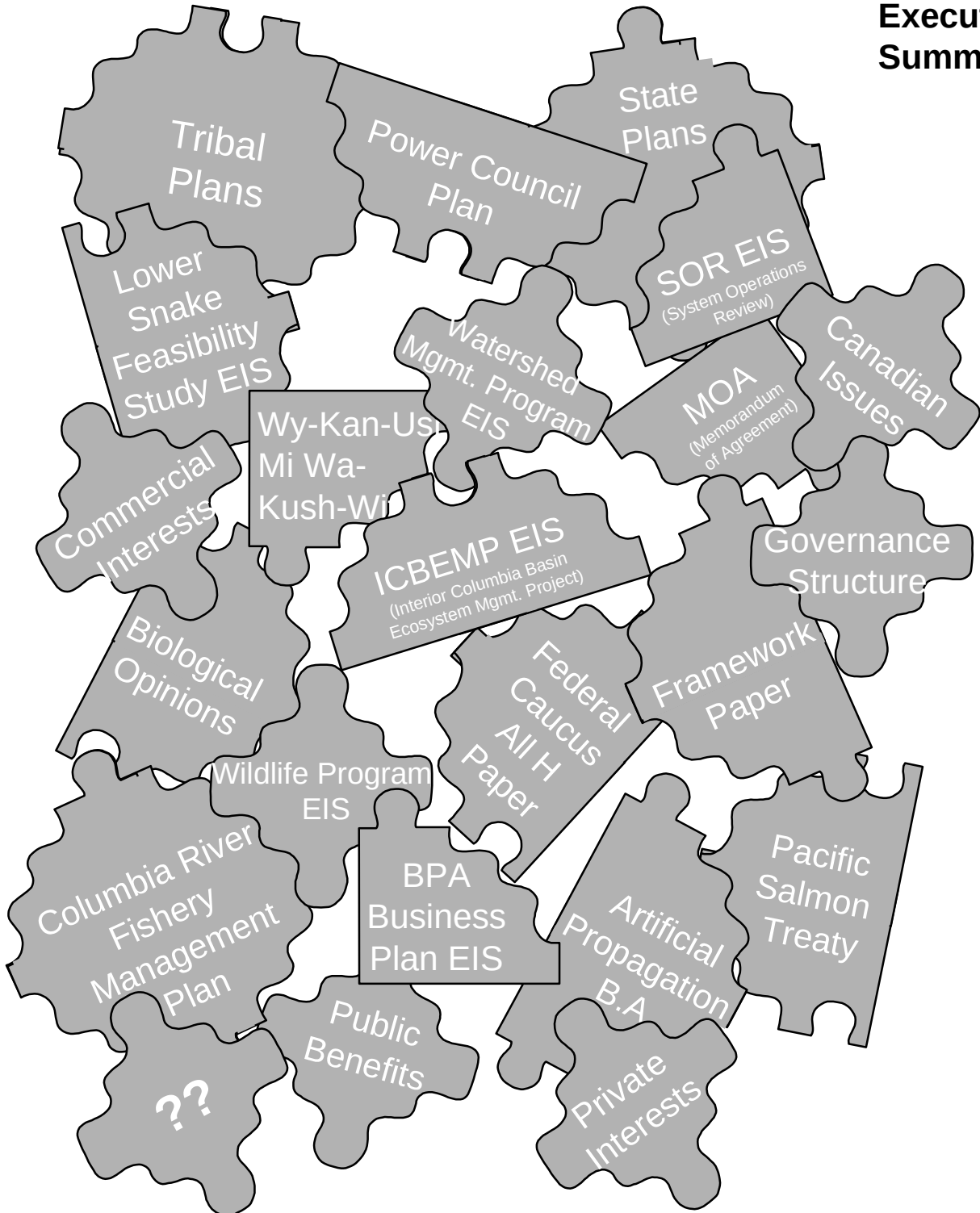
Bonneville Power Administration

Fish & Wildlife Implementation Plan Draft EIS

"Piecing The Puzzle Together"

Executive Summary



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"The significant problems we face cannot be solved at the same level of thinking we were at when we created them." *Albert Einstein*

BONNEVILLE POWER ADMINISTRATION

FISH AND WILDLIFE IMPLEMENTATION PLAN DRAFT ENVIRONMENTAL IMPACT STATEMENT

SUMMARY

Bonneville Power Administration (BPA) needs a comprehensive and consistent policy to guide its implementation and funding of fish and wildlife mitigation and recovery efforts.

INTRODUCTION

The Region

The Pacific Northwest has long prided itself on its bountiful and diverse natural resources—its forests and grasslands, minerals and rivers, fish and wildlife. The region has also relied on these natural resources to serve multiple, and sometimes conflicting, uses. But human uses can compromise and severely deplete these resources, even eliminate them. The independent demands of human uses such as irrigation, municipal water supplies, fishing, electric power production, recreation, flood control, and transportation have placed increasing stress on the natural resources of the Columbia River Basin. One consequence is that, over the last decade, the number of fish and wildlife species listed as endangered or threatened under the Endangered Species Act (ESA) has dramatically increased.

The region has sought to stem and even reverse the species decline. Unfortunately, after a decade of good intentions, there has been less progress than is necessary to reverse species declines. Here are the most important reasons:

(1) **Different groups have different value judgments about priorities, leading to different (and often conflicting) ideas about what recovery and mitigation should be.**

(2) **There is no clear scientific answer to the problem.**

(3) **Conflicting directives and jurisdictions of regional authorities have meant that funds dedicated to the fish and wildlife recovery efforts have often been used less efficiently and effectively than they otherwise could have been.**

Recently, regional entities have taken more steps to try to work together to develop a comprehensive and coordinated planning approach for species recovery and mitigation efforts. Any such effort would involve, for example, coordinating policies and programs under the ESA, the Pacific Northwest Electric Power Planning and Conservation Act (Regional Act), the Clean Water Act (CWA), and trust and treaty obligations with the tribes, along with other obligations. This effort is based upon the premise that all fish and

wildlife resources are interrelated parts of a singular ecosystem, and humans are integral components of the ecosystem through their many and diverse activities. Therefore, the needs of humans, fish, and wildlife must be addressed together and simultaneously. BPA supports this move toward a more unified planning approach, and is one of the many participants involved in this effort.

Bonneville Power Administration

BPA, a power marketing agency of the United States Department of Energy (DOE), supplies roughly half of the electricity used in the Northwest. The marketed power comes primarily from 31 federal hydroelectric projects (known collectively as the Federal Columbia River Power System, or FCRPS), as well as from one non-federal nuclear plant. BPA is a co-manager of the Federal hydroelectric projects, but it does not own or operate them. Such responsibilities belong to the U.S. Army Corps of Engineers (Corps) and the U.S. Bureau of Reclamation (Bureau). BPA does own and operate about three-quarters of the region's high-voltage electric transmission grid. BPA also promotes conservation and use of renewable resources.

BPA's fish and wildlife responsibilities spring from several sources:

- The Pacific Northwest Electric Power Planning and Conservation Act of 1980 ("Regional Act") extended BPA's responsibilities to include development of energy conservation resources and enhancement of the Northwest's fish and wildlife that have been affected by the construction and operation of federal hydropower plants in the Columbia River Basin. Under the Regional Act, BPA has specific duties:

  1) to protect, mitigate, and enhance fish and wildlife adversely affected by the construction and operation of the FCRPS, and

  2) to do so in a manner that provides equitable treatment for such fish and wildlife with the other purposes of the FCRPS.

- BPA also has specific duties regarding fish and wildlife under ESA:

  1) BPA must avoid jeopardizing listed species;

  2) BPA must comply with incidental take statements (see discussion of "jeopardy" and "take" in the description of the ESA in DEIS section 2.3.2.1); and

  3) BPA must use its authorities to conserve listed species.

- BPA also recognizes that a trust responsibility derives from the historical relationship between the federal government and the tribes as expressed in treaties, statutes, Executive Orders, and federal Indian case law. BPA is bound to uphold its share of the Indian trust and treaty responsibilities of the United States. The government's policy on trust and treaty responsibility to Columbia Basin tribes holds that the recovery of salmonid populations must achieve two goals:

  1) the recovery and delisting of salmonids listed under the ESA, and

2) restoration of salmonid populations over time to a level that provides a sustainable harvest sufficient to allow for the meaningful exercise of tribal fishing rights.

- BPA's own Tribal Policy, adopted in 1996, provides that BPA will consult with tribal governments to assure that tribal rights and concerns are considered before BPA takes actions or makes decisions that may affect tribal resources. Objectives of these consultations include:

  1) protecting tribal lifestyles, culture, religion, and economy; and

  2) striving toward mutually agreeable decisions reflecting a consensus.

The DEIS uses the phrase "mitigation and recovery" as shorthand for BPA's obligations to fish and wildlife under these and other laws.

The Regional Act created the Northwest Power Planning Council (Council) with responsibilities to develop a Columbia River Basin Fish and Wildlife Program. BPA must decide whether and to what extent it will provide the actual *funding of the Program*, through its ratepayer revenues. Ratepayers, through BPA, are currently spending up to $250 million annually for fish and wildlife. In addition, hydrosystem operation requirements for salmon recovery efforts have reduced power generation in the region by about 1,000 megawatts.

Although the Regional Act and ESA are those responsibilities perhaps most often mentioned in discussions involving BPA's fish and wildlife mitigation and recovery effort obligations, these statutes are but two of the statutes, regulations, and treaties that bear upon BPA's fish and wildlife mitigation and recovery efforts. Additionally, BPA is not the only Pacific Northwest entity with interests in, and activities affecting, fish and wildlife. Many other entities manage the Columbia River Basin's fish and wildlife resources, each with its own legal constraints, policy directives, and jurisdictional limitations. However, there is no agreed-upon regional plan for coordinating these mitigation and recovery efforts. This lack of coordination has serious consequences. For example, recovery efforts have experienced significant duplication and delay that detract from the region's ability to achieve a common goal, and ratepayer funds to support these efforts have been used less efficiently than is possible.

As the agency that, on behalf of the FCRPS, currently funds a large share of the fish and wildlife mitigation and recovery efforts, BPA believes that a comprehensive and consistent policy would foster coordination and efficiency in fish and wildlife activities in the region.

Recently, the Council's Multi-Species Framework Process, the Recommendations for the Protection And Restoration of Fish In The Columbia River Basin by the Governors of the four Northwestern States, and the Federal Caucus' Basin-wide Salmon Recovery Strategy (formerly referred to as the "All-H paper") have all emphasized the importance of

coordinated planning. Although science cannot yet point out a clear path, the region is working to arrive at a unified planning approach to mitigation and recovery of fish and wildlife populations. BPA must be prepared to supply the funds to implement the ratepayers' share of fish and wildlife mitigation and recovery efforts (including the funding efforts) under whatever Policy Direction is chosen. BPA must be prepared to respond whether:

- a policy is developed by a regionally unified planning effort (and subject to public input and review), or
- a default policy emerges through separately developed and executed individual agency actions: the policy path that defines much of the region's past and present situation.

THE FISH AND WILDLIFE IMPLEMENTATION PLAN DRAFT ENVIRONMENTAL IMPACT STATEMENT

> *An **environmental impact statement** is a document that presents analysis of the potential environmental effects of a major federal action and its reasonable alternatives. It is required by the National Environmental Policy Act (NEPA) when the consequences of that action may be significant. After public review and comment, the EIS is used by agency decisionmakers to select the best alternative for action to meet a defined need.*

BPA is preparing this draft environmental impact statement (DEIS) to examine the possible environmental consequences of its decision to implement and fund a Policy Direction for fish and wildlife mitigation and recovery efforts in the Pacific Northwest. These Policy Directions are reflected in the range of alternatives being considered in several key ongoing regional processes. BPA is preparing this DEIS now because (1) many species of fish and wildlife are already in serious condition (further delay must be minimized), and (2) BPA wants to be ready to respond promptly when a regional Policy Direction(s) is ripe for decision.

> ***Policy Direction:** the overarching theme that guides and shapes the decisions made by governments, agencies, or other public bodies regarding fish and wildlife mitigation and recovery efforts, applied through a series of actions that form an implementing plan.*

> ***Note*** *that BPA will select a Policy Direction, but any Policy Direction will be shaped by existing laws, regional processes, and other mandates that BPA must follow. These laws and mandates may change at any time in the future, as public opinion and priorities change, which could lead to corresponding modifications to any Policy Direction BPA may have chosen.*

Functions

This DEIS has three main functions:

(1) to evaluate the range of potential Policy Directions and possible implementing and funding actions that the region could decide to take for fish and wildlife mitigation and recovery efforts**,**

(2) to identify what specific path the Pacific Northwest most likely will take as a unified planning approach or as a series of independent actions by involved parties for fish and wildlife mitigation and recovery efforts in the region, and

(3) to determine the environmental consequences of BPA's implementation and funding of the actions that could emerge from that policy.

It is important to understand what BPA is *not* doing in this DEIS:

- **BPA is not developing its own Policy Direction alternatives.** The alternative Policy Directions described and evaluated in this DEIS are based on *alternatives developed by the existing policy initiatives within the region.* We closely studied the proposals submitted by all the major participants in the many processes underway, followed the development of key issues, and sorted and grouped the ideas together by overall theme. We developed five Policy Directions, plus Status Quo, that range across a wide spectrum of options.
- **BPA is not unilaterally selecting a Policy Direction.** Rather, this DEIS provides analysis of the full range of regional alternatives so that a funding and implementation strategy may proceed *regardless of the alternative policy chosen*. A Policy Direction will be an outgrowth of several regional processes, whether those processes harmonize around a specific approach or diverge through independent regional actions. However, if the region fails to agree upon a single Policy Direction, BPA must still implement and fund a fish and wildlife mitigation and recovery effort strategy.

BPA recognizes it must take action in response to a fish and wildlife policy, however it emerges. Successful implementation of the Policy Direction selected through various decisions will require quick and definitive actions if further declines in fish and wildlife are to be avoided. Although this DEIS is intended for BPA decisionmaking, the analysis may also make it valuable for other regional entities that may adopt it as part of their own decisionmaking.

Purpose and Need

BPA needs a comprehensive and consistent policy to guide the implementation and funding of its fish and wildlife mitigation and recovery efforts.

BPA has an initial obligation in this DEIS to fulfill its National Environmental Policy Act (NEPA) requirements for understanding the environmental consequences of its actions (funding and implementing any Policy Direction) before decisions are made. This NEPA compliance will allow BPA to:

- avoid delays in taking effective action, and
- provide an opportunity for public involvement for interested parties.

There are also some more specific purposes BPA must consider. This DEIS must evaluate the alternative Policy Directions in terms of their consistency with federal and state laws, needs and responsibilities. BPA will use the purposes listed below as "yardsticks" to compare how well the alternative Policy Directions meet the agency's need:

- **Facilitate** implementation of a regional unified planning approach for fish and wildlife mitigation and recovery efforts that will improve: coordination, efficiency, and consistency.
- **Fulfill** statutory, legal obligations under the Regional Act; especially BPA's obligations to: protect, mitigate, and enhance fish and wildlife, and provide a reliable, adequate, efficient, and economical power supply.
- **Fulfill** the Administration's Fish Funding Principles such that BPA meets all of its fish and wildlife obligations, once established; takes into account the full range of potential fish and wildlife costs; demonstrates a high probability of Treasury repayment;[1] minimizes rate effects on power and transmission customers; adopts rates and contracts that are easy to implement; and adopts a flexible fish and wildlife strategy.
- **Fulfill** other obligations under other applicable laws, including federal treaty and trust responsibilities with regional tribes, the Endangered Species Act, the Clean Water Act (CWA), and the National Historic Preservation Act (NHPA).
- **Promote** predictable and stable fish and wildlife costs and competitive rates, enhancing BPA's ability to provide funding and remain competitive in the electric utility marketplace.

[1] Treasury repayment is a payment BPA makes annually to repay 1) monies BPA has borrowed from the US Treasury and 2) appropriations to the Corps and Bureau for the share of capital construction allocated to the power purpose of the hydrosystem.

BACKGROUND

Emergence of Fish and Wildlife Policy

Public policy—principles that guide and shape decisionmaking by a controlling authority—is as old as civilization. Native American settlements occurred widely across the Pacific Northwest, shaped in many cases by the natural resources that supported their lives—fish and forest- or plains-dwelling animals; water for drinking, fishing, or transpor- tation; forests and plant materials. Each tribe developed its own unique cultural adaptations and its own spoken traditions regarding the use of resources to support tribal life. Survival depended on use of the natural resources and on elaborate trade networks. For a number of Pacific Northwest tribes, salmon were at the heart of an entire way of life, not only as food source but also as spiritual center. Part of this cultural view saw land as sacred, something never to be actually owned, although human occupants might serve as its guardians or custodians. Consequently, when European explorers (and later settlers) came to the Columbia Basin, they found a relatively stable balance of abundant resources that had readily supported growing tribal populations for thousands of years.

Euro-American settlement and development of the West occurred in response to two factors: the presence of ample natural resources and the evolution of federal land policies. Non-Indian settlers obtained and marketed those resources that had previously been harvested for subsistence. The concepts of owning land and of harvesting to meet ever-expanding commercial needs significantly differed from the implicit policy followed by Native Americans: the shift in policy changed the environment, and profoundly diminished both tribal well-being and tribal access to natural resources they traditionally used. Conflicts over land ownership, exploitation of resources, and a host of related issues with particular significance for Native American peoples came to dominate relationships, as more immigrants were encouraged to settle land, and Native Americans were encouraged, or forced, to accept smaller and less desirable pieces of land as reservations. Although several tribes did successfully assert their fishing rights, those rights were less successfully exercised as development of the basin proceeded. In the meantime, both the landscape and resources changed dramatically.

In the nineteenth century, fish and wildlife policy came more under the control of the immigrants and their governing bodies. Focus shifted to control of the territory, displacement of Indian tribes, settlement (and later withdrawal) of lands, government ownership of lands, extraction of natural resources, harnessing of the rivers for irrigation and flood control, and, moving into the twentieth century, development of hydroelectric power. Over the decades, populations of animals and fish dropped dramatically—beavers, for instance, were hunted almost to extinction when beaver hats became the fashion. Salmon were harvested by the ton as technology made possible fish wheels and netting techniques that removed many salmon headed upstream for spawning from the population, thus sharply reducing, year by year, the numbers of returning salmon.

When the results of such commercial exploitation were added to the parallel extraction from mining, logging of timber, and agriculture, the federal government began to

recognize that the resources were finite. Near the end of the nineteenth century, federal interests began a shift in policy direction: from exploration and development to retention and management of these lands—keeping them under the wing of the government itself. However, regulations to curb excessive extraction were seldom or poorly enforced, and the government itself provided the muscle behind the development of hydroelectric power through a series of great irrigation and hydroelectric dams begun in the early 1900s and built into the 1970s. In the face of the deep and extensive Depression, a strong nation was the goal, and electric power and building programs were one way to support the country. Flood control reduced damage and danger to the growing human populations, and irrigation enabled poor lands to be farmed to supply more food for the nation.

But dams had (and continue to have) an enormous effect on downstream and upstream migrating fish as well as wildlife and their habitats. Miles and miles of salmon spawning habitat were blocked by the construction of dams in the Columbia River Basin. The swift cold flow of rivers that sped juvenile anadromous fish to the ocean was slowed; the great dams formed reservoirs (artificial lakes) that warmed and slowed the water, delaying the young fish and making them more vulnerable to predators. Returning adult fish struggled to reach their birth waters to spawn, an increasingly exhausting journey past some dams with fish ladders, and an impossible quest where all access was blocked. When the first great Federal hydroelectric dams were built on the Columbia River, legislators recognized that effects on fish would be negative, but chose to support the human population regardless of that resource impact. The native fish diminished. The raptors and terrestrial animals that fed on them diminished. Wetland habitat that supported some water-dependent animals disappeared.

Some attempts to mitigate for these losses began in the late 1940s, with the passage of the Mitchell Act, which was authorized by Congress to build hatcheries to offset fish losses. But not until the 1970s did the passage of environmental laws such as the Endangered Species Act, the Clean Water Act, and other environmental legislation signal a new approach to fish and wildlife policy. In addition, there was a legal affirmation of Indian treaty fishing rights. With these laws, the natural resources of the Pacific Northwest—and particularly the fish and wildlife— began to be viewed as equally important as the many human-centered uses (flood control, navigation, irrigation, electric power production) for which the river systems had primarily been managed throughout the previous century.

These acts, and others, plus the increasing interest of people of the Pacific Northwest and of governments at many levels, have assisted in lessening some of these impacts. But two basic problems remain. First, science does not have all the answers, and impacts continue—and are particularly worse, in years where natural conditions such as flood or drought add their weight to the human effects. And second, the number of interests, coalitions, and state, tribal, local, and federal government agencies with interests in and mandates for action has multiplied over the years. In following their mandates, however, their focuses and approaches often conflict. Here are a few examples:

Current Policy Conflicts (Sample)		
Policies that encouraged settlement and taking of tribal land		Tribal treaties to preserve certain land for tribes
Policies that allowed depletion of fish runs		Tribal rights to fish for salmon
Policies that encouraged resource extraction and production—mining, hydropower development, USFS multiple use, BLM grazing, and homesteading	*versus*	Later policies for environmental protection, including the ESA and CWA
Acts that define the purposes and priorities of the Corps, Bureau, USFS, BLM, and BPA (in BPA's case, the Regional Act)		The ESA, which requires federal agencies to operate to protect endangered species
Federal treaties and state policies that allow harvest or indirect take of endangered species		The ESA, which prohibits take
Policies that recognize private property rights		ESA take and critical habitat provisions that limit private property rights
Policies to reduce costs and increase market forces in the power industry		Environmental policies (ESA, FERC, CWA) that increase costs and limit the flexibility of power producers and transmission providers to respond to market forces
Policies that support hatcheries for mitigation and lost harvest opportunity		Policies that discourage hatcheries that may compete with native fish
CWA dissolved gas standards		Spill to move fish down river
Protection of endangered species (e.g., salmon)		Protection of marine mammals (e.g., sea lions or seals)

With the range of different interests and interest groups, their respective mandates, and the conflicts that arise among them, there is no efficient way to sort out priorities or to make good progress to support and sustain fish and wildlife. Fish and wildlife policy, over time, has evolved from use for sustenance, through exploitation, to a beginning of a more balanced view of the interrelationships of all living things that make up the human environment. The Pacific Northwest has reached a point in policy evolution where it needs a guiding framework to help all interests decide how best to spend the (limited) funds to support our natural resources. To arrive at a comprehensive and coordinated policy, we must first understand where we've been and next, define and decide on the choices as to where we want to go.

Major Participants

It is important to understand the many interests in Pacific Northwest fish and wildlife: the participants and the processes now going on in the region. Major participants include the following:

- **the Executive Branch (President and Executive Offices) and Legislative Branch (Congress)** (because a given Policy Direction might require change in national funding resources and legislation);
- **regional tribes** (with express legal status and cultural, spiritual, and economic interests);
- **BPA and other federal agencies** (which have direct or indirect responsibilities for fish and wildlife recovery and mitigation efforts, as defined by various federal statutes and regulations)
- **the Columbia River Basin Forum** (which consists of the representatives of sovereign governments—federal, state, and tribal—involved in the region's decisionmaking, seeking to develop an agreement for a fish and wildlife plan);
- **the Northwest Power Planning Council** (which develops and recommends fish and wildlife measures for BPA to fund as mitigation for the effects of the FCRPS);
- **individual states and local governments; and other regional interests** (including the many citizens and parties with a direct or indirect interest in the costs, strategies, and specific projects that may be involved in any plan to recover fish and wildlife populations).

Figure S-1 shows the major participants in the regional Columbia River Political Forum.

Ongoing Processes and Key Issues

These participants are involved in several different processes with differing scopes (policy directions, geographic areas, and particular species) that seek to address certain aspects of fish and wildlife recovery policy.

- **Individually focused processes** each addresses a narrow range of the fish and wildlife mitigation and recovery effort issues. Any one of these processes—such as hatchery propagation of fish, habitat restoration and improvement, manipulation of the flow in the rivers (hydro), management of federal lands, breaching dams, and harvest controls—may help a particular aspect of the overall policy need. None of these processes offers a coordinated, comprehensive effort to address the whole problem.

  Federal Caucus and the Conservation of Columbia Basin Fish: Building a Conceptual Recovery Plan (Conceptual Plan) and Conservation of Columbia Basin Fish: Final Basin-wide Salmon Recovery Strategy (Basin-wide Strategy)[2]: This process and documentation, a product of nine federal agencies known as the Federal Caucus, focuses on four areas affecting the life cycle of anadromous fish: hatcheries, harvest, habitat, and the hydrosystem. The Basin-wide Strategy describes the comprehensive changes that are assumed to be needed

[2] These two documents were formerly known as the "All-H Plan"; they are the draft and final versions of the same study.

to recover Columbia River Basin fish. This document outlines the strategies and specific actions that federal agencies operating within the Columbia River Basin should take to prevent extinction and foster recovery by improving survival across all life stages of ESA-listed anadromous fish evolutionarily significant unites (ESUs). It also functions as a blueprint to guide federal actions and interactions with state and local governments and tribes as they take steps to comply with the ESA while exercising their authorities. BPA expects recovery planning for listed anadromous fish will likely proceed along the lines discussed in the Basin-wide Strategy Paper.

The strategy is incorporated into National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) recommendations through the Biological Opinions (BiOps) for actions that affect Columbia River Basin ESA-listed fish.

- **NMFS and USFWS Biological Opinions:** These agencies prepare Biological Opinions, as required by the ESA, for species under their respective authorities. BiOps describe the federal agency's determination of whether proposed actions will jeopardize listed species. BiOps prepared for the FCRPS provide performance standards for the action agencies—the Corps, the Bureau, and BPA. Biological Opinions are also prepared on other actions affecting Columbia Basin fish and wildlife.
- **Recovery Planning:** NMFS plans the recovery process for salmon and steelhead. The process includes the following:

  1) forming Technical Recovery teams to identify the de-listing criteria and recovery goals for an ESU, and

  2) developing Recovery Plans that describe actions needed to achieve the recovery goals and de-listing criteria.

  Other federal agencies, states, tribes, and stakeholders cooperate with NMFS, so that the many interests and ongoing recovery processes at all levels can be recognized. As NMFS moves forward to develop recovery plans using the technical information, the agency will rely on those sources to complete the information. Subbasin plans will be "aggregated" to ensure the recovery of the entire ESU is provided for.
- **The Council's 2000 Columbia River Basin Fish and Wildlife Program:** This program is the largest effort in the nation to recover, rebuild, and mitigate impacts on fish and wildlife. The 2000 revision of the Program expresses goals and objectives for the entire Columbia River Basin, based on a scientific foundation of ecological principles. In the future, the Program will be implemented through both locally developed plans for the 58 subbasins of the Columbia River and a plan for the mainstem. Fish and wildlife projects proposed for BPA funding to implement the Council's Fish and Wildlife Program will originate from these subbasin plans. While those plans are being developed, the Council has provided for ongoing project review and for funding by BPA.

- **The Council's Multi-Species Framework Report:** In November 1998, to develop a framework for its Fish and Wildlife Program, the Council initiated the Multi-Species Framework Project—a more balanced, comprehensive approach to fish and wildlife recovery. The Framework Project was managed by a state-federal-tribal committee and administered by the Council. The Framework was tasked with addressing fish and wildlife recovery and mitigation for multiple species (not just ESA-listed species), exploring alternative long-term visions for the river, and preparing a report on the process.

  Twenty-eight fish and wildlife recovery proposals (Concept Papers) were submitted by interested parties, and over 100 fish and wildlife recovery actions were proposed. The Council developed seven Framework alternatives, describing those alternative long-term visions. A state-of-the-art analytical system, Ecosystem Diagnosis and Treatment (EDT), was used to address the biological benefits of each alternative; a separate Human Effects Analysis was used to address the economic and social impacts and benefits of the alternatives. Their report, which was completed in December 2000, was used to inform the Council's amendment of its Fish and Wildlife Program.

- **Fish Funding Principles:** In September 1998, former Vice-President Gore announced Fish Funding Principles. These Principles were intended to help shape how BPA set its power marketing rates, and to ensure that BPA would meet all of its mitigation and recovery effort responsibilities, while simultaneously meeting its marketing and Treasury repayment responsibilities.[3]

- **The Council's 2001 Report on Bonneville Fish and Wildlife Expenditures**. In response to a request from the governors of Oregon, Washington, Idaho, and Montana, the Council has provided an accounting and brief assessment of BPA's fish and wildlife program implementation expenditures. The *2001 Report on Bonneville Fish and Wildlife Expenditures* found that, since 1978, BPA's costs totaled $3.48 billion. Of that total, 76% has been spent on anadromous fish. For BPA's efforts, the region has seen a dramatic increase in in-river juvenile salmonid survival, increases in some resident fish populations, and mitigation for over 38% of the wildlife habitat inundated by the dams and reservoirs.

- **U.S. v. Oregon.** The *United States v. Oregon* is a case begun in 1968 by the Columbia River treaty tribes and the United States against Oregon, and later, against the states of Washington and Idaho. It continues today, with jurisdiction residing in the Federal District Court of Oregon. It is the landmark case in which Judge Robert Belloni ruled that state management practices failed to meet the tribes' treaty-secured fishing rights, and the tribes were entitled to take "a fair and equitable share" of the harvestable portion of the runs. Judge Belloni further ruled that the state can regulate the Indian fisheries only for purposes of conservation, and that those regulations cannot "discriminate against the Indians."

[3] BPA is authorized to borrow money from the U.S. Treasury to build facilities needed to carry out its mission. Because BPA is self-financing, these monies must be repaid. BPA is committed by law to meet its repayment responsibilities as well as its responsibilities to the environment.

Ultimately, the tribes won recognition of their right to an even split of the harvestable fish between treaty and non-treaty fisheries. They also won acceptance as fisheries co-managers. The 1988 Columbia River Fish Management Plan resulted from work under *U.S. v. Oregon*. The plan addressed issues such as the allocation of state and tribal harvests, fishing seasons, hatchery production, hatchery locations, and disposition of surplus returning adult salmonids of hatchery origins. The last plan expired in 1998 and has not been renegotiated yet. Judge Garr King (U.S. District Court of Oregon) now oversees the case and has continuing jurisdiction over it.

Throughout the last decade, federal agencies in the region have developed and continue to prepare a number of fish and wildlife mitigation and recovery actions. They have also issued a series of EISs designed to evaluate and implement the selected actions. These documents include the Lower Snake River Juvenile Salmon Migration Feasibility Study Draft Environmental Impact Statement (U.S. Army Corps of Engineers, October 1999), the Interior Columbia Basin Supplemental Final Environmental Impact Statement (U.S. Forest Service and Bureau of Land Management, December 2000), and the Final Supplemental Environmental Impact Statement on Management of Habitat for Late-Successional and Old-Growth Forest Related Species within the Range of the Northern Spotted Owl (U.S. Forest Service and Bureau of Land Management, February 1994). These and other resource-related documents are used as resources in the preparation of this Fish and Wildlife Implementation Plan draft EIS (FWIP DEIS), and are incorporated here by reference. For a complete listing, please see pages 12 - 14 of Chapter 1 of the DEIS.

BPA's EIS team has expanded on the existing environmental documentation by incorporating information from the recent regional processes and by working with the public and the agencies to identify "Key Issues" that must be addressed in any comprehensive fish and wildlife recovery effort plan. The list of key issues compiled by the EIS team is provided below.

Table S-1: Key Issues Identified in the Regional Processes

Key Regional Issues		
1 Habitat	**4 Hydro**	**7 Transportation**
1-1 Anadromous Fish	4-1 Dam Modifications and Facilities	7-1 Navigation
1-2 Resident Fish	4-2 Hydro Operations	7-2 Trucking, Railroads and Infrastructure
1-3 Introduced Species	4-3 Spill	**8 Agriculture**
1-4 Wildlife	4-4 Flow	8-1 Irrigation
1-5 Predators of Anadromous Fish	4-5 Reservoir Levels	8-2 Pesticides and Agricultural Practices
1-6 Watersheds	4-6 Water Quality	8-3 Grazing
1-7 Tributaries	4-7 Juvenile Fish Migration	8-4 Forestry

Key Regional Issues		
	and Transport	
1-8 Mainstem Columbia	4-8 Adult Fish Passage	**9 Commercial Fishing**
1-9 Reservoirs	4-9 Flood Control	**10 Residential and Commercial Development**
1-10 Estuaries	**5 Power**	**11 Recreation**
1-11 Water Quality	5-1 Existing Generation	**12 Tribes**
2 Harvest	5-2 New Energy Resources	12-1 Tribal Harvest
2-1 Anadromous Fish	5-3 Transmission Reliability	12-2 Tradition, Culture, Spirituality
2-2 Resident Fish	**6 Industry**	
2-3 Wildlife	6-1 Industrial Development	
3 Hatcheries	6-2 Aluminum and Chemical	
3-1 Anadromous Fish	6-3 Mining	
3-2 Resident Fish	6-4 Pulp and Paper	

SCOPE AND DECISIONMAKING

This DEIS is designed to be broad enough to encompass any potential Policy Directions under consideration. The associated environmental analysis and publication will offer the public an opportunity to assess, participate in, and influence the selection of a regional Policy Direction alternative(s) for fish and wildlife recovery efforts, along with the regional decisionmakers. By undertaking this DEIS as a complement to the other processes, BPA's DEIS will also provide a springboard for the Agency to implement specific actions consistent with the selected Policy Direction with minimal or no further delay and without the need to constantly revisit past decisions (see "tiering" discussion below).

It is important to bear in mind that there is no one "best" Policy Direction. "Best" is a value judgment, ultimately a matter of personal preference. However, one may evaluate whether certain actions are more or less likely to bring about certain ends. For instance, if a goal is to improve habitat for fish, then keeping human and animal activity away from a section of riverbank will help riparian vegetation to resprout, will slow erosion into the stream, and will improve the quality of the water in which the fish live. On the other hand, if the goal is to improve the lives of people in the region, there may be unavoidable trade-offs among groups of people that cannot be reconciled on the basis of factual information alone. Some factual matters can be evaluated where personal values cannot. This DEIS tries to emphasize factual matters, while revealing trade-offs among groups of people.

One constraint, however, is legal. There are certain laws that an alternative must meet to be viable. These laws include the ESA, the Regional Act, tribal trust and treaty responsibilities, and the CWA. But this is a forward looking policy-level DEIS. As such, BPA has not limited the analysis to existing conditions or legal authorities. Through

scoping, we found many suggestions for alternatives that would require BPA (or others) to receive new legal authority to implement them. If scoping provided suggestions for an alternative that reflected a reasonable, focused, clearly articulated rationale, then we incorporated either that alternative or its actions into this DEIS. Consequently, not all of the alternatives examined are within BPA's current authority to implement. However, this could change if, over time, the applicable laws were to change.

EIS alternatives sometimes change unexpectedly as the process is underway or as new information or ideas are presented. This EIS structure allows BPA to address the broadest possible range of alternatives so as to be able to assess the effects of such changes. Such an approach also anticipates changes over time and extends the usefulness of the EIS.

It also allows the decisionmaker to "tier" site-specific decisions from this EIS. First, this broadly scoped DEIS evaluates the different Policy Directions available to decisionmakers. The evaluation includes trade-offs among resources and options to modify the basic Policy Direction(s) as well as ways to mitigate for effects. Policy Directions are compared against the purposes. Publication of the DEIS then signals the beginning of a public comment process.

The draft EIS does not propose a preferred alternative because BPA wants to present all options equally at this time to promote creative public discourse on each of the Policy Directions. BPA is seeking suggestions for new alternatives or alternatives blended from the five Policy Directions that the reader thinks may better meet our needs. The Administrator will consider the blended options and reflect on these alternatives when conducting both the initial and any future decisionmaking process. Obviously, the need to avoid jeopardizing listed species is critical, as is mitigating for fish and wildlife losses in a manner consistent with the Council's program. This DEIS demonstrates, however, that there are many other highly important resources affected by any Policy Direction BPA might take. Choosing a preferred alternative at this time could dampen or skew the dialogue that BPA desires in order to make a fully informed decision at the conclusion of this NEPA process. Therefore, BPA will not identify a preferred alternative until it prepares the final EIS.

After a public review process and consideration of all analysis and comments, BPA will publish a Final EIS. BPA will then prepare a Record of Decision (ROD) that documents and explains the basis for the selected Policy Direction. BPA may then "tier" decisions about the implementation of actions consistent with the same Policy Direction. BPA will continue to involve the public as it decides on different categories of specific implementation actions. Other federal agencies, states, and/or tribes may find this EIS and associated RODs useful for related actions under their agencies' respective jurisdictions.

PROPOSED ACTION AND ALTERNATIVES

This DEIS examines several Policy Directions. Each Policy Direction represents a shift toward a focus or theme. More actions and more intensive actions consistent with that theme would be taken, but existing actions not consistent with the Policy Direction, especially those in conflict with the new Direction, would likely be scaled back or eliminated. The exact actions taken under each Policy Direction, and the intensity of the actions are generally not established at this time. Rather, actions consistent with the Policy Direction would be specified and analyzed in greater detail before being implemented, as appropriate.

The Policy Directions are based completely on ideas set forth in the existing regional processes on fish and wildlife recovery efforts, and they encompass the range of possible actions assessed within regional processes over the last 10 years. All regional concepts have been considered, even where some may prove infeasible under current law or impractical for other reasons, or may appear to be less effective.

We have named the Policy Directions as follows:

Status Quo	**Weak Stock Focus**
Natural Focus	**Strong Stock Focus**
Sustainable Use Focus	**Commerce Focus**

Status Quo draws on the many regional processes, including the Framework. Each of the Policy Directions summarized below is based on a concept for fish and wildlife policy developed or proposed by some persons in the region. None of the Policy Directions is intended to represent a value judgment by BPA or any particular group's values. The Policy Directions are intended for guidance only, and the quotations used to characterize them are not meant to indicate the views or opinions of their success.

All of the Policy Directions have some common assumptions:

- Pressures for population growth and urbanization will continue;
- BPA's roles in marketing federal hydropower and funding fish and wildlife programs will continue; and
- All Policy Directions seek to attain their goals at least cost.

Status Quo Policy Direction (and current implementation actions)

The Status Quo Alternative (and the associated current implementing actions) represents the "no action" alternative—not changing the current ad-hoc approach. Analysis of a "Status Quo" alternative is required by NEPA. For this DEIS, the Status Quo serves as a baseline for comparison with the Policy Direction alternatives.

The Status Quo Alternative includes continued current actions and the future changes relative to existing environmental conditions that can be reasonably expected.

Increasing population, economic growth, and additional urbanization are assumed based on existing trends; these assumptions are also included in the other Policy Directions except as they may be affected by the implementation actions under each Policy Direction. (For example, a policy that discouraged new construction might reduce population growth.)

Emphasis:

- Operation of hydrosystem primarily for authorized purposes: fish, power generation, recreation, navigation, irrigation, and flood control.
- Anadromous fish, especially ESA-listed species.
- Mitigation (e.g., flow augmentation, spill, juvenile transportation, predator control, and passage improvements, as well as off-site mitigation with hatcheries and replacement habitat) for the effects of hydro generation.
- Recognition of government's past trade-offs of fish, wildlife, and other resources for commodities and commercial activities.
- Increasing consideration of tribal viewpoint and co-management role.
- Hatcheries operated primarily in an effort to sustain anadromous and resident fish harvest.
- Mitigation efforts for terrestrial habitat consisting largely of purchases and preservation of land to replace habitat that was lost to hydro development.
- Boom and bust cycles of harvest, with recent trends away from maximizing fish harvest and toward weaker stock protection.
- Sustained commercial activity by preserving the hydrosystem and avoiding unbearably costly and restrictive mandates.

Natural Focus

> *"A value for, and an emphasis on preserving 'wildness' and 'wild areas' from future human development." (Cone, 1995:49-50)*

Under this alternative, the first priority is to protect areas considered pristine, especially those areas untouched by previous human development. The value of "wildness" and wild creatures is not directed at any species in particular: rather, a high value is placed on ecosystems that function w*ithout human interference*, whatever species they may contain. Second, for those ecosystems already altered by human activities, efforts would focus on minimizing further degradation by limiting any human activities deemed environmentally destructive. Restoration would emphasize regeneration via natural processes. Third, in exceptional cases where an ecosystem has been so changed that natural regeneration is unlikely, humans might intervene to restore the most essential elements needed for natural functioning. This Direction particularly focuses on removing those elements that

have significantly altered the natural functioning of ecosystems: for instance, by breaching dams and eliminating non-native species.[4]

Differences from Current Implementation Actions:

- Restores habitat emphasizing passive techniques.
- Decreases harvest.
- Discontinues hatcheries.
- Removes six dams: McNary, John Day, Lower Granite, Lower Monumental, Little Goose, and Ice Harbor.
- Decreases some commercial activity.
- Allows tribal harvest of healthy fish and wildlife populations.

Weak Stock Focus

"Extinction is not an option." (State of Washington, Statewide Strategy to Recover Salmon, September 1999)

This alternative emphasizes an active posture to prevent the extinction of fish and wildlife populations, especially those listed as threatened or endangered under the Endangered Species Act or other legal protections. The focus would be on saving the weakest populations first. Reasons for preserving species may range from "existence value" to moral imperative to potential beneficial uses of species to humans.[5] The USFWS "ESA Basics" noted the connection between the passage of the ESA and American concern about the decline and possible extinction of many wildlife and plant species, not only around the world, but especially within the U.S. Congress attached aesthetic, ecological, educational, recreational, and scientific value to the diverse environments of the nation and so sought to conserve and recover both endangered and threatened species and the ecosystems on which they depend. The ultimate ESA goal is to "recover" species so they no longer need protection under the ESA. The ESA is the primary driver behind this Policy Direction and, because the focus is on the enforcement of this law, this Policy Direction is likely to entail more emphasis on continued regulation.[6]

Differences from Current Implementation Actions:

- Restores more habitat for weak stocks.
- Decreases harvest.
- Manages hatcheries for weak stocks.

[4] Sources: Cone, 1995, pages 50-55; Kloor, 1999.
[5] Summarized from Daniel J. Rohlf, The Endangered Species Act: A Guide to Its Protections and Implementation (Stanford Environmental Law Society, Stanford, CA), 1989:12-17.
[6] Sources: US Fish and Wildlife Service "ESA Basics." June 1998; Rohlf, 1989.

- Removes four dams to assist weak stocks: Lower Granite, Lower Monumental, Little Goose, and Ice Harbor.
- Decreases commercial activity that affects weak stocks.
- Uses selective techniques for tribal harvest to assist weak stocks.

Sustainable Use Focus

"Conservation holds that it is about as important to see that the people in general get the benefit of our natural resources as to see that there shall be natural resources left." (Gifford Pinchot, The Fight for Conservation: p. 81.)

This Policy Direction emphasizes the expansion of opportunities to harvest fish and wildlife resources. The philosophy behind this Direction fundamentally emphasizes sustainable relationships between human beings and fish and wildlife. Humans and their technology are but one part of an integrated whole of nature and are responsible for maintaining appropriate, reciprocal relationships with fish and wildlife and a long-term connection to place. One of the tenets behind this Direction is that humans have rights to using natural resources to meet sustenance, spiritual, and economic needs. But humans also have an obligation to insure that those resources (e.g., fish populations) are self-sustaining, and therefore may intervene at all various stages in the life cycles of fish and wildlife species and their environments, to help those populations rebuild and maintain themselves in perpetuity.[7]

Differences from Current Implementation Actions:

- Restores habitat to maximize production.
- Increases harvest of natural and hatchery stocks.
- Increases hatchery production and supplementation[8] (supplementing wild stocks).
- Improves hydro operations for fish and wildlife, including dam removal as a last resort if other measures fail to recover populations.
- Decreases commercial activity.
- Increases tribal harvest overall.

Strong Stock Focus

"It is time to apply 'triage' techniques, i.e., face up to what are likely irreversible declines in some runs in order to direct resources to those runs where the odds for long-term survival are better with adequate help" (Thomas: 2000, 5).

[7] Sources: Spirit of the Salmon (Wy-Kan-Ush-Mi Wa-Kish-Wit). Columbia River Inter-Tribal Fish Commission. 1999.

[8] **Supplementation** - Artificial propagation intended to reestablish a natural population or increase its abundance. (Conceptual Plan (Draft "All-H" Paper), 1999, Glossary, page 100).

The focus here is on maintaining viable stocks and ecosystems to avoid broader collapse of fish and wildlife populations. Program priorities would be based on effectiveness of stock maintenance (as opposed to recovery). Costly efforts to recover populations that are so depleted that they cannot or likely will not be recovered without substantial costs to other species should be abandoned. These costs, which would be avoided by this Direction, include "massive changes in the number and lifestyle of [humans], changes that society shows little willingness to seriously consider, much less implement" (Lackey, 2000:1). "Effective options to reverse the decline of wild salmon, and especially to restore *depleted* runs, would be socially disruptive, economically costly, and ecologically equivocal" (Michael, 1999 in Lackey, 2000:4). "Clearly, chances for survival of various runs of salmon are not equal. Many of the runs have winked out, and the genetic make-up of the fishes in those runs is forever lost. Other runs continue in what appears to be an inexorable death spiral in spite of 'best' (i.e., politically acceptable) efforts. Some runs are in reasonably good shape, and may well survive with appropriate management actions. The perceived inflexibility in the ESA precludes the use of techniques to assign limited resources to those runs that have the best chance of maintenance and recovery, while ignoring those that are likely doomed" (Thomas, 2000: 4).[9]

Differences from Current Implementation Actions:

- Maintains habitat for strong stocks.
- Increases harvesting while maintaining strong stocks.
- Maintains hatcheries that support strong stocks.
- Decreases restrictions on hydro operations not affecting strong stocks.
- Increases commercial activity while maintaining strong stocks.
- Increases tribal harvest while maintaining strong stocks.

Commerce Focus

> *". . . endangered species has divided the country on an issue that seemingly pits growth (and jobs) vs. the environment. This does not have to be the case. Protecting endangered species can be integrated with economic growth, turning a win-lose or lose-lose situation into one where everyone benefits. This can be accomplished by using economic incentives to promote conservation…Although the costs incurred by these incentives may be high in some cases, they will be highly cost-effective. The current `at any cost' strategy is only marginally effective, and can actually harm species in some circumstances" (Schaerer, 1996: 1).*

This Policy Direction emphasizes economic efficiency in choosing a recovery effort strategy. Money is a scarce resource and a major component in any recovery effort plan,

[9] Sources: "The Future of Washington Salmon." John H. Michael. *Northwest Science.* 73(3): 235-239, quoted in: "Restoring Wild Salmon to the Pacific Northwest: Chasing an Illusion?" Robert T. Lackey. Presented at the Portland State University Salmon Symposium, July 7-8, 2000; Dr. Jack Ward Thomas, Columbia River Conference IV, March 16 & 17, 2000.

and should be spent only when costs are justified by benefits. The Direction represents a "libertarian" approach to conservation, in that it decreases government regulation and instead emphasizes voluntary actions, financial incentives and market mechanisms to bring about desired results. Private companies and citizens are given flexibility to determine how they can best meet the goals of conservation, while still fulfilling their economic needs. Decisionmaking is decentralized, and the "command and control" approach is abandoned. Managers of a unified recovery plan would "adopt cost-effective recovery effort measures that create accountability, clear goals, priority setting, and effective monitoring and continuous program improvements" (PNWA, 1996). Cost efficiency would consider hydrosystem benefits and benefits foregone, as well as program costs. Conservation in this ideology allows for "wise use" of resources, with the option for landowners to set aside and preserve land from certain human uses, while still retaining title to the land. This Policy Direction relies on voluntary actions and incentives rather than government regulation. "The Columbia and Snake Rivers support a tremendous diversity of life and bring a remarkable array of benefits to the region and the nation. The rivers support complex ecological systems and are the lifeblood of the regional economy" (PNWA, 2000). "For us, we have to be left standing if we are going to support it (a unified plan). This can't be a recovery effort that sticks it to all the economic interests" (Smith, 1998:12).[10]

Differences from Current Implementation Actions:

- Emphasizes economically efficient restoration of habitat.
- Increases economically efficient harvesting.
- Increases economically efficient hatcheries.
- Operate hydrosystem for economic efficiency, including minimization of fish and wildlife mitigation costs.
- Increases other commercial activity.
- Targets fish farming and cost-effective production for tribal harvest.

COMPARISON OF THE ALTERNATIVES AND SUMMARY OF EFFECTS

This EIS is not intended to define the region's values or to determine what laws and regulations are applicable. It is designed to provide an understanding of how the many issues that affect the region's ability, and specifically BPA's ability, to reach a more

[10] Sources: Pacific Northwest Waterways Association. "Columbia-Snake River Issues: Rebuilding Fish Runs and Maintaining the Northwest Way of Life"; "Incentives for Species." Brett Schaerer. The Thoreau Institute, April, 1996; <*http://www.ti.org/schaerer.html*>; Craig Smith, vice-president of environmental affairs for the Northwest Food Processors Association, quoted in *The Northwest Salmon Recovery Report.* August 31, 1998. Volume 2 Number 9:Issue 25; PNWA Policy Backgrounder: "Saving Salmon in the Pacific Northwest." Pacific Northwest Waterways Association. January 2000

comprehensive and consistent unified planning approach interact with the human environment and lead to certain environmental consequences.

There are many ways to characterize and compare alternative Policy Directions. The end goal is to be able to compare the environmental consequences associated with each, and to see how each alternative matches up with the purposes. Here is how we went through each step, from analyzing the regional ideas to generating the alternatives to comparing and evaluating them:

- First, we synthesized the Status Quo and five broad Policy Direction themes from the key issues and proposals in regional processes, such as the Multi-Species Framework Alternatives and the Federal Caucus Options.
- Then we developed a set of sample implementation actions from the many regional proposals that matched the theme for each Policy Direction.
- Next, we assessed these actions to determine the environmental consequences that might result from their implementation. We compared each Policy Direction to Status Quo (which includes the existing environmental conditions: the current state of the natural environment elements and the socioeconomic elements), and the likely circumstances of taking no action to change current actions.
- The tables following contain more concise summaries of environmental effects, consolidated to help decisionmakers readily compare effects and likely outcomes, in the form of a comparative analysis table. The information can also be used by those who want to develop and evaluate the effects of additional proposals for combining the Policy Directions.

This methodology will also be used by the BPA Administrator to evaluate the environmental consequences of future proposals, just as it allows others to develop their own proposed combination of Policy Directions and subsequent environmental consequences described above. By assembling and condensing the information in this manner, decisionmakers can more readily compare effects and likely outcomes/ consequences.

Table S-2, below, provides a summary of **Natural Environment**, and **Social and Economic Environment,**[11] consequences of Policy Directions. Results are summarized as being more or less favorable for fish and wildlife, as well as more or less favorable to economic and social well-being. The table illustrates the anticipated long-term environmental effects of possible implementation actions of alternatives compared to environmental conditions in the Status Quo Policy Direction. The summary highlights the areas where the effects are clearly different, but also shows where they may be similar. The shade of the boxes indicates the direction in which the effects are moving *relative to the Status Quo Policy Direction,* and shows the reader whether the five Policy

[11] For information about the existing environmental conditions in these effect areas, please see Chapter 2. For a listing of those actions that are proposed for each Policy Direction, as well as the current implementation actions now underway, please see Section 3A. For a more detailed discussion of environmental consequences, including the analysis behind Table 3.3-1, please see Chapter 5.

Directions would result in worse, the same, or better conditions relative to the Status Quo. Effect categories are condensed from the expanded list of categories described in Section 5.3 of the DEIS. Condensing allows the reader to more easily see the major trends in effects. Where categories are condensed, the summaries represent the central tendency of the more detailed results presented later in this document.

The resulting side-by-side comparisons offer the opportunity to see the "trade-offs" (pluses in one area balanced against minuses in another) in the two environmental effect areas. Public policy evolves as the region responds to these trade-offs.

In reading the tables, which are based on *relationship analysis*, it is useful to remember the following points:

- The Status Quo or the No Action Alternative is used as the baseline to gauge how the five policy directions (or combinations of policy directions) change relative to that baseline for the environmental consequences identified.
- The Status Quo is established by describing the types of actions being taken now and anticipated to continue without a unified Policy Direction.
- No judgment is made about whether the Status Quo is *good* or *bad*. Some may believe that economic prosperity should be the overriding value; others may believe that maintaining a natural environment should be the appropriate value. Still others may believe that some form of balance between economic prosperity and preservation of the natural environment should be the "correct" value for the region. Making such a call is not appropriate for this EIS. This decision will be taken up during the preparation of the Record of Decision.
- The comparative tables that follow set the Status Quo as a “neutral” point for all of the environmental consequences. This is done to make it possible to determine whether working toward one of the five Policy Directions changes the condition of the environment. These changes are labeled as “better” and “worse.” These terms are equivalent to the NEPA terms “beneficial” and “adverse.” They describe environmental consequences in the conventional terms as defined by NEPA.

Table S-2: Comparison of the Alternatives Against Baseline Conditions* and Summary of Effects

Effect Category	***Status Quo****	***Natural Focus***	***Weak Stocks***	***Sustainable Use***	***Strong Stocks***	***Com. Focus***
NATURAL ENVIRONMENT						
Land Habitat Upland						
Riparian/Wetland						
Water Habitat: Nitrogen Supersaturation						
Non-Thermal Pollution						
Sedimentation						
Temperature/Dissolved Gas						
In-Stream Water Quality						
Amount River Habitat						
Reservoir Habitat						
Fish & Wildlife Anadromous Fish**						
Resident Fish**						
Wildlife						
Air Quality						
SOCIAL and ECONOMIC						
Commerce Commercial Interests						
Recreation (including fishing & hunting)						
Economic Development						
Tribes Fishing Harvest						
Health, Spirituality, & Tradition						
Costs and Funding						
Cultural/Historical Resources						
Aesthetics						

* Status Quo = Baseline conditions. For more information on existing conditions, please see Section 2.4.

** Although anadromous fish for Natural Focus and Commerce Focus appear the same, there are sharp differences between numbers of hatchery and naturally produced fish. For resident fish, the two Policy Directions differ substantially in numbers of native and non-native fish. See DEIS Chapter 5, Section 5.3 for more detail.

Mix and Match: Combinations of the five alternatives (i.e., "hybrid" Policy Directions) are also possible and have been anticipated in the DEIS. Decisionmakers or individuals can "mix and match" elements to define a variant Policy Direction and identify what characteristics and effects will accompany the new combination.

The Policy Directions are compared in Chapter 5 and in summary form in Chapter 3. Ideally, the "best" alternative might be selected by looking for the greatest number of *light-colored* boxes (improving conditions). But there is no clear single choice. The issues are complex: a "plus" for one factor may mean a "minus" for another important factor. (For example, a "plus" for anadromous fish might mean a "minus" for resident fish.) Many people are involved in developing recovery effort plans, and many different authorities govern the participants. This means that trade-offs will have to be considered.

The reader can use the table to determine which one of the five alternative Policy Directions might best reflect her or his unique perspective:

1. **First, look down the column of boxes for each Policy Direction to find where the areas of greatest concern for environmental consequences will likely be for the different directions**. Here, mitigation will be needed, if available, to lessen the effect—perhaps by a physical action such as making a dam modification or change in habitat.
2. **Next, consider which Policy Direction has the greatest number of benefits (light-colored boxes).**
3. **Then, determine how well the desired Policy Direction fulfills the purposes (Chapter 1). (See Tables S-3.)**

Table S-3: Summary of Alternatives Compared against the BPA Purposes

Purpose	***Status Quo****	***Natural Focus***	***Weak Stocks***	***Sustainable Use***	***Strong Stocks***	***Com. Focus***
Facilitate **implementation of a regional unified planning approach**						
Fulfill **obligations under Regional Act**						
Fulfill the Administration's **Fish Funding Principles**						
Fulfill **BPA's other obligations** under law						
Promote predictable and stable **fish and wildlife costs and competitive rates.**						

* Status Quo = Baseline conditions

The differences among the Policy Directions (including Status Quo) often turn on differences in people's opinions and perception. This DEIS has tried to condense the information from thousands of pages of key sources across the region. This information is presented in a user-friendly way and a reasonably objective discussion of the data is provided. However, the opinions of the public, interest groups, and other interested parties (including decisionmakers) regarding fish and wildlife recovery efforts will be the prime influence in determining the level of difficulty that BPA will experience in meeting its purposes. As one group or another sees a particular Policy Direction as superior or inferior, extreme or moderate, those views will affect BPA's ability to meet its purposes. Consideration of such factors as legal challenges, political interventions, and direct pressure on the Administrator from these outside influences have been factored into the Table above to give an indication of where each Policy Direction takes us from the Status Quo situation.

Tailoring a Policy Direction

We recognize that no single Policy Direction described and compared above may be exactly the Direction that decisionmakers ultimately choose. However, it is expected that the Policy Direction will be encompassed within the range of Policy Directions analyzed. The region, as well as the decisionmakers, may wish to modify and adapt the Policy Directions to reflect an entirely new one. Individual readers may wish to "build their own alternatives." Or, in the future, conditions may change and the region may wish to make additional changes in Policy Direction or choose a new Policy. Please see the DEIS, Section 3.4 and Appendix I, for ways to accommodate such modifications.

AREAS OF CONTROVERSY

Generally, there are many ethical, political, and scientific implications surrounding fish and wildlife management issues, making them difficult to discuss without becoming mired in the pro and con of various policy choices. Some of the choices facing the region now include: How expensive will our energy be? Where will we be able to live, recreate, farm and ranch? Who will have the right to fish? What will happen to our jobs? While science can help evaluate the consequences of different policy options, resource management issues are ultimately issues of public choice. This frames the dilemma that now faces decisionmakers, including BPA, that are involved with fish and wildlife policy in the region, and sometimes outside the region.

BPA must decide:

- What fish and wildlife Policy Direction the region appears to be following.
- How to fund and mitigate the environmental consequences, if necessary, of the likely actions under that Direction.
- How best to implement the Direction being followed and meet its Purposes.

This DEIS will support actions that BPA determines are necessary to comply with its responsibilities, including the following:

- Identification of a Policy Direction for funding and implementing fish and wildlife mitigation and recovery efforts.
- Short- or Long-term FCRPS recommendations in the NMFS and USFWS Biological Opinions.
- Funding of the Council's Fish and Wildlife Program, including hatchery programs, harvest measures, habitat programs, and hydrosystem programs and improvements.
- Capital improvements at FCRPS projects.
- Other fish and wildlife mitigation, recovery, and enhancement: research, monitoring and evaluation, education, and enforcement.
- Funding of cultural resources mitigation.

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