

Conservation of Columbia Basin Fish

Final Recommendations for a Basinwide "All-H" Salmon Recovery Strategy

Winter 2000 • Issue 5

A publication of the Federal Caucus, Columbia River Fish and Wildlife Recovery

The year 2000 will go down as a milestone for the Columbia River Basin's fish and aquatic life. The Federal Caucus has prepared a comprehensive strategy for recovering endangered fish and other aquatic species that inhabit the basin's rivers and streams. The strategy describes actions that are expected to achieve recovery and ways to implement them, and will serve as a blueprint in the years ahead to guide federal actions and decisions on species recovery. Finalizing this plan highlights the transition from planning to implementation.

Beginning in 1999, the nine-agency Federal Caucus set a goal to come up with a comprehensive "All-H" Recovery Strategy that addresses human activities – habitat, harvest, hatcheries and hydropower – that have contributed to the decline of salmon and other aquatic creatures in the basin. The strategy outlines science-based approaches to improving conditions for species at every life stage and in all habitats (the Columbia River, the many tributaries and the estuary) where they live. It also takes into account the natural cycles and how these affect environmental conditions.

The Recovery Strategy puts a high priority on actions that have the best chance of being implemented and are most likely to provide solid biological benefits. It includes immediate actions to jump-start recovery and long-term actions to benefit fish. Continued scientific research, along with a focused monitoring and evaluation program, will allow the Caucus agencies to apply evolving knowledge.

The Caucus agencies designed a rigorous framework for tracking progress toward recovery. Account-

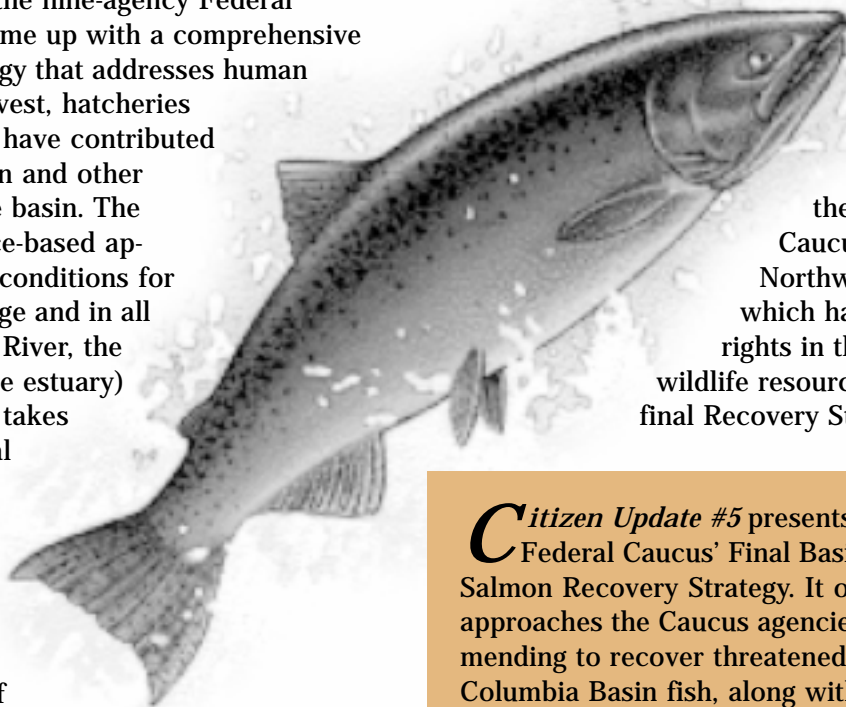
ability is based on performance standards and evaluations in three, five and eight years. If the Recovery Strategy is not working, alternative or more aggressive actions would be considered.

The Federal Caucus worked to include the citizens of the Northwest in developing the Recovery Strategy. In December 1999, the Caucus agencies released a draft of the All-H Recovery Strategy that outlined the difficult choices the region faces in recovering species listed under the Endangered

Species Act (ESA).

The Federal Caucus held 15 public hearings, attended by more than 9,000 citizens in the region. The

Caucus also met with Northwest Indian tribes, which have trust and treaty rights in the region's fish and wildlife resources. In preparing the final Recovery Strategy, the Caucus



Citizen Update #5 presents highlights of the Federal Caucus' Final Basinwide "All-H" Salmon Recovery Strategy. It outlines approaches the Caucus agencies are recommending to recover threatened and endangered Columbia Basin fish, along with specific actions and implementation methods. Four previous *Citizen Updates* provided background and context for the strategy described in this publication. They also give a chronology of the federal agencies' process in developing the plan, which began in 1998. (See the back page for information on how to order other documents.)



agencies considered over 60,000 written comments that were received during the formal public comment period. In July 2000, the Caucus released a final draft of the Recovery Strategy and the draft NMFS and FWS Biological Opinions to states and tribes for technical review. The Caucus met with state and tribal technical and policy level officials to identify areas of agreement and areas of concern.

To be successful, any strategy will require a significant commitment of resources for recovery, as well as for monitoring and evaluation. The Caucus agencies expect to use existing programs and capabilities as much as possible, and new federal initiatives where appropriate, to advance the All-H Strategy. The Caucus agencies recognize they cannot achieve recovery results without regional support and participation. State and tribal governments, along with the Northwest Power Planning Council (Council), must be major players in the effort to restore fish and other aquatic species in the Columbia Basin.

Agencies of the Federal Caucus

The **National Marine Fisheries Service (NMFS)** and **U.S. Fish and Wildlife Service (USFWS)** are responsible for species recovery and for preparing the Biological Opinions that guide hydro operations that affect listed species. They will prepare recovery plans for each listed species. The **Army Corps of Engineers (COE)**, **Bureau of Reclamation (BOR)** and **Bonneville Power Administration (BPA)** are the action agencies that operate the federal hydro system and market federal hydro power. They are responsible for implementing many of the recovery activities. The **U.S. Forest Service (USFS)** and the **Bureau of Land Management (BLM)** have a major role in implementing habitat-related recovery actions on federal land. The **Environmental Protection Agency (EPA)** regulates water quality and compliance with the Clean Water Act with the states and tribes and is helping to bring about habitat restoration and water quality improvements throughout the Columbia Basin. The **Bureau of Indian Affairs (BIA)** helps to assure the federal government's treaty and trust obligations to Northwest Indian tribes are considered in every aspect of the All-H Strategy.

There is sound science behind the federal agencies' decision to view recovery in terms of all of the Hs (habitat, harvest, hatcheries, hydropower). Research in the late 1990s indicated that hydro system improvements alone will not recover all of the listed species – not even dam breaching. Land use, water quality in the tributaries, hatchery policies and harvest practices have contributed substantially to the decline of species, according to the research. Studies also suggest the greatest opportunities for improving survival hinge on efforts to restore the habitat where fish spawn and rear, in the tributaries with adequate adult escapement and in the Columbia River estuary. Scientific evidence also indicates that recovery efforts would benefit from a major overhaul of the hatchery system.

Much of the regional recovery debate has focused on removal of four Snake River dams. Of the 12 species of salmon and steelhead listed under the Endangered Species Act that inhabit the vast Columbia Basin, just four Snake River populations would substantially benefit from breaching the Lower Snake River dams. Also, dam breaching must be approved and authorized by Congress and could not be quickly implemented. The high cost of dam removal would preclude other actions needed throughout the basin. Therefore, the Recovery Strategy does not recommend dam breaching at this time. The All-H Strategy emphasizes actions that can be undertaken quickly, have solid and predictable benefits, and are likely to benefit a broad range of fish species. However, dam breaching as an option will be further developed in the event that future conditions warrant it. Nevertheless, the Caucus believes that the combination of measures outlined in the All-H Strategy, including aggressive actions on the hydro system, as well as restoration of habitat and improved use of hatcheries will have greater positive benefit than dam breaching.

The Framework for Recovery: Structure of the All-H Recovery Strategy and the Biological Opinions

The Federal Caucus has organized a framework for implementing the various actions laid out in the Recovery Strategy over the next ten years. It establishes clear objectives and provides for ways to measuring their success. Consistent with the All-H Strategy, the NMFS Biological Opinion establishes what specific performance standards are necessary to achieve survival of the listed species. NMFS has



Selected Recovery Actions

- Biological Opinion Action
- Basinwide Salmon Recovery Strategy Action

The following actions are a selection from an array of recovery strategies that will be evaluated at years three, five and eight.

Habitat

Manage Federal Lands to Protect Fish (USFS, BLM)

- Through Interior Columbia Basin Ecosystem Management Project's (ICBEMP's) and the Northwest Forest Plan's aquatic strategies, provide a base for habitat protection.
- Implement seven watershed restoration initiatives targeting core populations most at risk.
- Implement multiple-scale assessments and data management systems.

Restore Basinwide Habitat

- ■ Facilitate Lower Columbia River Estuary Program implementation (LCREP, EPA).
- ■ Improve predator control (including developing a seabird management plan) (COE, NMFS, FWS).
- ■ Authorize and fund expanded Corps of Engineers Restoration Program.
- With the Northwest Power Planning Council, develop subbasin and watershed assessments and plans.
- ■ Fix flow, screening and passage problems in priority subbasins beginning in 2001 in the Methow, Upper John Day and Lemhi.
- Support Total Maximum Daily Load (TMDL) development and implementation under the Clean Water Act (BPA).
- ■ Evaluate opportunities to improve spawning habitat in the Ives Island area.
- Protect Hanford Reach (FWS, DOE).
- Initiate a Lower Columbia Greenway Project.

Harvest

- Seek opportunities to regulate fishing impacts on listed fish by helping the states and tribes develop alternative fishing techniques and/or locations and by enabling more selective fisheries and helping to develop the necessary institutional mechanisms and analytical capabilities to support management of selective fisheries (BPA, NMFS, USFWS).
- Seek opportunities to provide for managing fisheries and contributing to the transition to selective fisheries and for implementing the 1999 Pacific Salmon Treaty Agreement.

Hatchery

Reform Production Facilities

- Develop approved Hatchery Genetic Management Plans (HGMPs) for all hatchery facilities in the Columbia Basin.
- Implement HGMPs at federal, state and tribal facilities by making necessary operational improvements and capital changes in programs and facilities.

Hydropower

Additional Capital Improvements at Dams (COE, BPA, EPA)

- Implement aggressive passage improvements, including specific passage upgrades for juvenile fish at individual dams. Improvements vary by location, including relocation of bypass outfalls, refined screens and bypass facilities, surface bypass, spillway modifications and more effective spill, improved turbine operations and design, predator management, and mainstem and estuarine habitat.

Improve Operations for Fish (BPA, COE, USBR)

- Improve flow operations to provide water conditions beneficial to migrating juvenile and adult fish. Seek improvements in Canadian flows with a potential of up to 2 maf over time. Seek immediate improvements from the Snake River contingent upon ongoing discussions. Conduct flood control study to allow further flow improvements. Implement flood control adjustments to reduce risks to listed resident fish from salmon flows.
- Continue "spread the risk" approach for fish transportation; reduce trucking; continue to study delayed mortality issue.
- Implement measures to improve water quality while meeting fish passage objectives. Develop a Water Quality Improvement Plan for dissolved gas and temperature.
 - Apply anadromous fish priorities to relicensing for nonfederal dams.
 - Improve existing habitat and fully evaluate passage opportunities through relicensing and consultation for Idaho Power Company dams.



developed preliminary performance standards for habitat based on environmental conditions, for the mainstem hydropower system based on juvenile and adult fish survivals, and for hatchery reforms based on hatchery genetic management plans. These performance standards will serve to measure progress and judge whether alternative strategies are needed to rebuild populations and achieve recovery. The examples and timeline below illustrate this accountability framework for recovery actions.

In addition to performance standards, the Federal Caucus has built research, monitoring and evaluation programs into all facets of the All-H Strategy. There are gaps and uncertainties associated with the science related to recovery. The region

needs to continue to seek new information to aid in understanding the impact of human activities on listed species and in developing effective recovery measures. This framework allows the Caucus agencies to apply evolving scientific knowledge to the strategy.

Under the NMFS Biological Opinion, the action agencies (Army Corps of Engineers, Bureau of Reclamation and Bonneville Power Administration) will prepare one- and five-year implementation plans for each H over the next 10 months. The action agencies will release initial plans in the spring to be reviewed by a panel of independent scientists and finalize the plans by September 2001. Specific implementation activities will be detailed in annual

Examples of Biological Performance Standards and Measures

Specific performance standards are established in the NMFS Biological Opinion.

Performance Standards

- improve survival rate
- eliminate practices harmful to wild fish

Performance Measures

Hydrosystem

- improve survival through the hydro system
- improve instream and reservoir environmental conditions

- Juvenile survival rate of X% at each project
- Cumulative juvenile in-river system survival rate of X%
- Adult survival rate of X% per project and X% systemwide
- Cumulative system adult and juvenile survival rate of X%

Habitat

- prevent habitat degradation
- restore high-quality habitat
- restore/increase habitat complexity

- Increased stream miles meeting water quality standards (temperature and sediments)
- Increased stream miles with adequate instream flows
- Increased stream miles opened to fish access
- Increased number of diversion areas screened
- Increased acres and/or stream miles of habitat protected or restored

Harvest

- prevent overharvest
- provide sustainable fishery

- Constrain harvest rates of listed fish
- Increase escapement rates

Hatchery

- reduce hatchery operations potentially harmful to wild fish
- implement conservation hatchery actions

- Increase number of biologically appropriate naturally spawning adults
- Improve fish health and fitness
- Improve hatchery facilities, operation and management and reduce potential harm to listed fish

and five-year plans. Other agencies may undertake similar planning for salmon recovery actions they undertake or fund.

The FWS Biological Opinion establishes specific measures to protect bull trout and Kootenai River white sturgeon. These measures focus on the Upper Columbia dams where the two species reside. Taken together, the two Biological Opinions balance the needs of listed salmon and resident fish across the Columbia Basin.

Under the NMFS Biological Opinion, the action agencies will prepare annual progress reports and NMFS will issue an annual findings letter. In years three, five and eight, NMFS will assess whether the program of hydropower, habitat and hatchery im-

provements, along with adequate research, monitoring and evaluation, have been implemented and are meeting the performance standards. If performance standards are not being met, the Caucus will renew its efforts by accelerating recovery measures, incorporating new actions, or reconsidering alternative strategies.

In order to jump-start actions that provide high benefit for ESA-listed species, BPA and the Northwest Power Planning Council have solicited proposals for high-priority projects. Through this solicitation, BPA will fund a limited set of projects for 2001 for immediate, on-the-ground benefits. The project must be ready for immediate implementation in 2001, including all necessary permits and approvals.

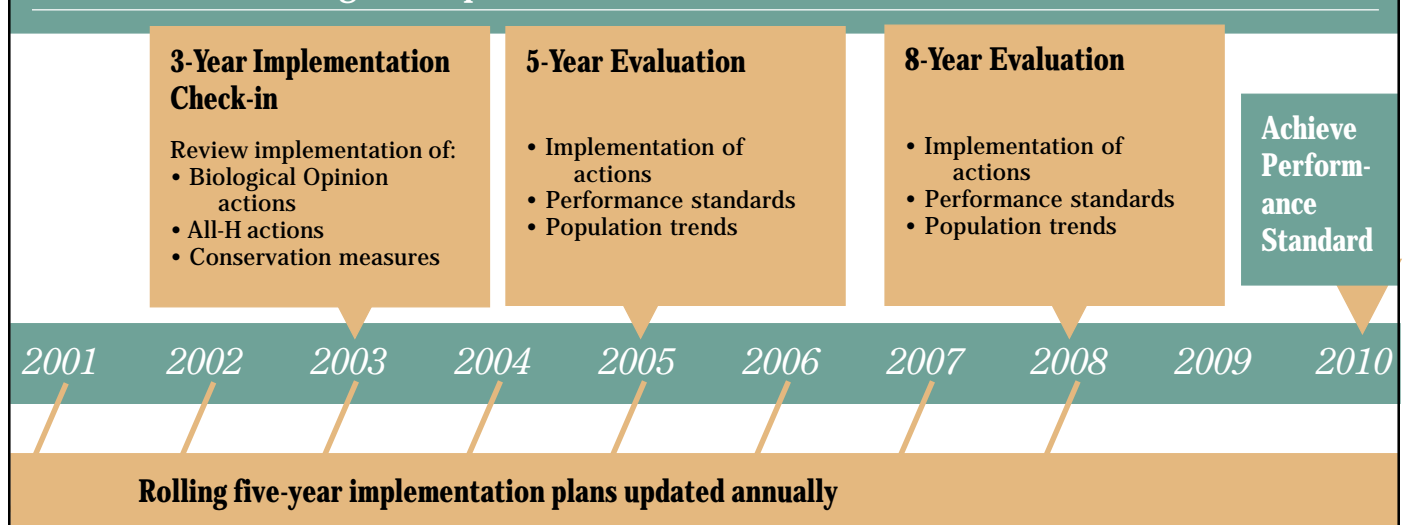
Examples of Hydro System Survival Standards [% survival]

Specific performance standards are established in the NMFS Biological Opinion.

	Juvenile Standard ^{1/}	Juvenile Current ^{1/}	Adult Standard	Adult Current
Snake River Spring/Summer Chinook	47-65%	46-64%	85%	80%
Snake River Fall Chinook	9-16%	6-15%	72%	60%
Upper Columbia Spring Chinook	54-76%	45-66%	92%	89%
Lower Columbia Spring Chinook	86-95%	83-91%	98%	97%
Lower Columbia Fall Chinook	62-85%	55-81%	96%	94%
Snake River Steelhead	38-57%	36-53%	85%	80%
Upper Columbia Steelhead	38-76%	30-67%	92%	89%
Middle Columbia Steelhead	38-76%	30-67%	92%	89%
Lower Columbia Steelhead	80-94%	75-91%	98%	97%

^{1/} Broad ranges reflect variable hydraulic/environmental conditions and uncertainty about delayed mortality.

2000 NMFS Biological Opinions Timeline Overview





These high-priority actions are intended to:

- address imminent risks to the survival of one or more species listed under ESA and have measurable, quantitative, biological objectives;
- produce largely self-sustaining habitat after activities are completed;
- connect patches of high-quality habitat or extend habitat out from a core area;
- improve conditions in water-quality-limited streams; and
- address a habitat enforcement issue and result in the protection of listed anadromous fish habitat including marine habitat.

From Plan to Implementation

The Federal Caucus Recovery Strategy places priority on actions with the best chance of being implemented, the best chance of providing solid and predictable biological benefits and the best chance

of benefiting the broadest range of species. The Caucus agencies can implement much of the All-H Strategy using existing authorities and capabilities. The Caucus agencies are entering into a Memorandum of Understanding (MOU) that spells out how they implement the All-H Strategy. The MOU says the Caucus agencies will coordinate in planning and implementing actions across all Hs, as well as in executing their responsibilities to Indian tribes and living up to mandates under the Endangered Species Act, Clean Water Act and other laws that relate to the conservation of fish in the Columbia River Basin.

The MOU sets up a general structure for federal recovery work and creates a Habitat Team to coordinate priorities and activities. The MOU also continues the forum established under the NMFS and USFWS Biological Opinions to coordinate hydro system operations. It commits the Caucus agencies to coordinate priorities for salmon recovery. The Federal Caucus will host regular meetings that are open to the public.

Highlights of the Federal Hydro System's Biological Opinions

USFWS Biological Opinion

- Developed after consultation with COE, USBR and BPA.
- Includes federal dams located in Oregon, Washington, Idaho and Montana.
- Coordinated this Biological Opinion with NMFS to address conflicts in operational requirements for different species.
- Considered effects of operation and maintenance of the Federal Columbia River Power System (FCRPS) on Kootenai River white sturgeon and bull trout.

For Kootenai River White Sturgeon

- Modified flood control for Libby and Hungry Horse.
- Secured operations at Libby to “trigger” sturgeon spawning and provide rearing habitat.

For Bull Trout

- Modified flood control for Libby and Hungry Horse.
- Establish minimum flows.
- Set summer and winter ramp rates.
- Require monitoring to determine the extent of bull trout use of the lower Columbia and Snake rivers affected by FCRPS.

NMFS Biological Opinion

- Important difference from 1995 Biological Opinion – sets goals to increase survival in locations other than the dams and establishes performance standards.
- In five years, review all populations for any decline. Work with the three federal agencies (USBR, COE and BPA) to determine how to halt decline.
- In eight years, ask two crucial questions: Are salmon populations growing? If yes, are they growing fast enough for statutory recovery in 48 years?
- Assumes improvements in habitat conditions, hatchery practices, harvest strategy and non-breaching adjustments to the dams.
- If inadequate improvements are measured in five years, seek alternative recovery strategies.
- Breaching would require Congressional authorization.

Make the migration route as fish-friendly as possible

- Set minimum flows.
- Improve spill.
- Upgrade passage.
- Improve habitat.

Partners in Success

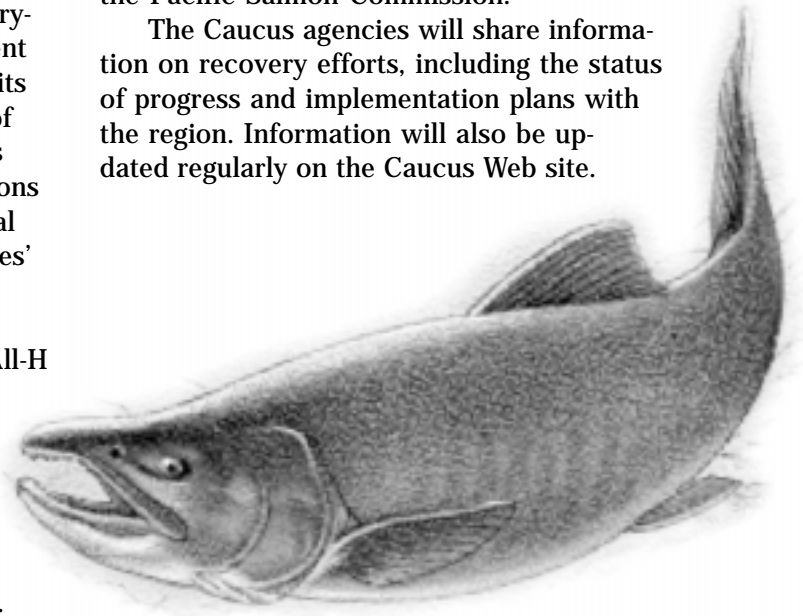
Partnership is the key to a successful species recovery program. The Federal Caucus' Recovery Strategy depends on active and effective leadership from all parties and much greater coordination among federal, state, tribal and local agencies than ever before. The Caucus agencies intend their activities to complement and encourage other efforts.

The Federal Caucus designed the actions in the Recovery Strategy to dovetail with current recovery-related programs in the region. Rather than reinvent the recovery wheel, the Caucus determined ways its recommendations could be implemented as part of processes already in place, including the Council's fish and wildlife program, NMFS' Biological Opinions and regional forum process, the USFWS Biological Opinion and the federal land management agencies' Interior Columbia Basin Ecosystem Management Project (ICBEMP).

The Caucus agencies will seek to merge the All-H strategies with other efforts in the region. The goal is to weave together threads of a number of disparate programs to create a unified, efficient approach that meets ESA recovery goals for fish and other aquatic species. The federal agencies will establish mechanisms to coordinate federal actions in each H with other efforts in the region.

For hydropower, the agencies will continue to work through the regional forum process NMFS created with its Biological Opinions on salmon and steelhead. For habitat, the Caucus Habitat Team will coordinate efforts among the agencies and with the Council, whose fish and wildlife program is a logical place to include many habitat and hatchery measures. Harvest will continue to be coordinated through the existing forums in *U.S. vs. Oregon* and the Pacific Salmon Commission.

The Caucus agencies will share information on recovery efforts, including the status of progress and implementation plans with the region. Information will also be updated regularly on the Caucus Web site.



Merging Federal and Council Efforts

The ESA requires NMFS and USFWS to prepare formal plans that set recovery goals for specific listed populations. NMFS has initiated recovery planning for salmon and steelhead in the Upper Willamette and Lower Columbia rivers and will begin planning for species in the interior Columbia River Basin in January 2001. USFWS completed a recovery plan for Kootenai River white sturgeon in 1999, and other recovery plans for bull trout and Snake River snails are under way. The agencies expect these recovery plans to provide specific numeric and qualitative criteria for eventually being able to remove these species from ESA protection.

The All-H Strategy provides goals, objectives and actions at the scale of the entire basin. But much more specific recovery goals and measures

need to be determined at the local level. This is where the Caucus agencies intend to link up with the Council's process for addressing the unique ecological and social conditions in the Columbia River Basin. The Council has initiated "provincial" reviews to assess each subbasin and prepare a fish and wildlife plan specific to existing circumstances. The Council's new approach anticipates subbasin plans will link up with state and locally driven efforts already under way in specific areas.

The region's government agencies and tribal fish and wildlife managers are already active participants in the Council's process. NMFS and USFWS will strive to integrate their recovery planning with the Council's work to engender a broadly supported, unified effort.



Further Information and Contacts

If you would like more information on the Final Basinwide Salmon Recovery Strategy, the Federal Caucus or Columbia Basin fish and wildlife recovery, or to order previous issues of the *Citizen Update* or other documents, please visit the Federal Caucus Web site. CDs are available with the All-H Recovery Strategy and supporting documents, the NMFS Biological Opinion and the USFWS Biological Opinion. You can also contact the Caucus by phone or mail.

Phone

Toll free: 1-888-921-4886

E-mail

federalcaucus@bpa.gov

Mail

Federal Caucus
c/o BPA - P
P.O. Box 3621
Portland, OR 97208

Web sites

- For information on the Federal Caucus *All-H Strategy*, visit www.salmonrecovery.gov. This Web site lists other Internet links related to Federal Caucus activities and documents.
- For information on the NMFS' Biological Opinion and recovery planning, visit www.nwr.noaa.gov/1hydro/hydroweb/fedrec.htm.
- For information on the USFWS' Biological Opinion and recovery planning, visit www.r1.fws.gov/finalbiop.
- For information on ICBEMP, visit www.icbemp.gov.
- For information on the Northwest Power Planning Council's fish and wildlife activities, visit www.nwppc.org.