

Section 2

SYSTEMWIDE GOAL AND FRAMEWORK

The Northwest Power Act calls upon the Council to develop a fish and wildlife program designed to deal with the Columbia Basin as a system (see P.L. 96-501, Section 4(h)(1)(A)). The need for this approach was apparent in 1980 when Congress passed the Act. This need has become more urgent and increasingly complex with continually growing regional demands to provide more electricity, meet more out-of-stream uses of water, increase recreational opportunities, as well as provide sufficient quantity and quality of habitat for fish and wildlife.

The Columbia River Basin is a diverse set of local ecosystems interconnected by the rivers, streams and creeks that flow through the system. These local ecosystems are interdependent and made up of living and non-living components. They include plant and animal communities linked by predation, competition and other life cycle processes. These communities are the basis of diversity -- not only the diversity of species found in a system, but also the diversity or variation within each species in the system. This diversity is critical to short-term and long-term productivity in the system.

Managing the basin effectively requires a systemwide approach that recognizes the importance of the health of the natural system. It must take into account and balance human needs with limitations inherent in the natural system. This requires acknowledging short-term and long-term consequences or trade-offs in decision-making. It includes considering trade-offs between fish and wildlife resources and other uses of the basin as well as trade-offs between and among anadromous fish, resident fish and wildlife.

The Council recognizes that the Northwest Power Act provides it with limited authority in regard to implementing an ecosystem approach.

Simply stated, the Council cannot mandate a system approach to all resource users and managers in the Columbia River Basin. Even if it could, this approach would not succeed without the cooperation and participation of all of the basin's natural resource owners, users and managers. The success of a comprehensive ecosystem approach will hinge on extensive cooperation and initiative.

It is important to bring to this effort the best scientific insights on the health of the system. A periodic assessment of the ecological health of the basin is integral to this approach. This assessment should not be made unnecessarily complex. It should identify measures of ecosystem health to be analyzed as part of the system approach. It is important to monitor the system to ensure that negative impacts on resident or anadromous fish caused by efforts to protect one or the other are minimized.

2.1 SYSTEMWIDE GOAL: A HEALTHY COLUMBIA RIVER BASIN

The Council system goal is a healthy Columbia Basin, one that supports both human settlement and the long-term sustainability of native fish and wildlife species in native habitats where possible, while recognizing that where impacts have irrevocably changed the ecosystem, we must protect and enhance the ecosystem that remains. To implement this goal, the program will deal with the Columbia Basin as a system; will protect, mitigate and enhance fish and wildlife while assuring an adequate, efficient, economical and reliable power supply; and will be consistent with the activities of the fish and wildlife agencies and tribes.

2.1A Assess Ecological Health of Columbia River Basin

Council

- 2.1A.1 Explore methods to assess trends in system health. These methods should evaluate a reasonable number of factors for which ecosystem health information is readily available, but might include factors for which new information would be needed. If found feasible, this assessment will result in a periodic report on the ecological health of the Columbia River Basin.

2.2 SYSTEMWIDE POLICIES

2.2A Support Native Species in Native Habitat

The program preference is to support and rebuild native species in native habitats, where feasible. This means that remaining fish and wildlife habitat should be protected and restored to promote production of native species, especially habitat that supports weak populations of fish and wildlife. The Council also recognizes that in certain instances, such as the mainstem Columbia and Snake river corridors, fish and wildlife habitat has been altered so that some native species are ill adapted. In these instances, projects that enhance species adapted to the altered habitat may be appropriate and may in fact be the only available form of mitigation. However, any such action must follow a thorough evaluation of the consequences, if any, to existing native species or the practicality of restoration of native species.

2.2B Assess Program Measures

In order to promote a system approach, the Council will periodically assess program measures to identify conflicts and assess trade-offs in the

basin. This will include trade-offs between and among fish and wildlife populations as well as with hydropower, irrigation, transportation, flood control, recreation and other human activities in the basin. It also includes comparison of the costs of alternative means to achieve biological objectives and relative effectiveness of the proposed alternatives.

Council

- 2.2B.1 In consultation with the program implementors, develop a method to identify conflicts and assess trade-offs between and among program measures and basin activities by December 31, 1995.
- 2.2B.2 Continue to review program measures for purposes of prioritization, cost-effectiveness and biological effectiveness. Incorporate in this review the method to identify conflicts and assess trade-offs.

2.2C Share Costs

Relevant Parties

- 2.2C.1 The Council expects that relevant parties will use cost sharing, where pertinent, to fund measures called for in this program. Projects that mitigate the effects of non-hydropower caused problems (e.g., man-caused passage barriers in reservoir tributaries, fencing of overgrazed riparian areas and sediment control projects) are considered to be particularly appropriate for cost sharing.

2.2D Avoid Passage at Natural Barriers

Natural barriers block migration of fish populations in many parts of the basin. The most common barrier is a waterfall. Populations blocked include migrating anadromous (salmon and steelhead) and resident (trout, kokanee and

sturgeon) fish species. Over the past several years, the desirability of providing passage at natural barriers has been called into question. Introduction of new species into established systems can cause severe disruptions. Indigenous species can be eliminated or greatly compromised. Naturally blocked areas frequently provide genetic refuges and angling opportunities.

Relevant Parties

2.2D.1 Avoid further actions to provide fish passage over natural barriers.

2.2E Columbia River Basin Reservoir Operation and Accounting Procedure

Reservoirs in the Columbia River system are operated to benefit numerous purposes. These purposes can include hydropower production, flood control, recreation, irrigation, transportation, fish and wildlife and others. Currently it is not possible to easily determine the purpose of storage and release actions undertaken by river operators (see Section 2.2B). This creates considerable uncertainty and controversy. The basin needs a comprehensive, agreed-to accounting system for water storage and releases from basin reservoirs.

The final accounting system should provide information on which storage projects provided flow augmentation water, when it was provided, what volume was provided and what race(s) of fish the releases were intended to benefit. The design of the accounting system should include provisions to allow monitoring and evaluation studies. Structure of the accounting system should allow fish life-cycle models to be used to determine or estimate the biological benefit of flow augmentation. It should also accommodate the use of other biological models or mechanisms to determine the impact of flow augmentation releases on reservoir or river populations of resident fish. The accounting system should recognize and numerically account for each, including concurrent, use for which water is released, such as power sales, power exchanges,

flood control, irrigation diversions and others. Existing mechanisms used in water management should be reviewed for contribution to the water accounting system. These include, but are not limited to, computer planning models, mechanisms used to calculate headwaters benefit payments, procedures used to calculate the cost of water budget flows, or reviews of operations resulting from historic water budgets.

Bonneville, Corps of Engineers and Bureau of Reclamation

2.2E.1 Develop, in cooperation with other appropriate parties, an accounting system that will clearly identify the purpose and quantity of any release of water from any Columbia Basin storage reservoir by December 31, 1995. Thereafter, ensure that the accounting system is readily accessible to all interested parties on a real-time basis. Submit the accounting system to the Council for review and approval.

Bonneville

2.2E.2 Fund the accounting system after approval by the Council.

2.2E.3 Fund the activities in Section 2.2E.4 for all storage projects in the Columbia River Basin.

Fishery Managers, Bonneville, Bureau of Reclamation and Corps of Engineers

2.2E.4 Complete the following activities and submit reports to the Council by December 31, 1996:

- identify reservoir levels necessary to maintain or enhance fish and wildlife;
- analyze the relationship between drawdown limits and fish flow

- measures set for resident and anadromous fish in this program, including the water budget;
- develop alternative means to resolve any conflicts between drawdown limits and requirements for fish flows; and
 - determine and analyze the probable effects of drawdown limits on the power system and flood control.
- Effects elsewhere in the Columbia River system, including but not limited to effects on other biological species, on hydropower and on other uses of the river.

Relevant Parties

2.2E.5 Fund, as a high priority, all measures in the program that address reservoir operations, such as development of biological rule curves and determination of operational mitigation actions. These measures should be completed by December 31, 1996.

2.2E.6 In determining whether to establish biologically-based constraints on hydroproject operations, and in determining whether to adopt any proposed project-specific constraints, the Council will review proposals and documentation against the following criteria:

- Protection and rebuilding of weak native fish stocks and those stocks that are resident fish substitutions under this program.
- Protection of tribal rights to fish at usual and accustomed fishing places and ceded areas.
- Integration with power and flood control rule curves to share the consequences of low water years.
- Availability of satisfactory peer-reviewed science substantiating the linkages between such project constraints and protection of the stocks at risk.

Fishery Managers

- 2.2E.7 Address biological trade-offs between resident fish and wildlife species affected by upriver reservoir releases and anadromous species affected by flow augmentation. Report to the Council in April 1995.

2.2F Budget Planning Target for Resident Fish and Wildlife

Funding for resident fish and wildlife mitigation, having proceeded at low levels in the past, will be accorded a higher percentage of budget outlay in the future.

Council and Bonneville

- 2.2F.1 The resident fish section of the program contains specific projects that should be implemented. These projects should be completed in rank order over the next nine years as outlined in the measures -- by the end of the year 2003. Each year, the Council will review the annual implementation plan and work with Bonneville in its budget planning process to ensure implementation of the Council's program.

The Council believes that a level of approximately 15 percent for resident fish and 15 percent for wildlife (i.e., 15 percent of Bonneville's fish and wildlife project budget) reflects an appropriate budget planning target. These figures are approximations; year-to-year variations may occur. If there are not enough Council-approved projects ready for implementation in a given year, the 15-percent planning targets should not apply. The Council will review these targets in 1996, after the resident fish loss assessments are completed.

In setting these budget planning targets, the Council does not encourage selective or slowed implementation of

anadromous fish measures, nor does it expect unilateral decisions to amend or materially alter such measures. Full and efficient program implementation remains critical if the region is to do more than react to the Endangered Species Act.

2.2G Funding for Actions that Address Transboundary Species

In general, where mitigation measures are designed to benefit U.S. and Canadian populations, U.S. ratepayer funding should be in proportion to U.S. benefits.

Relevant Parties

- 2.2G.1 The Council calls for the development, funding and implementation of agreements between the fish and wildlife managers on both sides of the U.S./Canada border that recognize the mutual benefit of protection, mitigation and enhancement for transboundary species. Bonneville and the U.S. fish and wildlife managers should negotiate with Canadian entities through the appropriate channels to determine the U.S. share of funding on a per-project basis. Protection, mitigation and enhancement of transboundary stocks includes, but is not limited to, agreements about the management of water quantity and quality, such as reservoir operations, storage activities, instream flows and pollution control/abatement.

2.2H The Need to Learn from Implementation

In forging a program to address the needs of fish and wildlife in the Columbia Basin, the region faces the problem of resolving these facts: 1) prompt action must be taken to arrest the declines in many populations; and 2) the scientific basis for many actions is limited and often conflicting. This

conflict is recognized in the Power Act. Congress directed the Council to use the best *available* scientific information and not to await scientific certainty prior to acting.

Reflecting this charge, the Council has taken, and will continue to take, a number of significant actions on the basis of the available, and often limited, scientific information. The Council continues to recognize the need for prompt action despite scientific uncertainty. However, the region has made unsatisfactory progress on coupling these actions with evaluation to allow us to learn from their implementation. The Council emphasizes the need to improve the scientific basis for the program and to *learn* from the implementation of the program. This is reflected in the incorporation of the principle of adaptive management as a part of the 1987 Fish and Wildlife Program. The Council continues to find that this technique is the only rational way to deal with the conflict described above. Further, the Council expects that monitoring, evaluation and learning protocols will be in place and must be an integral part of planned actions about which there is significant scientific uncertainty.

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