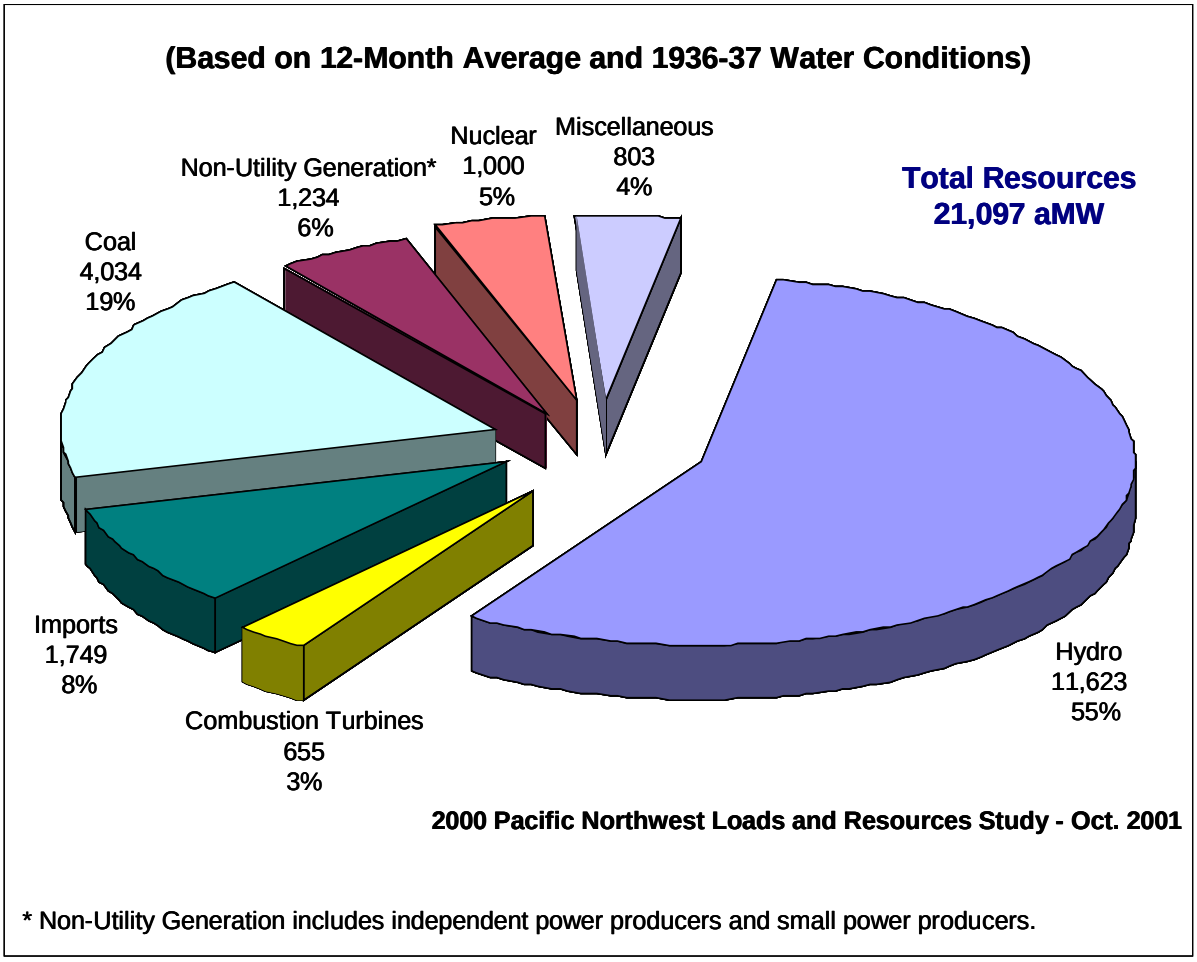
Figure 2-5: Projected Regional Firm Resources
Operating Year 2001-2002



Even though in 2002, there was nearly average precipitation and streamflows, the surplus power for BPA to market was limited by the increased hydroelectric supply and falling prices, which again reduced BPA's anticipated revenues. This is just another demonstration of how the water conditions and market prices can influence BPA's ability to generate revenues to cover costs.

Lastly, just as BPA's MSR ultimately limits its ability to collect revenues, other funding sources such as those from Federal taxpayer appropriations, tribal contributions, and other commercial and private contributions have similar limits on their ability to acquire such funds. This also impacts the fish and wildlife mitigation and recovery effort in the Region.

2.3.2.4 Initiatives to Modify the Current State

Despite the burgeoning environmental movement that began in the second half of the twentieth century, the statutes passed and regulations enacted, the programs undertaken,

and the mitigation hatcheries built and operating, many fish and wildlife species have continued to decline in the Pacific Northwest. Some are in danger of extinction and the number of listed species continues to increase. At the same time, programs have multiplied and authorities have overlapped. Socioeconomic objectives may compete with those focused on the natural world, of which humans are a part.

On the plus side, in today's political environment, economic and environmental effects are considered together, and the public is actively engaged in government decision-making processes. Today's policy environment contains a complex of overlapping state, local, Federal, tribal, private, interest group, and environmental interests and agendas. Each entity has its research, opinions, and priorities. But there are three problems:

- There is no clear and agreed-upon scientific answer regarding what set of actions the Region should take to protect and enhance fish and wildlife while preserving human uses.
- Priorities must be set because there is limited money available to fund what measures we can agree on.
- We must have a comprehensive approach, not one that narrowly limits itself to a focus on the hydro system and its operations.

Several major regional processes have or are developing their own alternatives to assist in species mitigation and recovery efforts in the Region: "The Framework,"[133] the Federal Caucus' Basinwide Strategy paper, the Council's Program, BiOps or Habitat Conservation Plans on the FCRPS, plus several formal plans from various regional entities. However, these different processes are not fully coordinated.

Federal Caucus and Basinwide Salmon Recovery Strategy.

Nine Federal agencies have joined together as a Federal Caucus to address those recovery options for endangered fish that simultaneously consider the needs of other aquatic species. These agencies include BPA, NMFS, USFWS, the Bureau, the Corps, BIA, USFS, BLM, and EPA. The intent is to develop a response strategy that can guide the recovery of Columbia Basin salmon.

The Federal Caucus used these goals and objectives, modified based on comments from tribal governments and the public, to develop the Basinwide Strategy.[134]

Goals

- **Conserve Species**. Avoid extinction and foster long-term survival and recovery of Columbia Basin salmon and steelhead and other aquatic species.
- **Conserve Ecosystems.** Conserve the ecosystems upon which salmon and steelhead depend, including watershed health.

[133] A process no longer active.
[134] Federal Caucus 2000b.

- **Assure Tribal Fishing Rights and Provide Non-Tribal Fishing Opportunities.** Restore salmon and steelhead populations over time to a level that provides a sustainable harvest sufficient to provide for the meaningful exercise of tribal fishing rights and, where possible, provide non-tribal fishing opportunities.
- **Balance the Needs of Other Species.** Ensure that salmon and steelhead conservation measures are balanced with the needs of other native fish and wildlife species.
- **Minimize Adverse Effects on Humans**. Implement salmon and steelhead conservation measures in ways that minimize their adverse socio-economic and other human effects.
- **Protect Historic Properties.** Consistent with the requirements of the National Historic Preservation Act and other applicable laws, assure that effects of recovery measures on historic properties are identified and addressed in consultation with all interested and affected parties.
- **Consider Resources of Cultural Importance to Tribes.** In implementing recovery measures, seek to preserve resources important to maintaining the traditional culture of Basin tribes.

Biological Objectives

- Maintain and improve upon the current distribution of fish and aquatic species, and halt declining population trends within 5-10 years.
- Establish increasing trends in naturally sustained fish populations in each subregion accessible to the fish and for each ESU within 25 years.
- Restore distribution of fish and other aquatic species within their native range within 25 years (where feasible).
- Conserve genetic diversity and allow natural patterns of genetic exchange to persist.

Ecological Objectives

- Prevent further degradation of tributary, mainstem, and estuary habitat conditions and water quality.
- Protect existing high-quality habitats.
- Restore habitats on a priority basis.

Water Quality Objective

- In the long term, attain state and tribal water quality standards in all critical habitats in the Columbia River and Snake River basins (see map Figure 2.7 at the end of this chapter).

Socio-Economic Objectives

- Select those actions to restore and enhance fish and their habitat that achieve the biological and ecological objectives at the least cost.

- Mitigate for significant social and economic impacts and explore creative alternatives for achieving these objectives.
- Seek adequate funding and implementation for strategies and actions.
- Coordinate restoration efforts to avoid inefficiency and unnecessary costs.
- Restore salmon and steelhead to population levels that will support treaty and non-treaty harvest.
- Select actions that consider or take into account tribal socio-economic or cultural concerns.

The agencies believe that their recommendations are the combination most likely to meet these goals and objectives. The actions reflect the best scientific understanding of what is necessary to conserve the species and their ecosystems. The Strategy contemplates maintaining tribal fishing opportunities in the near term, and expanding them over time. The Strategy recognizes the needs of other at-risk fish, wildlife and plant species within the Basin. The Strategy also seeks to provide a measure of social and economic certainty by seeking maximum benefit from the available resources, with clearly established implementation and monitoring processes.

The Federal agencies entered into a Memorandum of Understanding (MOU) in December 2001 to formalize their commitment to coordinate their implementation, funding, and monitoring of the Strategy and to ensure common approaches and priorities for the recovery of listed fish. Specifically the MOU commits Federal agencies to:

- establish an expanded Federal Caucus;
- establish a Habitat Team;
- consistently apply ESA, CWA, other relevant statutes and tribal trust and treaty responsibilities as they relate to the conservation of Columbia Basin fish;
- establish priorities for implementation;
- coordinate budget development and expenditures;
- coordinate with related efforts of state, tribal and local governments; and
- work with the states, tribes and the Council to develop a comprehensive basinwide monitoring program.

The NMFS 2000 FCRPS Biological Opinion

The NMFS 2000 Federal Columbia River Power System Biological Opinion (FCRPS BiOp) documents interagency consultations pursuant to Section 7(a)(2) of the ESA.[135] The consultations considered 14 projects—dams, powerhouses, and associated reservoirs—in the FCRPS, and 19 Bureau projects in the Columbia Basin. The consultation considered whether the configuration, operation, and maintenance of these

[135] NMFS 2000b.

facilities were likely to jeopardize the continued existence of 12 salmon and steelhead listed under the ESA.

In its 2000 BiOp, NMFS used the five-step approach to apply ESA Section 7(a)(2) standards developed in the 1995 FCRPS BiOp for Pacific salmon:

(1) define biological requirements and current status;

(2) evaluate the relevance of the environmental baseline to the species' status;

(3) determine effects of proposed or continued actions on the listed species;

(4) determine whether the species can be expected to survive with an adequate potential for recovery; and

(5) when an action is expected to jeopardize the continued existence of a species or modify its critical habitat, develop reasonable and prudent alternatives.

The jeopardy analysis framework, including a jeopardy standard and metrics and criteria useful for assessing the jeopardy standard, are discussed. NMFS uses a standardized criterion of a 5-percent probability of absolute extinction in assessing whether each species has a high likelihood of survival under the proposed action. (Absolute extinction means that no more than one fish returns over the number of years in a generation.) Recovery metrics are also discussed, and recovery population levels are provided.

The action agencies proposed to continue current FCRPS operations that implement the 1995 Reasonable and Prudent Alternative. NMFS concluded that this proposed operation and configuration of the FCRPS and Bureau projects are likely to jeopardize the continued existence of 8 of the 12 ESUs considered; the no-jeopardy findings are for the Lower Columbia and Upper Willamette Chinook Salmon and Steelhead trout.

The Reasonable and Prudent Alternative identified actions that, when combined with other ongoing and anticipated measures outlined in the Basinwide Strategy, are likely to ensure a high likelihood of survival with a moderate-to-high likelihood of recovery. Proposed hydrosystem actions include enhanced spill and spillway improvements, improved flow management, physical improvements to passage facilities, increased use of barges and reduced use of trucks for summer migrants, and continued spill at collector projects.

A separate BiOp documents a similar consultation process for bull trout and Kootenai River white sturgeon.[136] The USFWS finds that the proposed action will not jeopardize bull trout, but that it will jeopardize the Kootenai River white sturgeon. The Reasonable and Prudent Alternative would modify operations at Libby Dam.

The Basinwide Strategy is related to the BiOp in several ways. First, it provides an overall, conceptual recovery strategy for aquatic species affected by the FCRPS. Second, it shows how actions called for in the BiOp fit with other related recovery initiatives.

[136] USDOI/USFWS 2000.

Third, it provides a tool for engaging the public. Fourth, it provides a forum for Federal agencies to plan and coordinate their activities. The Action Agencies have already released their initial plans and have continued working on other plans, as discussed in Section 2.3.2.1 above.

BPA's Fish and Wildlife Policy Manual

In November 2001, BPA issued its first Fish and Wildlife Policy Manual for BPA Fish and Wildlife management and project managers to rely on, when contracting to perform mitigation and recovery actions.[137] The manual outlines the principles guiding BPA's implementation of all of its fish and wildlife contracting.

BPA's progress towards meeting its mitigation and recovery responsibilities is measured in part by contract performance: that is what drives this Policy. Failure of a BPA Fish and Wildlife Contractor to perform will adversely affect potential future contract awards.

The *Fish & Wildlife Project Manager Process and Procedure Desk Manual* (Desk Manual) for Project Managers and Contracting Officer's Technical Representatives (COTRs) is a companion to the Fish and Wildlife manual. It provides internal step-by-step procedures and detailed processes, from initial program and project development to project closeout. The development, distribution, and use of these documents help make implementation of the Program and BiOps more consistent, cost-effective, and transparent.

Other Regional Plans

Each state in the Columbia River Basin administers the allocation of water resources within its borders. In the past, each state's economy depended on natural resources, with intensive resource extraction and new irrigation development facilitated by Federal land and water resource policies.

Water resource development has slowed in recent years. Most arable lands have already been developed, the increasingly diversified regional economy has decreased demand, and there are increased environmental protections. Growth in new businesses, primarily in the technology sector, is creating urbanization pressures and increased demands for buildable land, electricity (see map Figures 2.6 and 2.15 at the end of this chapter illustrating non-hydro generation and the major transmission and gas pipeline routes), water supplies, waste-disposal sites, and other infrastructure. Economic diversification has contributed to population growth and movement in all four states, a trend likely to continue for the next few decades (see map Figure 2.12 at the end of this chapter). Such population trends will result in greater overall and localized demands for electricity, water, and buildable land in the action area; will affect water quality directly and indirectly; and will increase the need for transportation (for an illustration of major transportation routes see map Figure 2.16 at the end of this chapter), communication, and other infrastructure. The impacts associated with these economic and population

[137] USDOE/BPA 2001c.

demands will affect habitat features such as water quality and quantity (see map Figure 2.7 at the end of this chapter) and land habitat, which are important to the survival and recovery of the listed species. The overall effect on land, air, and water resources will be negative, unless carefully planned for and mitigated.

NMFS cooperates with the state water resource management agencies in assessing water resource needs in the Columbia River Basin. Through restrictions in new water developments, vigorous water markets may develop to allow existing developed supplies to be applied to the highest and best use. Interested parties have applied substantial pressure, including ongoing litigation, to the state water resource management agencies to reduce or eliminate restrictions on water development. It is, therefore, impossible to predict the outcomes of these efforts with any reasonable certainty.

The Region has several other major plans related to fish and wildlife mitigation and recovery efforts that this EIS incorporates by reference. These plans represent a formal set of actions reflecting more localized social values than the legal parameters. The effect of these plans can also inhibit or enhance implementation of any FWIP EIS Policy Direction, but they too can be changed to reflect changing values. These plans include the Spirit of the Salmon (CRITFC, 1996), the Governors' Recommendation for the Protection and Restoration of Fish in the Columbia River Basin, the Council's Fish and Wildlife Program (Phase I amendments October 2000; Council, 2000c), the Interior Columbia Basin Ecosystem Management Project (USDA/USFS and USDOI/BLM, 2000), the Northwest Forest Plan (USDOI/USFWS and BLM, 1994), and the Final Lower Snake River Juvenile Salmon Migration Feasibility Report/EIS (Corps, 2002).

Council's Fish and Wildlife Program (including Framework)

As noted in Chapter 1, the Forum (with representatives from the 4 Northwest states, 11 of the Columbia Basin tribes, and the Federal agencies involved in the FCRPS) is designed to coordinate the regional fish and wildlife policies of its members. The Forum's Multi-Species Framework workgroup was tasked with addressing fish and wildlife recovery and mitigation from a multi-species perspective and preparing a report on the process.

In October 1998, the Framework Project invited interested parties to submit "concept papers" describing general approaches to fish and wildlife recovery efforts in the Columbia River Basin. From more than two dozen concept papers in hand, the project managers distilled 108 individual fish and wildlife recovery strategies. These were further distilled into seven alternatives designed to represent an array of approaches, from managing the Columbia River for peak benefit for fish and wildlife to managing it for economic benefit. These alternatives were considered in the development of Policy Direction alternatives in this EIS. For more information, see, Northwest Power Planning Council, "The Year of The Decision"[138] and Chapter 4 and Appendix D of this EIS.

[138] Federal Caucus 2000b.

Western Governors' Association

The Western Governors' Association (WGA) has endorsed Enlibra, an evolving set of new principles for a balanced approach to environmental and natural resource management. These principles emphasize greater participation and collaboration in decisionmaking, focus on outcomes rather than just programs, and recognize the need for a variety of tools beyond regulation. The Governors believe that adoption and use of these principles by state and Federal agencies, local governments, businesses and individuals can help the West successfully deal with increasingly complex environmental problems. These principles have proven effective in resolving debates and there are numerous examples of the Enlibra principles at work within the Western states. The Oregon Plan for Salmon and Watershed Restoration is one such example.

State Plans

The four Northwest states are represented through the Council and have participated in the Council's Multi-Species Framework process. The governors of the Region have also prepared a statement entitled "Recommendations of Governors of Idaho, Montana, Oregon, and Washington for the Protection and Restoration of Fish in the Columbia River Basin,"[139] which outlines their preferred strategy for recovery efforts.

The Governors' recommendations include the following general actions:

(1) Habitat Reforms

a) Designate priority watersheds for salmon and steelhead.

b) Provide local watershed planning assistance and develop the priority plans by October 1, 2002, and the plans for all Columbia River Basin watersheds by 2005.

c) Integrate Federal, state, and regional planning processes with the Council's amended Fish and Wildlife Program.

d) Cooperate with Federal, tribal, and local governments to implement the National Estuary Program for the lower Columbia River estuary, including creation of salmon sanctuaries.

(2) Harvest Reforms

a) Research the use of more selective fishing techniques and a license buyback program.

b) Increase harvest selectivity through restrictions of harvest rates, gear, and timing for commercial and non-Treaty sport fisheries, consistent with ensuring survival of the species when combined with other recovery actions.

c) Establish terminal fisheries below Bonneville Dam and in zone 6.

d) Strengthen state law enforcement programs and coordinate them with habitat strategies to aid specific watersheds.

[139] Governors, Pacific Northwest States 2000.

e) Increase fishing opportunities for species that prey on, and compete with, salmon for food.

(3) Hatchery Reforms

a) Implement reforms recommended in the Council's 1999 Artificial Production Review Report to congress.

b) Support the Region's fish managers and the tribes' development of a comprehensive supplementation plan that includes intensive monitoring and evaluation.

c) Mark hatchery fish that pose threats to listed fish, consistent with the Pacific Salmon Treaty.

(4) Funding and Accountability

a) Seek funding assistance for existing activities designed to improve ecosystem health and fish and wildlife health and protection.

b) Work regionally to create a standardized and accessible information system to document regional recovery progress.

Idaho, Montana, Oregon, and Washington each set rules and regulate the harvest of fish and wildlife through the sale of fishing and hunting licenses. State departments of fish and wildlife also maintain programs designed to conserve endangered species and their habitat. In addition to these programs and those that the states operate through the Council's Fish and Wildlife Program, several states have adopted individual plans and programs for fish and wildlife mitigation and recovery.

The **State of Idaho** Department of Fish and Game (IDFG) has released its report on "Idaho's Anadromous Fish Stocks: Their Status and Recovery Options."[140] This report examined the three recovery options that NMFS is considering for Idaho's salmon and steelhead: (1) status quo smolt barging and flow augmentation; (2) improved smolt barging and additional flow augmentation; and (3) natural river in the lower Snake River between Lewiston and Pasco and existing or reduced flow augmentation. IDFG staff recommended that "the natural river option is the best biological choice for recovering salmon and steelhead in Idaho." The State of Idaho and IDFG Commission have adopted a "normative river standard … [that] requires phasing out smolt transportation and allowing smolts to migrate naturally in the river as river conditions improve." [141] Documents outlining wildlife impacts and the goals and objectives of the Idaho mitigation program include The Idaho Department of Fish and Game Policy Plan and Strategic Plan.

The state of Idaho has created an Office of Species Conservation to work on subbasin planning and to coordinate the efforts of all state offices addressing natural resource

[140] The report on Idaho's anadromous fish stocks was completed May 1, 1998. A second printing was released June 8, 1998. IDFG 1998.

[141] IDFG 1998, Conclusion p. 1.

issues. The legislation establishing the Office of Species Conservation states that the Office shall oversee implementation of Federal recovery plan; coordinate state departments and divisions related to endangered, threatened, and petitioned species; provide input and comment related to endangered species; and provide an ombudsman for the citizens of Idaho harmed or hindered by regulations related to ESA. The state actions targeted by this office include the following:

(1) continue diversion screening, in cooperation with BPA and the Bureau;

(2) improve flow augmentation for fish passage through state programs;

(3) implement the Forest Practices Act to maintain forest tree species, soil, air, and water resources and provide a habitat for wildlife and aquatic life;

(4) complete cumulative watershed effects assessments on more than 100 watersheds to support watershed planning; and

(5) require 30-foot buffers along Class II streams.

The **State of Oregon** has created "The Oregon Plan," which emphasizes coho salmon in coastal river basins. The goal of the plan is to restore salmon and trout populations and fisheries "to productive and sustainable levels that will provide substantial environmental, cultural, and economic benefits." [142] The Oregon Plan involves the following: (1) coordination of effort by all parties, (2) development of action plans with relevance and ownership at the local level, (3) monitoring progress, and (4) making appropriate corrective changes in the future.

The Oregon Plan includes the following programs designed to benefit salmon and watershed health:

- Oregon Department of Agriculture water quality management plans;
- Oregon Department of Environmental Quality development of TMDLs in targeted basins; implementation of water quality standards;
- Oregon Watershed Enhancement Board funding programs for watershed enhancement programs, and land and water acquisitions;
- ODFW and Oregon Water Resources Department (OWRD) programs to enhance flow restoration;
- OWRD programs to diminish over-appropriation of water sources;
- ODFW and Oregon Department of Transportation programs to improve fish passage; culvert improvements/replacements;
- Oregon Department of Forestry state forest habitat improvement policies and the Board of Forestry pending rules addressing forestry effects on water quality and riparian areas;

[142] Oregon Executive Order No. EO 99-01 1999.

- Oregon Division of State Lands and Oregon Parks Department programs to improve habitat health on state-owned lands;
- Department of Geology and Mineral Industries program to reduce sediment runoff from mine sites; and
- state agencies funding local and private habitat initiatives; technical assistance for establishing riparian corridors; and TMDLs.

The **State of Washington** has published its "Statewide Strategy to Recover Salmon."[143] The goal of the plan is to "restore salmon, steelhead, and trout populations to healthy harvestable levels and improve those habitats on which the fish rely."[144] The Statewide Strategy focuses on salmon, but also emphasizes the need to maintain an adequate and clean water supply that sustains people, fish and wildlife. The Governor's Salmon Recovery Office has identified seven "salmon recovery regions" where state and local governments, tribes, business groups, and citizens work together to monitor habitat conditions, collect data, and implement habitat restoration projects appropriate to the regional environment and local needs.

Washington's Department of Fish and Wildlife (WDFW) and tribal managers have been implementing the Wild Stock Recovery Initiative since 1992. The managers are completing comprehensive species management plans that examine limiting factors and identify needed habitat activities. The plans also concentrate on harvest and hatchery actions, as well as including comprehensive hatchery planning.

Washington State closed the mainstem Columbia River to new water rights appropriations in 1995, but is now in the process of reopening it. State representatives have asked BPA and other interested entities in the Basin to develop a new water management program, called the Columbia River Regional Initiative, to meet the needs of a growing population and healthy economy, while at the same time meeting the needs of fish and healthy watersheds.[145] Applications for new water withdrawals are being denied, based on the need to address ESA issues. The state has acquired "trust water rights" under two statutes, one passed in 1989 (Chapter 90.38 RCW for the Yakima Basin), and the other in 1991 (Chapter 90.42 RCW for the remainder of the state). The state recently convened a Joint Executive Water Policy Group to develop new water legislation focusing on instream flows, relinquishment policies, water for growing communities, and funding for water infrastructure.[146] Washington State has been seeking to process new water rights from the mainstem Columbia and Snake rivers to meet growing water needs. The new permits would include "appropriate conditions to protect fish and require efficient use of water."[147]

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[143] State of Washington 1999.

[144] Extensive information on Washington's salmon recovery efforts is available at http://www.wa.gov/wdfw/recovery.htm.

[145] Fitzsimmons, Tom 2001.

[146] State of Washington 2002.

[147] Locke, Gary 2001.

The Watershed Planning Act, passed in 1998, encourages voluntary planning by local governments, citizens, and tribes for water supply and use, water quality, and habitat at the Water Resource Inventory Area or multi-Water Resource Inventory Area level. Grants are made available to conduct assessments of water resources and to develop goals and objectives for future water resources management. The Salmon Recovery Funding Act established a board to localize salmon funding. The Board will deliver funds for salmon recovery projects and activities based on a science-driven, competitive process.

Washington's Forests and Fish Report[148] contains recommendations for the development and implementation of rules, statutes, and programs to develop biologically sound and economically practical solutions that would improve and protect riparian habitat on non-Federal forest lands in the State of Washington. The Forest Practices Rules (Title 222 Washington Administrative Code) give direction on how to implement the Forest Practices Act.[149] These rules apply to non-Federal, forested lands within the state of Washington, and afford protection for forest soils, fisheries, wildlife, water quality and quantity, air quality, recreation, and scenic beauty, while maintaining a viable forest products industry. Through the NEPA processes on actions that may significantly effect the environment, Federal agencies will explain whether they are consistent with these rules.

The Washington legislature may amend the Shoreline Management Act, giving local governments options for complying with endangered species requirements in marine areas. The state is also establishing the Lower Columbia Fish Recovery Board to begin drafting recovery plans for the lower Columbia region. The future impacts of the Board's efforts will depend on legislative and fiscal support. The Washington Department of Transportation is considering changing its construction and maintenance programs to diminish effects on stream areas and to improve fish passage. The program may qualify for a limit under NMFS' 4(d) rule to conserve listed species.

The state of Washington is under a court order to develop TMDL management plans on each of its 303(d) water quality-listed streams. It has developed a schedule that is updated yearly; the schedule outlines the priority and timing of TMDL plan development.

Tribal Plans

In 1996, the Nez Perce, Umatilla, Warm Springs and Yakama Nation tribes[150] composed a joint restoration plan for anadromous fish in the Columbia River Basin. This plan, called Wy-Kan-Ush-Mi Wa-Kish-Wit, or "Spirit of the Salmon":

> "… provides a framework for restoring anadromous, or sea-going, fish stocks, specifically salmon, Pacific lamprey (eels), and white sturgeon in upriver areas above Bonneville Dam. The plan's geographic scope extends wherever these fish migrate

[148] Washington State Department of Natural Resources (WDNR) 1999.

[149] Revised Code of Washington 76.09.

[150] These four tribes, which comprise the Columbia River Inter-Tribal Fish Commission, have Treaty rights to harvest Columbia Basin anadromous fish.

> and throughout the Columbia River Basin wherever activities occur that directly affect them."[151]

The plan's objectives are to halt the decline of salmon, lamprey, and sturgeon populations above Bonneville Dam within seven years; to rebuild salmon populations to annual run sizes of four million above Bonneville Dam within 25 years in a manner that supports tribal ceremonial, subsistence and commercial harvests; and to increase lamprey and sturgeon to naturally sustaining levels within 25 years in a manner that supports tribal harvests. To achieve these objectives, the plan emphasizes strategies and principles that rely on natural production and healthy river systems.

The first volume of the two-volume plan sets out 13 scientific hypotheses and the recommended actions associated with each, along with 10 institutional recommendations. The second volume contains subbasin-by-subbasin return goals and the watershed restoration actions that must be undertaken to achieve them.

The technical recommendations, which are aimed at increasing survival at each stage of the salmon's life cycle, are presented as scientific hypotheses that summarize various restoration problems. Organized by salmon life cycle stages, each hypothesis proposes near- and long-term actions, identifies expected results, and names the institutional and decisional processes required to carry out the recommended actions. The plan's technical recommendations cover hydro operations on the mainstem Columbia and Snake rivers; habitat protection and rehabilitation in the Basin above Bonneville Dam, in the Columbia estuary and in the Pacific ocean; fish production and hatchery reforms, and in-river and ocean harvests.

The Nez Perce, Warm Spring, Umatilla, and Yakama tribal governments officially approved Wy-Kan-Ush-Mi Wa-Kish-Wit in January and February 1996. The tribes are now seeking to implement salmon restoration in conjunction with the Basin's other sovereigns—the states, other tribes and the Federal government—and in cooperation with their neighbors throughout the Basin's local watersheds and other citizens of the Northwest.[152]

Tribal plans also rest in part on the ongoing results of *U.S. v. Oregon*, discussed in Chapter 1 and in Section 2.3.2.3 of this chapter. This case, begun in the 1968 by the Columbia River treaty tribes and the United States against Oregon, and (eventually) Washington and Idaho, supports the tribes' treaty-secured fishing rights. Under it, the tribes ultimately won recognition of their right to an even split of the harvestable fish between treaty and non-treaty fisheries and acceptance as co-managers of the fishery. The Columbia River Fish Management Plan addresses 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 yet been renegotiated.

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[151] CRITFC 1996, p 3.
[152] CRITFC 1996, p 3.

In addition, several of the Basin's thirteen federally recognized tribes have been developing, as part of the Multi-Species Framework process, a statement entitled "The Tribal Vision for the Columbia River and How to Achieve It." This document emphasizes the following key elements of the tribes' philosophical approach to fish and wildlife mitigation and recovery:

> "Tribal cultures, economies, religions, and ways of life throughout the Columbia River Basin are endangered no less than our air, water, fish, wildlife, plants and other resources—they depend on them, and cannot exist in their absence."[153]
>
> "The tribal vision for the future:
>
> - is one in which people return to a more balanced and harmonious relationship with the environment
> - is one where people, fish, wildlife, plants and other natural and cultural resources are once again biologically healthy and self-sustaining
> - [includes] a healthy Columbia River Basin ecosystem also characterized by clean air and clean water
> - not only supports viable and genetically diverse fish and wildlife resources that provide direct benefits to society, through harvest and improved physical health of tribal and non-tribal members, but also nourishes the spirit
> - [is one in which] tribal sovereignty, treaty rights and trust responsibility are honored, respected, and fulfilled."[154]

Strategies for achieving this vision include the following:

- Emphasize healthy rivers and watersheds with abundant and diverse species assemblages and their management, maintenance and restoration, with particular attention to ecosystem diversity, productivity and stability.
- Emphasize natural production provided by such rivers and watersheds.
- Reintroduce and restore anadromous fish to the rivers and streams that historically supported them, in numbers sufficient to provide for the needs of the ecosystem and people, in perpetuity.[155]

Non-Governmental Organization (NGO) Plans

There are dozens, possibly hundreds, of non-governmental organizations (NGOs) and individuals with plans and projects to aid in the mitigation and recovery of fish and wildlife affected not only by the FCRPS, but also by all the causes of habitat decimation, declining species diversity, and overall population declines. These groups address resident fish, anadromous fish, and wildlife. Given the number and diversity of NGOs, as well as their often-transitory nature, BPA cannot qualify or quantify the effects of their

[153] CRITFC 1999, pp. 2-3.
[154] CRITFC 1999, p. 3.
[155] CRITFC 1999, p. 5.

efforts. See Appendix D for some of the diverse viewpoints on fish and wildlife recovery.

Independent Science Advisory Board (ISAB) Review

On August 22, 2001, the ISAB issued their Review of Salmon Recovery Strategies for the Columbia River Basin. The Review examined the four Northwest states Governors' Plan, the Council's 2000 Fish and Wildlife Program, the NMFS 2000 BiOp, and the Basinwide Recovery Strategy. In summary, the ISAB stated the following:

> Taken together, the four papers represent a realistic assessment of the problems facing salmon recovery in the Columbia River Basin. There is consistency in many of the kinds of recovery actions proposed in the documents, and the scientific bases for these actions are generally sound. However, the strategies as articulated in the papers usually lack details about how various recovery actions would be implemented (with the possible exception of actions related to mainstem passage) and as a consequence we were uncertain that the actions proposed in them will actually lead to salmon recovery. There is no doubt that the proposed strategies would result in some beneficial results for salmon, which is encouraging, but the status of many of the stocks has become very grave. Recovery documents containing *explicit and quantified details* are needed so that their sufficiency can be evaluated. We believe the four documents, collectively, fall short of providing this detail.[156]

2.3.2.5 Back to the Beginning: The Policy Decisions Change Over Time

Policy decisions, like the environment they address, are dynamic and change over time. The intent of this EIS is to show the many policy choices and their consequences. There will, however, be no one right choice for all agencies or constituents.

> "Society weighs policy choices in the context of prevailing values and preferences. Even with identical scientific information and the identical conditions of stocks, a salmon policy position from the end of the nineteenth century doubtless would be different than a current policy on salmon.…
>
> The search for the scientifically optimal policy solution will be futile because of changing values and preferences."[157]

As evidenced by the example of the Department of the Interior positions shown below, policies change, even within a single entity.

[156] ISAB 2001, p. iii.

[157] Lackey, R. T. 1996b.