2003 Check-in

Agencies Report on Actions to Benefit Salmon and Steelhead

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This issue of the *Citizen Update* summarizes the 2003 Check-In Report under the NOAA Fisheries 2000 Biological Opinion for operation of the Federal Columbia River Power System for salmon and steelhead. Besides BiOp implementation actions, this *Citizen Update* also reports actions taken by Federal Caucus agencies under the more comprehensive Basinwide Salmon Recovery Strategy. For additional background on the BiOp, the basinwide strategy, and the region's other fish recovery programs, see *Citizen Update* Issue 10 and other links at **www.salmonrecovery.gov**. You may also request printed copies of past *Citizen Updates* by calling 1-888-921-4886 or e-mailing federalcaucus@bpa.gov.

Federal Caucus

Improved salmon and steelhead returns are encouraging as the region continues its efforts for fish. (Photo courtesy of BPA)

In every corner of the Columbia River Basin, hundreds of activities are underway to help threatened and endangered fish. Fish passage facilities at Columbia and Snake River dams are being upgraded to better protect salmon and steelhead from rotating turbines. Wilderness roads are being removed and natural creeks restored to re-open important spawning beds. Hatchery operations are being revised to lessen impacts of hatchery-bred fish on wild salmon. Fishers are receiving cash for catching predators and are being provided with special nets to reduce the catch of threatened fish.

Collectively, these actions will improve conditions for 12 species of salmon and steelhead and two resident fish populations listed under the Endangered Species Act (ESA). Whether it's the installation of a single culvert in a remote stream in the Salmon River subbasin in Idaho, or major modifications at several federal dams, every action means a step forward in what is possibly one of the nation's most ambitious natural resource conservation efforts.

The federal agencies involved with fish recovery efforts include the three agencies managing dams in the Federal Columbia River Power System (FCRPS)

and other federal agencies that manage land or other natural resources in the Columbia River Basin. Under the Biological Opinion (BiOp) issued by NOAA Fisheries in 2000, the three FCRPS Action Agencies—the Bonneville Power Administration (BPA), U.S. Army Corps of Engineers (Corps), and Bureau of Reclamation (Reclamation)—are required to report their progress annually. In addition, they must provide more detailed assessments of their progress as part of formal "Check-Ins" in 2003, 2005 and 2008. In September 2003, the Action Agencies completed a ***2003 Check-In Report*** discussing their three-year progress implementing key programs.

Traffic Jam at Bonneville Dam adult fish ladder: Over 580,000 fall chinook have passed Bonneville Dam this year, which sets a new record since counts began in 1938. Last year's run, the previous record, was 474,554. Coho and steelhead returns are also strong.

NOAA Fisheries will next evaluate whether the agencies are "on track" meeting specific benchmarks. Results of NOAA Fisheries' evaluation will be covered in the next *Citizen Update*. The 2005 Check-In will again assess implementation progress, and also evaluate whether listed fish are showing adequate progress toward recovery.

Efforts on track, despite challenges

Overall, the vast majority of actions called for under the BiOp are on track and expected to meet 2003 benchmarks. In a "findings letter" issued in May 2003 responding to the agencies' reports on progress through 2002, NOAA Fisheries found that 192 of 199 specific actions listed in the BiOp are being implemented as expected or otherwise moving forward satisfactorily. In particular, 117 of the 124 "reasonable and prudent alternative" actions required to be implemented by the 2003 Check-In were found to be on track or, if modifications were required, still successfully underway.

While the agencies have made headway in many important areas, implementation of fish actions has not been without challenges. For example, in 2001, the first year of BiOp implementation, a record drought, energy emergencies, and an unstable power market threatened several fish programs. Particular challenges were providing water for fish migration and spilling water over dams for juvenile salmon passage, as the Action Agencies struggled to balance electricity needs with fish recovery goals.

Challenges remain in the seven actions flagged as "needing resolution" in NOAA's last findings letter. A key effort to draft detailed habitat improvement plans in the region's priority subbasins (where listed fish spawn) has taken longer than expected because of the complexities of coordinating with multiple local and regional groups. The BiOp anticipated that subbasin plans under the Northwest Power and Conservation Council Fish and Wildlife Program would be complete for certain priority subbasins by the end of 2003. However, the

extensive regional coordination and initial organization required for this effort took longer than anticipated. In nine priority subbasins, a work plan is now in place and subbasin assessments and plans are being developed. Work is underway to complete the plans in these and the other subbasins in 2004. Absent completed subbasin plans, the Action Agencies are focusing efforts on the fish with the most immediate needs, those at the greatest risk of extinction, and on actions that will provide more immediate benefits such as removing barriers in streams where fish passage is hindered or blocked, and getting more water back into the streams.

In addition, funding has been a factor, as with delayed construction of flow deflectors to reduce gas supersaturation at Chief Joseph Dam. Likewise, development of performance standards and measures—needed yardsticks to accurately evaluate the effectiveness of recovery actions and ongoing status of listed fish—is behind schedule. Important studies to evaluate the effectiveness of tributary habitat improvements have proven difficult to establish because of disagreements in the scientific community about study design and other issues. Some habitat work on federal lands has been postponed because agencies had to divert resources to fight multiple wildfires. The federal agencies, as well as their regional, state, tribal and local group partners, are focused on resolving these issues.

Highlights of Action Agencies' Three-Year Progress

Still, given the breadth of the task—bringing together diverse jurisdictions and interest groups to restore fish runs impacted by decades of human activities—the amount of progress made in three years is considerable. Here are highlights of fish recovery efforts to date by the FCRPS Action Agencies and other Federal Caucus agencies. Because 2003 is not yet over and information is incomplete for this year, some highlights cover activities only through 2002.

The following summarizes fish recovery actions taken to meet BiOp requirements as well as to implement the broader Basinwide Salmon Recovery Strategy. The highlights are organized by "H" strategies (see shaded box). Collectively, the Action Agencies are spending about $400 million annually on fish programs.

Hydro system actions

Fish passage improvements at dams. In the past three years, the Action Agencies have completed 17 reconfiguration projects at federal dams to improve fish passage and water quality. Nine projects will improve passage conditions for adult fish, or improve capability to monitor adults as they move upstream past dams to return to spawning areas or hatcheries. Juvenile fish heading downriver will have less stressful trips thanks to passage improvements at Bonneville (see related story), McNary, Lower Monumental and Lower Granite dams.

Water management. In 2002 and 2003, the Action Agencies were able to operate federal reservoirs to supplement stream flows for migrating fish as called for in the BiOp. An environmental assessment was completed to allow additional reservoir storage and possible stream flow improvements to begin on an interim basis at Hungry Horse Dam in 2002 and Libby Dam in 2003, while a more comprehensive study is completed. Specified levels of spring and summer spill to improve juvenile fish passage and survival occurred at all Columbia and Snake river dams, except Lower

The "All-H" strategy for fish recovery

To implement BiOp recommendations, the Action Agencies have established key strategies based on the "Hs" that impact fish in the basin: the **hydropower** system, **habitat**, **hatcheries**, and **harvest**. Additional strategies outline studies (**research, monitoring and evaluation–RM&E)** to improve our understanding of how certain actions affect fish and guide future actions. A summary of strategies in each area was published in *Citizen Update* Issue 8 (May 2002), which can be viewed on the *www.salmonrecovery.gov* web site.

Monumental in 2002 and McNary and Ice Harbor dams in 2003. In addition, the Corps continues to transport juvenile salmon and evaluate whether it improves their survival chances, transporting some 14 to 22 million annually from the lower Snake and Columbia rivers to a destination below Bonneville Dam.

Habitat actions

Tributary habitat improvements. Hundreds of projects to improve habitat for listed fish have been completed during the past three years. In 2002, nearly 250 habitat projects were undertaken in 20 subbasins throughout Oregon, Washington and Idaho. In 2003, most existing projects will continue and new projects will be initiated throughout the Columbia River Basin.

Reclamation has initiated programs in nine priority subbasins to improve flows and fish passage and to screen irrigation systems to prevent fish from being drawn into irrigation diversions. These include the upper Salmon, Little Salmon, and Lemhi subbasins in Idaho; the middle Fork John Day, North Fork John Day, and Upper John Day in Oregon; and the Methow, Wenatchee and Entiat subbasins in Washington. (See related story on "push-up" dams.) BPA has funded projects to acquire 165 cubic feet per second in additional stream flows for fish in nine subbasins and removed or improved passage barriers to reopen nearly 700 miles of stream in 12 subbasins. The agencies have also established an innovative, experimental "water brokerage" that will coordinate state and local efforts to increase tributary flows.

In addition to in-stream projects, the Action Agencies have helped restore and protect adjacent "riparian buffer" lands around streams. In 2002, nearly 200 miles of important streamside habitat (more than 19,000 acres total) was protected from future erosion or contamination.

Mainstem habitat improvements and related actions. The Action Agencies are funding studies and projects to improve the lower Columbia and Snake River environment, particularly for spawning chum salmon. Actions include restoring woody riparian habitat in the lower Snake River, reintroducing chum into Duncan Creek near Skamania, Washington, and continuing to minimize the impact of predators like Caspian terns and northern pikeminnows through various control measures.

Estuary habitat improvements. The Corps is planning multiple estuary habitat restoration projects. When completed by 2007, these projects will restore and protect more than 1,500 acres of estuary habitat. About 450 acres of tidal emergent marsh, swamp, slough and riparian forest habitat on Crims Island near Clatskanie, Oregon, were acquired to benefit fish and wildlife. In addition, the Corps and BPA are working with regional groups to develop an overall plan addressing the habitat needs of salmon and steelhead in the estuary, to be completed this year. To guide future actions, research contin-

Using BPA funding, about 450 acres of wetland habitat were acquired for protection and enhancement on Crims Island in the Columbia River Estuary. BPA and the Corps are partnering with the Columbia Basin Land Trust, U.S. Fish and Wildlife Service, U.S. Geological Survey and others to accomplish habitat improvements.

NOAA Fisheries submits first status report

As reported in the last *Citizen Update*, Judge James A. Redden of the Federal District Court of Oregon ruled in favor of a coalition of environmental groups in National Wildlife Federation et al. v. National Marine Fisheries Service et al. The judge remanded, or handed back, to NOAA Fisheries its 2000 Biological Opinion on operation of the Federal Columbia River Power System for salmon and steelhead, to fix identified deficiencies. He subsequently ruled that the BiOp remain in place during the year's time allotted to address deficiencies. The FCRPS Action Agencies continue to implement the actions in the BiOp.

On October 1, 2003, NOAA Fisheries submitted the first of four required 90-day status reports to the Court. That report and relevant documents are available at www.salmonrecovery.gov/remand.shtml.

ues on where and how salmon use the estuary for feeding and rearing.

Hatchery actions

Operations reforms. The Action Agencies, working with federal and regional partners, including the U.S. Fish and Wildlife Service (USFWS), made considerable progress developing new hatchery and genetic management plans (HGMPs) to guide hatchery reform and aid recovery of listed fish. Draft Phase I plans summarizing current operations and reforms needed to comply with the ESA were completed for all 169 hatchery programs by July 2003. Phase II HGMPs, covering proposed improvement options, are scheduled to be completed by December 2003 and following regional and technical review, will culminate in Phase III (final) plans in spring 2004.

Safety-net programs. The four-step Safety-Net Artificial Propagation Program (SNAPP), to identify and aid the most severely endangered fish populations, continues to gather steam. A report analyzing the extinction risk of some 77 populations will be completed this year. The next step will be development of intervention options using artificial propagation, *e.g.*, rearing of captive broodstock at hatcheries, and contingency plans describing when intervention options would be appropriate. In the meantime, BPA continues to fund ongoing artificial propagation programs that serve as safety nets for populations of Snake River sockeye, spring/summer and fall chinook, and mid- and lower Columbia steelhead.

Marking plans. The Action Agencies continue to fund tagging, or marking, of key populations of hatchery fish to distinguish them from wild salmon, making it possible for commercial and recreational fishers to harvest marked hatchery fish and release wild fish. This also enables biologists to keep better track of the status of natural populations. Work on a comprehensive marking plan continues.

Harvest actions

Wild fish harvest reduction. The Action Agencies continued to fund the evaluation of alternative fishing gear in non-tribal fisheries and monitor the use of larger mesh gill nets provided to tribal commercial fishers to reduce the incidental catch of endangered steelhead and salmon. The agencies funded a tribal project that used sonar to locate and remove eight submerged fishing nets that could have posed risks to listed fish. In addition, the agencies continued support of a Columbia River fisheries project for hatchery chinook and coho salmon harvest in Youngs Bay and other lower Columbia sites below Bonneville Dam.

Research, monitoring and evaluation actions

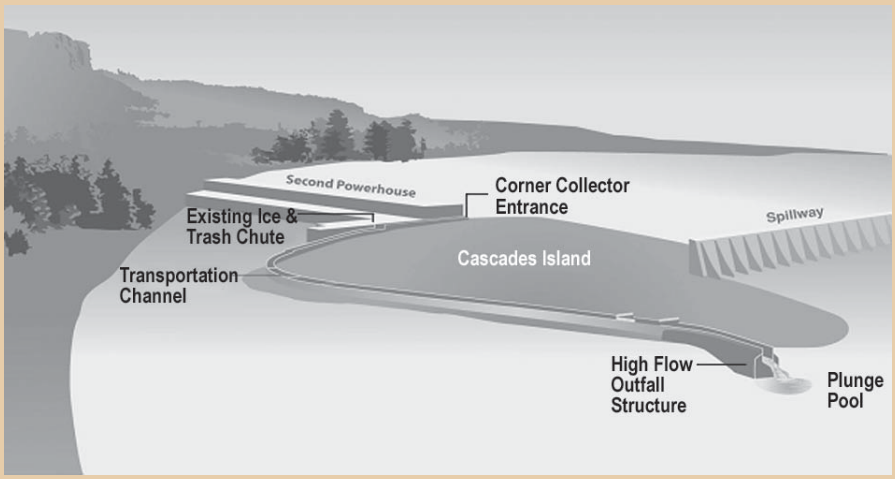
Regional plan. The Action Agencies continue to fund studies to help improve our understanding of how actions affect fish survival, to fine-tune future actions and to better measure their results. A comprehensive draft federal RM&E Plan

jointly developed by the Action Agencies and NOAA Fisheries is undergoing extensive scientific and regional review. This plan represents a significant advancement in the region's monitoring and evaluation efforts because it provides a means for the federal agencies to synchronize their approaches to salmon study, especially for habitat-related actions, and to work jointly with states and tribes to develop common monitoring methods and study designs. Many of the studies are on the cutting edge of scientific inquiry and will require multiple years of investigation to provide definitive results.

Bonneville Dam high-flow bypass speeds young fish past danger

When the Corps completes a new high-flow bypass facility for young salmon at Bonneville Dam in December 2003, federal biologists expect to see a 1–3 percent increase in juvenile fish survival past the dam's second powerhouse.

In 1998, the Corps tested the ice and trash chute at Bonneville Dam to evaluate its potential as a fish bypass system. About 50 percent of juvenile fish in the forebay (area directly upstream) were passing through the chute during downstream migration. By modifying the chute into a surface flow bypass system (corner collector), biologists expect the number of juveniles guided into the corner collector can be increased to 50–60 percent.



Young salmon will take a 3,300-foot-long watery ride past Bonneville Dam's second powerhouse when a new fish bypass facility is completed later this year.

The corner collector will work in conjunction with the existing second powerhouse screened juvenile bypass system, which was improved to benefit juvenile survival in 1999. Together, the non-turbine routes will pass about 90 percent of spring migrants and 75–80 percent of summer migrants at the second powerhouse, with an estimated survival rate of greater than 95 percent.

Fish will enter the bypass facility at the southeastern corner of the second powerhouse, travel down a 2,800-foot-long transportation channel and 500-foot-long outfall channel, and exit almost one-quarter mile downstream, just beyond the westernmost tip of Cascades Island. A plunge pool excavated into the river bottom will permit fish to re-enter the river safely.

Federal Caucus Agencies' Fish Recovery Efforts

Besides the FCRPS Action Agencies, many other federal agencies that control natural resources in the Columbia River Basin have taken actions in the past three years to improve conditions for fish. Despite some funding challenges, progress has been made to implement many recovery measures recommended in the region's collaborative Basinwide Salmon Recovery Strategy.

Highlights of actions taken by these six federal agencies follow agency descriptions:

2002 Snapshot: Agencies' accomplishments by the numbers

BLM

- **Riparian habitat:** 375 miles restored or intensively managed to minimize impact on fish; 175 miles improved as a part of abandoned mine reclamation, fire restoration, and other projects.
- **Riparian/wetland habitat easements:** Purchased along more than 25 stream reaches.
- **In-stream flow:** More than 50 stream flow studies, assessments, or feasibility surveys completed.
- **In-stream passage:** More than 125 diversions assessed to identify improvement needs.

USFS

- **Riparian habitat:** 66 miles (850 acres) restored.
- **In-stream habitat:** 89 miles restored.
- **In-stream passage:** 37 culverts upgraded and two passage barriers removed to provide access to 32 miles of stream.
- **Water quality:** 51.5 acres of wetlands restored or created; 423 miles of roads upgraded and 690 miles of road removed to reduce sediment input to adjacent streams.

USFWS

- **Riparian habitat:** 69.2 acres restored (plus 800 acres of upland habitat).
- **In-stream habitat:** Eight miles restored.
- **In-stream passage:** Removed nine passage barriers to provide access to 25 miles of stream.

NRCS

- **Habitat restoration, stream protection, wetlands, and water quality:** 1,289,000 acres of private farm and ranch land enrolled in conservation programs.

- **Bureau of Land Management** (BLM) and **U.S. Forest Service** (USFS) manage about 60 percent of Columbia River Basin habitat lands.
- **U.S. Fish & Wildlife Service** (USFWS) operates and administers hatchery programs and national wildlife refuges and has jurisdiction over resident fish under the ESA.
- **National Oceanic and Atmospheric Administration, National Marine Fisheries Service** (NOAA Fisheries) has ESA jurisdiction over anadromous fish and a role regulating fisheries.
- **Natural Resources Conservation Service** (NRCS) works with private landowners through local conservation districts to protect soil, water and other natural resources.
- **Environmental Protection Agency** (EPA) enforces the Clean Water Act.

Actions to protect habitat and water quality

BLM, USFS, and USFWS collectively devoted about $140 million to activities to protect and restore key habitat for listed fish during the federal government's 2001 and 2002 fiscal years. Although some activities, particularly the restoration of high-priority watersheds, have progressed more slowly than expected (in part due to high fire suppression costs), many efforts are on target and making a difference.

Activities by these three agencies included purchasing sensitive land, in-stream replacement of woody debris, working with states to secure minimum stream flows, improving or removing roads and installing culverts to reopen streams, installing screens to keep fish from dangerous diversions, and other passage improvements. (See related story on Ramsey Creek improvements.)

To date, the USFS has completed watershed analyses in 80 percent of National Forest Lands in this region (Region 6) to identify future restoration actions. However, the level of detail varies depending on the purpose of the assessment. The USFS is making significant progress inventorying passage barriers in all national forests in the Columbia River Basin.

"Push-up" dams replaced with fish-friendly diversions in John Day subbasin

An original push-up dam

Lay-flat stanchion dam

During the irrigation off-season, the dam's upright components are laid completely flat.

An original push-up dam is removed and replaced with a "lay-flat stanchion dam," which ensures fish passage both upstream and downstream during the irrigation season.

The Grant Soil and Water Conservation District is ensuring easier passage for threatened and endangered fish in the John Day River Basin in eastern Oregon. The conservation district—together with state, federal, tribal and local partners—has replaced 47 diversion dams in John Day streams with cost-effective, functional, and fish-friendly diversion alternatives.

Temporary diversion dams—also called "push-up dams"—have long been a method used by farmers and ranchers to divert water from natural streams for irrigation of crop land. These dams must be built annually using heavy equipment after high stream flows have receded in early summer. Depending on the height and location of the push-up dam, passage for adult and juvenile anadromous and resident fish species can be impeded.

A partnership between the conservation district and the Bureau of Reclamation, initiated in 1991 as a demonstration project under the Northwest Power and Conservation Council's Fish and Wildlife Program, enabled the conservation district to provide technical assistance to landowners to formulate a variety of water conservation projects. One that proved particularly successful was a low-cost, permanently installed diversion dam to replace push-up dams. Dubbed the "lay-flat stanchion dam," this design has since become a workhorse in the John Day Basin.

So far the 47 diversion dams removed have been replaced with a combination of pump stations, infiltration galleries, and 22 lay-flat stanchion dams. Landowners are pleased how easily the lay-flat dams can be installed every year, saving them considerable labor and heavy equipment costs. In addition, they are able to maintain much better control over the consistency and rate of flow into their irrigation delivery systems. Meanwhile, fish benefit year-round. During irrigation season, a section of the dam is left open, concentrating flow to create a fishway for upstream and downstream passage. During the off-season, the dam's upright braces (stanchions) can lay flat on the stream bottom.

Nine additional stanchion dams are scheduled for construction in the John Day Basin in 2004 with participation by Reclamation under its tributary habitat restoration program.

In 2002 and 2003, NOAA Fisheries provided funding to regional states and tribes under the Pacific Coastal Salmon Recovery Fund for recovery efforts, stock enhancement, research, and implementation of the Pacific Salmon Treaty Agreement. Additionally, NOAA Fisheries continues to work with subbasin planners to integrate subbasin planning with ESA recovery planning.

Meanwhile, NRCS continues to help conserve and restore habitat on farm, ranch and other private lands by providing technical and financial assistance. In the 2001 and 2002 fiscal years, conservation programs that help landowners install riparian buffers, restore habitat, stabilize and protect streams, create and restore wetlands, and conserve water were implemented on nearly 2 million acres.

Besides water quality improvements already accomplished, work continues on a regional water quality improvement plan. EPA has been working with the other federal agencies, regional groups, states and tribes to establish "total maximum daily load" (TMDL) measurements for dissolved gas and temperatures in rivers and tributary streams. These will provide a technical foundation for future water quality decisions throughout the basin. In addition, EPA provided funding or technical support to numerous programs and entities to address water quality issues. For example, it awarded $1 million in 2003 to the Clark Fork-Pend Oreille program (a joint state, tribe and local watershed effort) to address nutrient pollution in local waterways.

Another habitat issue—predation by birds—is being addressed by USFWS. Besides publishing an in-depth technical paper in 2002 on the abundance and distribution of Caspian terns in North America, the agency conducted field reviews of 70 sites to study the potential for alternative nesting sites in the Columbia River estuary. Actions already taken to entice tern colonies to new locations have saved millions of young salmon.

Actions to improve hatchery management

USFWS has completed Phase I of hatchery and genetic management plans (HGMPs–see ***Hatchery actions*** on page 5) for all hatchery programs it operates or funds and is working to complete Phase II plans to guide hatchery reform. Reform is needed to address concerns about the impacts of hatchery fish on wild fish, include disease transmission, competition and genetic impacts caused by interbreeding. The agency has also begun making important improvements. For example, it built an egg isolation unit and designed a chiller system for the Warm Springs National Fish Hatchery, both of which will reduce adverse impacts of hatchery operations on listed fish. To better understand how hatchery and wild fish interact, USFWS has initiated a study in the Warm Springs River, Oregon; another study is helping to assess the health of wild and hatchery fish in Oregon's Deschutes River to reduce possible disease transmission.

NOAA Fisheries has also been participating in hatchery management improvement activities. Among other actions, the agency worked with USFWS, state and tribal co-managers to streamline NOAA Fisheries approval process for HGMPs for all artificial production facilities. NOAA Fisheries also works with BPA and USFWS on the safety-net program (see page 5).

Actions to limit harvest impacts

USFWS continues to work closely with tribes and other Columbia River harvest managers to evaluate the effects of fishing strategies meant to benefit listed fish. It is also exploring how to increase harvest in ways that do not harm listed fish, such as through development of more terminal area and select fisheries.

As a participant in U.S. v. Oregon, NOAA Fisheries continues to advocate harvest management reforms designed to limit the impact of fisheries on ESA-listed fish. It also supports tribal and state fisheries designed to harvest abundant hatchery and healthy natural runs when such fisheries can be implemented consistent with applicable ESA limits.

For more details about the activities of various Federal Caucus agencies, visit the *www.salmonrecovery.gov* web site.

Mt. Hood National Forest fish biologists Gary Asbridge and Dan Shively pause during spawning ground surveys at Ramsey Creek, the site of recent restoration efforts. The two vertical logs were installed as snags for birds and other wildlife, while the large wood in the stream provides habitat cover for fish and protects streambanks from erosion.

Ramsey Creek improvements benefit wild winter steelhead

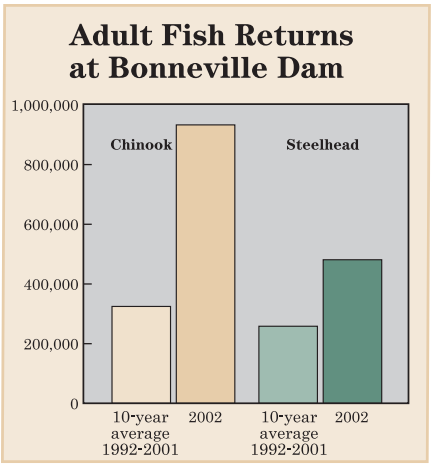
Over the past three years, extensive in-stream and upslope restoration projects have been completed in a three-mile section of Ramsey Creek, a tributary to Fifteenmile Creek and the Columbia River. The projects are intended to improve habitat conditions for a run of wild winter steelhead. This run of steelhead is unique in the Columbia River Basin because it is wild (no hatchery steelhead have been stocked), it is a winter-run fish in an area where summer-run fish predominate and, unlike other winter steelhead trout in the vicinity, it is genetically similar to interior redband trout. It is also the easternmost run of wild winter steelhead trout in the Columbia River Basin and is currently listed as threatened under ESA.

A flood during the winter of 1997 severely degraded steelhead spawning and rearing habitat. In-stream restoration projects began in 1999, and adjacent riparian and upslope projects were completed in 2000 and 2001. Accomplishments include:

- Logs or boulders were placed within the stream channel and flood plain at 79 sites. A total of 1,400 logs were used.
- Thirty pools were excavated adjacent to newly constructed log and boulder structures. Average depth was 2.5–3.5 feet. These pools provide important, high quality–rearing habitat for young and adult steelhead.
- Three miles of road next to the stream were converted into a non-motorized vehicle trail.
- Six acres were planted with conifers and shrubs along the trail and in nearby small meadows.
- Some 950 acres were "under burned" to improve forage conditions, re-establish native plants and reduce fire hazards.
- Surveys of spawning steelhead throughout the Fifteenmile basin indicate the relative density of spawners in Ramsey Creek is consistently among the highest in the basin. Most of the steelhead spawning occurring in Ramsey Creek since 1997 has been within a parcel of land acquired from the Rocky Mountain Elk Foundation in the early 1990s, and includes three miles of restored stream.

Fish Survival Update

Overall, salmon and steelhead populations in the Columbia River Basin have made a dramatic rebound over the past three years. Many of the runs in 2001, 2002 and 2003 were at record high levels and several times greater than their 10-year averages (1992–2002). Early indications suggest that strong spring and summer runs are likely again in 2004.



A dominant cause of these increasing returns appears to be a turnaround in Pacific Ocean conditions that is providing cooler water temperatures, favorable currents and more food for salmon and steelhead. This gift from Mother Nature makes recovery actions taken throughout the basin even more effective. More fish make it to the ocean due to improvements in freshwater conditions, e.g., habitat and dam passage improvements, and thrive in the better ocean conditions. These fish then return in larger numbers to improved spawning areas in tributaries, where they have better chances of successfully producing the next generation.

Conclusions and Next Steps

Improving fish returns have certainly been encouraging as the region faces the sizeable task of recovering endangered fish runs. However, this does not mean the federal agencies are "resting on their laurels." The agencies and their many partners are committed to doing their part to improve conditions for fish in rivers and streams, at hatcheries, and on habitat lands as the region pulls together to establish a long-term recovery plan. Although a recent federal court ruling invalidated NOAA Fisheries' 2000 BiOp and has requested revisions by June 2004, the court left the BiOp in place in the interim, and the Action Agencies will continue implementing actions under the BiOp and the Basinwide Recovery Strategy.

NOAA Fisheries will evaluate the Action Agencies' three-year progress implementing BiOp recommendations and issue an evaluation report this December. The next *Citizen Update* will report NOAA Fisheries' findings.

How to Get More Information

For more information on the All-H Salmon Recovery Strategy, the Federal Caucus, or Columbia River Basin fish and wildlife recovery, please visit the Federal Caucus Web site at *www.salmonrecovery.gov*. This Web site also includes information about annual implementation plans and progress. You can also find previous issues of *Citizen Update*, internet links for related activities and documents, including the NOAA Fisheries and USFWS Biological Opinions.

You can call the Federal Caucus toll free at 1-888-921-4886, or e-mail them at *federalcaucus@bpa.gov*.
The mailing address is

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