacific Northwest? What will be the major industries? Assumptions for these figures will have an important effect on the forecast of electricity use. This paper outlines the assumptions to be used and explains the reasoning behind the assumptions.

A2 — Fuel price forecasts

The prices of oil and natural gas will help to determine how much of the region's energy needs will be met by electricity. A large price increase in natural gas, for example, would likely mean more use of electricity for home heating. This paper outlines and discusses a range of fuel price forecasts.

A3 — Double counting of conservation

Conservation savings may be achieved because of insulation programs, increased electricity rates, or tax credits or other financial incentives. It is important for the Council's forecasting models to avoid counting the savings from the different types of conservation more than once. This paper outlines a recommended analytic procedure to avoid double counting.

A4 — Evaluating key forecast model sensitivities

The forecast models used by the Council are very complex. Many factors interact in different ways in each model. The staff has tested the various interactions in order to understand how the models act and to be sure that they act in a reasonable manner.

CONSERVATION

B1 — Do we need avoided cost?

The Council may approach payment for conservation measures or resources in two different ways: (1) what the measure will actually cost (including environmental costs and benefits) to install and maintain; (2) what it would cost to buy another energy resource that could be "avoided" by

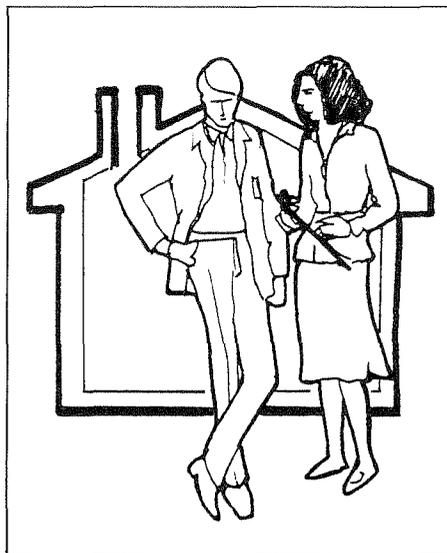
buying conservation or a cheaper resource instead. The first option may result in an offering price too low to achieve the desired amount of conservation. The second option may over-inflate the price of conservation, and is a more uncertain figure to calculate. This paper discusses the pros and cons of the two approaches.

B2 — What are conservation savings?

The Council has two major questions to address under this issue: (1) How accurate are estimates of conservation savings; (2) Should the region pay for efficiency improvements (*planned* savings) from conservation or for the *actual* savings which result?

B3 — Should we acquire conservation during periods of surplus?

Recent forecasts have suggested an energy surplus in the region for the next several years. Since the region may need no additional energy in the near future, does it make sense to acquire conservation? The answer to this question is affected by whether short-term or long-term costs and benefits are overriding. Depending on the analysis of long-term costs, the Council could conclude that no resources should be acquired during surplus, could acquire conservation and resources for some future need, or could acquire con-



Choosing conservation programs: When does education and information work best? When will incentives be most effective? What standards should be set?

servation for research and demonstration purposes.

B4 — Rate designs as model conservation programs

Electricity rates could encourage conservation if they were structured to reflect the high cost of building new power plants. The Council, following the Northwest Power Act, is to recommend various retail rate designs which encourage conservation. This paper addresses Council authority and options for rate designs: Should retail rates be one of the Council's model conservation standards? If so, which ones? Which retail rate designs, if any, should be eligible for billing credits? Should the Council recommend wholesale electricity rate designs to Bonneville?

B5 — Conservation program evaluation and selection

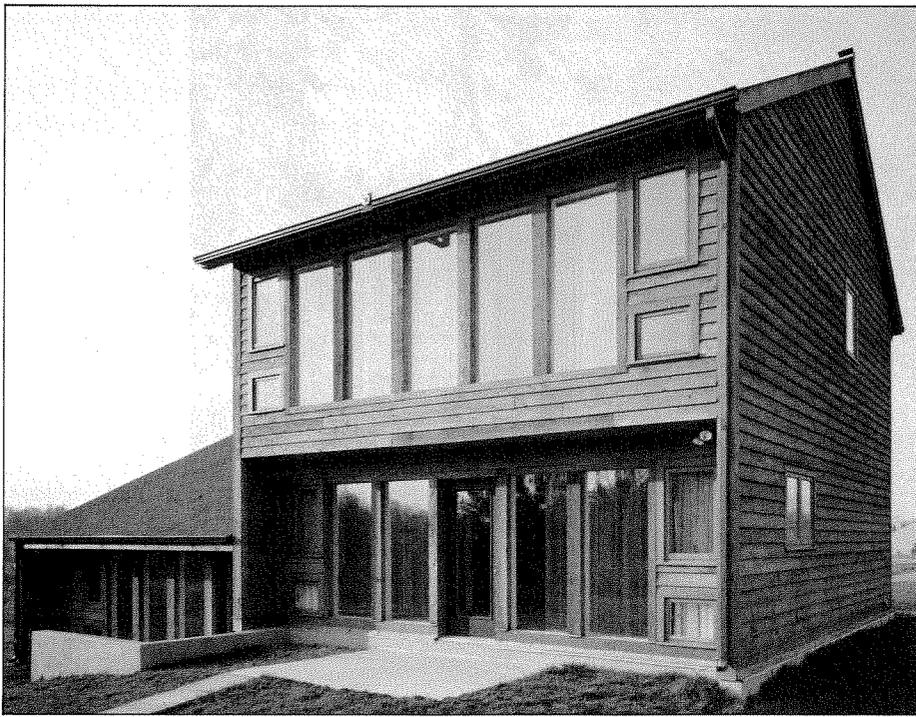
Conservation will be an important component of the Council's energy plan. This paper discusses Council options for conservation programs: How much detail should be included in conservation programs? What should be the role of the Bonneville Power Administration, utilities, state and local governments, and others in developing conservation? What are the best strategies (e.g., information, incentives, standards) to use to overcome specific barriers to conservation? What criteria, other than cost-effectiveness, should the Council consider in selecting conservation programs?

B6 — Agricultural conservation programs

Electricity for irrigation is the largest use of electricity in the agricultural sector, and is about 5 percent of the region's total electricity use. This paper explores potential programs for saving irrigation electricity, including pumping improvements, improved irrigation scheduling, and energy-saving systems for applying irrigation water. The paper evaluates potential electricity savings and constraints to agricultural conservation.

B7 — Industrial conservation programs

This paper addresses two issues with regard to industrial conservation: (1) How to encourage development of industrial conservation; and (2) How much industrial conservation to plan for? According to the paper, industrial conservation could



Building for conservation: The Council is required to develop model conservation standards for new and existing buildings.

be encouraged by conservation standards, the electricity rate structure, requests from BPA to industry for conservation programs, or benign neglect. Estimates of the conservation potential in industry could be developed by outside contractors or by industry itself.

B8 — Fuel switching — should we go get it?

This paper explores Council policy options regarding fuel switching. Should the Council encourage the use of other fuels to offset the demand for electricity? When should switching from electricity to other fuels be considered as conservation, and when as a lower priority resource? How might the Council influence choice of fuels?

B9 — Building codes and model conservation standards

The Northwest Power Act requires the Council to develop model conservation standards for new and existing structures. This paper will discuss possible types of model conservation standards that might be established to promote building codes that require energy-efficient construction.

B10 — Surcharges (if, when, how?)

The Council has the option of recommending surcharges for utilities, local governments, or other parties who do not adopt model conservation standards. This paper will explore criteria for deciding when to use a surcharge and how a surcharge could be calculated. It also explores the question of when incentives might be used instead of a surcharge.

B11 — Establishing conservation targets

The Council intends to set targets for conservation and recommend ways to meet these targets. This paper will discuss possible conservation for each sector.

RESOURCES

C1/C2 — Resource ownership and financing assumptions/capital availability and cost

In estimating the costs of power re-

sources, the Council will need to make assumptions about who will develop resources. A developer could be a public utility, private utility, or entrepreneur. Each faces a different cost of money, and each must be treated differently with respect to income taxes, investment tax credits, and energy tax credits, for example. The Council's resource plan will consider these different owners and their respective financial situations.

C3 — Constraints to resource development

What factors will limit the development of solar, geothermal, hydropower? How can landlords be encouraged to invest in conservation for rental property? The Council's energy resource plan must estimate what constraints will limit development of conservation and resources and what could be done to overcome these limiting factors. Council staff has outlined a number of problems facing each resource and possible solutions to these problems.

C4 — Incorporating environmental impacts in resource plan

The Council has responsibility under the Northwest Power Act for developing a method to quantify environmental costs and benefits. Some environmental costs, such as the loss of a human life or long-term effects of air pollution, are not easily assigned a price or number. This paper discusses Council policy options for quantifying these impacts and for using these impacts in evaluating the costs of energy resources.

C5 — Interregional exchanges — how much and what cost?

Exchange of power between the Pacific Northwest and utilities outside the region



To switch or not to switch: The Council may decide to encourage, discourage, or be neutral toward other fuels in its electric energy plan.

could be an important resource option for the Council. This paper will explore the possible amount and cost of potential exchanges.

C6 — Options — how will they work?

The Council has decided to prepare a flexible energy resource plan which uses both energy resources and "resource options." Options are conservation or resources which are planned and initial steps taken to acquire, then placed on hold until the region needs the resource. For example, a hydro project might be licensed now but not constructed until a few years down the road. This paper will discuss how options will work and alternatives for options.

C7 — Development of resource and option targets

The Council's energy plan will need to set targets for when and how much of each resource will be available. This issue paper will estimate potential targets and ways to achieve the potential.

RELIABILITY/POWER SYSTEM OPTIMIZATION

D1 — Fish and wildlife impact on hydropower

The Council's fish and wildlife program includes requirements for river flows that will have effects on the amount of power generated by the hydro system, how flexible the system will be, and the rate at which reservoirs refill with water. This paper discusses these effects and outlines future studies of the impacts.

D2 — Power shortage costs

A power shortage would have both economic and political costs in the region.



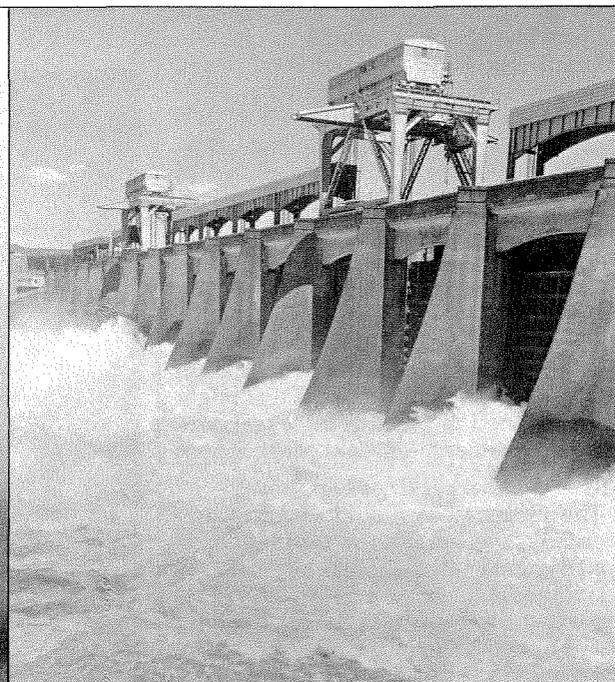
A price for beauty: Environmental costs and benefits must be considered in the Council power plan. Some are not easily assigned price or number.

The Council is exploring options to guard against the possibility of a power shortage.

D3 — Aluminum ingot storage

The Council is exploring the value to the region of purchasing aluminum ingots during periods of good water conditions and poor aluminum markets. These alu-

minum ingots would be exchanged for reduced electrical demand by the aluminum industry during periods of poor water conditions and good aluminum markets. This paper discusses the possible benefits and costs of this option.



A river of fish and power: The Council is considering the impacts the fish and wildlife program will have on the regional electric energy plan.

Comments on conservation

The Northwest Power Planning Council asked, "What do you think about conservation?" in the July edition of Northwest Energy News. Following is a sampling of comments received.

"I believe the Northwest Power Planning Council and BPA are putting too much emphasis on residential conservation and not enough on commercial and industrial conservation.

Some of the worst energy wasters are the older schools and commercial buildings. They should be encouraged to lower ceilings, close in large window areas, reinsulate, and change out old incandescent lights to more energy-efficient light fixtures."

— Jack B. Tobin,
Quincy, Washington

"I think energy conservation measures should be a major Council priority. ... (But) consumers of gas and oil heat are at a distinct disadvantage compared to electrically heated homes. Unless gas and oil heated homes are also made energy efficient, the electrically run forced-air fans will run a lot more frequently. Cutting out this segment of consumers from the "freebies" will only encourage a switch to electric heat. Consequently, a greater drain on the grid!"

— Delmar Price,
Olympia, Washington

"By educating people about the environment and their place in it, especially the responsibilities, I believe we could help people become more concerned. In effect, if we help people to CARE about the environment, then conservation will become a lifestyle and a way of thinking. Of course, this would not be limited to concerns of energy alone, but would influence and enhance one's total environment."

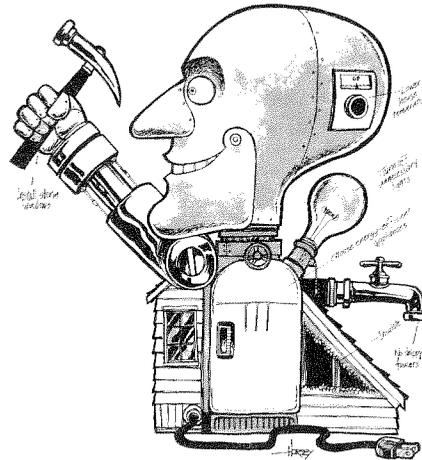
— Michael A. Piel,
Seattle, Washington

"I think the Regional Act in Section 6(b)5 requires BPA to acquire conservation even during a surplus."

— Interested Citizen

"We could be making an enormous mistake if conservation does not pay as well as we hope. By all means let's keep buying conservation-generated kilowatts, but let's use the 'worse case' figures until the report card on 'conservation-pays' is in.

— Thomas J. Mosher,
Spokane, Washington



"I propose that the rates be raised. I suggest an energy conservation tariff based on usage. This money could then be used, under the direction of the local utility, to make some of the houses that are wasting the most energy more efficient. The utility would, in a sense, be saving money for the homeowner. Those households who are already energy efficient wouldn't really be penalized and conceivably could even get a rebate.

Hopefully this will facilitate efficient use of energy and eventually save the homeowner money."

— Joseph Floyd,
Tacoma, Washington

"I am convinced that conservation is inevitable. It will come out of financial need rather than simple expediency. The trigger to the conservation will be public repayment of the total costs of the WPPSS projects."

— R. Taylor,
Beaverton, Oregon

"Metal cans use 5.78 percent of the electricity produced in the Northwest and are the fastest growing usage of aluminum. ... I suggest in the rate structure a disincentive to using aluminum in products with short term usage."

— Claudia C. Deibert,
Seattle, Washington

"I turn off my lights knowing I am turning on lights in my son's future. I turn down my thermostat to warm my pocketbook. I wash clothes in cold water to clean myself of past profligate ways. I renounce airconditioning as a Californian corruption of the Oregon way, and I bake only if company is coming.

"I am poor. Do the rich honor conservation with candles? If you use rates to 'encourage' conservation, don't penalize the poor by pricing us out of home heat. Raise the cost of energy for those who take weekends to the coast, dragging their boats behind their diesel Volvos, please."

— Unknown

"The energy successfully conserved by the commercial/industrial sector, beyond a certain base, should be identified and credited into an "energy bank." Establish a value for that energy which could then be used by the conserver for growth or sold to others for new commercial/industrial applications.

"Set the example by effective conservation in government managed buildings, processes and projects."

— J.M. LaVillette,
Seattle, Washington

"Utilize alternate fuels such as natural gas, which is in abundant supply. Electricity not used is in capacity saved or avoided."

— Unknown

"It is our youth who, especially, must be encouraged to investigate and adopt conservation as their lifestyle in the '80s and '90s. State superintendents of education, state and local school boards, and teachers must be challenged to incorporate more materials on the subject into the curriculum. More essay contests, energy-saving projects, etc., should be sponsored to induce every student and energy user to consider new conservation techniques and applications. If the lifestyle of our youth becomes more conservation oriented, our future energy problems will be more manageable."

— Leland E. Hess

To obtain documents,

check the appropriate boxes below. Enter your name and address in the blanks provided if there is no mailing label on the bottom of this page. If there is a mailing label, please check to be sure your address is correct, and make changes if necessary. Please print.

Name _____

Address _____

_____ Zip _____

Tear out this page and send to:

Northwest Power Planning Council
700 S.W. Taylor Street, Suite 200
Portland, Oregon 97205
Attn: Beata Teberg

MAILING LIST

Please place my name on your mailing list. I am interested in receiving:

- Council meeting agendas and Northwest Energy News
- Northwest Energy News only
- Council meeting minutes

Scientific and Statistical Advisory Committee

Please send me agendas and minutes for:

- All Subcommittees
- Conservation Subcommittee
- Fish and Wildlife Subcommittee
- Forecasting Subcommittee
- Reserves and Reliability Subcommittee
- Resource Assessment Subcommittee
- Executive Committee

DRAFT FISH AND WILDLIFE PROGRAM

- Please send me a copy of the Council's draft fish and wildlife program.

ISSUE PAPERS

Please send me the following issue papers. (Some issue papers are not yet available.)

Forecasting

- A1 - Economic and demographic assumptions
- A2 - Fuel price forecasts
- A3 - Double counting of conservation
- A4 - Evaluating key forecast model sensitivities

Conservation

- B1 - Do we need avoided cost?
- B2 - What are conservation savings?
- B3 - Should we acquire conservation during periods of surplus?
- B4 - Rate designs as model conservation standards
- B5 - Conservation program evaluation and selection
- B6 - Agricultural conservation programs
- B7 - Industrial conservation programs
- B8 - Fuel switching — should we go get it?
- B9 - Building codes and model conservation standards
- B10 - Surcharges (if, when, how?)
- B11 - Establishing conservation targets

Resources

- C1/C2 - Resource ownership and financing assumptions/capital availability and cost
- C3 - Constraints to resource development
- C4 - Incorporating environmental impacts in resource plan
- C5 - Interregional exchanges — how much and what cost?
- C6 - Options — how will they work?
- C7 - Development of resource and option targets

Reliability/Power System Optimization

- D1 - Fish and wildlife impact on hydropower
- D2 - Power shortage costs
- D3 - Aluminum ingot storage

ANNUAL REPORT

- Please send me a copy of the Council's annual report.

Northwest Power Planning Council
700 S.W. Taylor, Suite 200
Portland, Oregon 97205



BULK RATE
U.S. POSTAGE
PAID
PERMIT NO. 134
PORTLAND, OR