

Salmon Plan Report Card



**The Federal Plan to Restore Salmon and Steelhead in the
Columbia & Snake River Basin: Year One of Implementation**



YEAR 1

2001

2002

2003

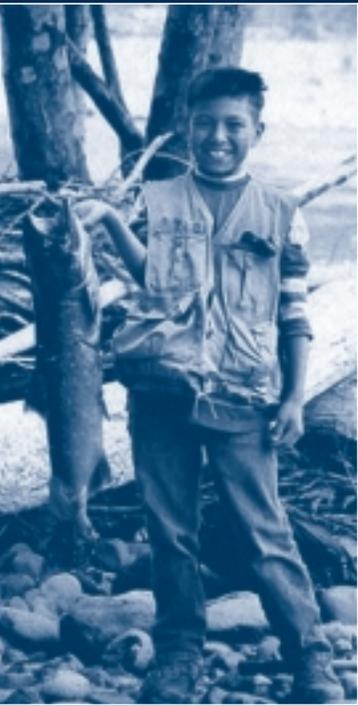
2004

2005

Introduction

In December 2000, the federal government released its long-awaited plan to restore imperiled Columbia and Snake River salmon and steelhead. This study examines in depth the progress made—and for the greater part, not made—in the first year of implementing that plan.

The Salmon Plan (also known as the 2000 Biological Opinion) contains three check-in points—in 2003, 2005, and 2008—to assess whether the plan is indeed protecting and restoring salmon. If the plan is failing, the federal government must opt for additional, stronger measures. The most notable example is lower Snake



River dam removal, which the federal plan postponed even while admitting that it stood the best chance of restoring Snake River salmon.

This “Report Card” is intended to help the public and

decision-makers assess the federal government’s progress or failure in implementing its new plan. This is the first of several annual report cards we will issue leading up to the first check-in due in 2003.

The verdict for 2001, the plan’s first year, is unfortunately clear: the federal government failed to implement more than 75% of the measures required by the new plan—and failed to appropriate the funds needed to implement the plan.

Moreover, the actions that were successfully implemented were mostly “business-as-usual” and not the more substantive and aggressive measures that the plan relies on for success.

The federal government’s efforts have earned a failing grade—an “F”—in almost every subject area. Here are just a few reasons why:

- Required water levels and passage improvements at Columbia and Snake River dams were not achieved, resulting in the lowest survival rate for Columbia and Snake River salmon and steelhead since the fish were listed under the Endangered Species Act.
- The Administration neither asked for, nor received, the funding necessary to implement the federal government’s plan.
- Operation of the lower Snake River dams continued to violate water quality standards set forth in the federal Clean Water Act.
- The federal government implemented very few of the hatchery, harvest, and tributary and estuary habitat measures in the new plan—the very ones touted as the means to avoid dam removal.

Some claim that much of this failure is due to drought conditions in 2001. However, the federal government had choices available to comply more fully with the Salmon Plan while meeting other needs. Instead, at nearly every decision point the government chose to sacrifice the needs of salmon over these other needs. To the extent that the drought did affect implementation, the Salmon Plan’s dependence on the benevolence of Mother Nature, rather than actions within the government’s control, was starkly revealed.

This report card documents the federal government’s failure to implement the new Salmon Plan in 2001. If this continues, we will reach the 2003 check-in having miserably failed to protect and restore salmon and steelhead in the Columbia and Snake River Basin. Neither law, treaty, nor popular demand will allow the pretense of salmon recovery to substitute for real salmon recovery.

Salmon Plan Report Card



Clean Water Improvements

Salmon and steelhead need clean, cool water to survive. The federal government completed less than 25% of the clean water measures required by the Salmon Plan. Federal dams continue to violate the Clean Water Act by creating increased dissolved gas levels and hot pools of water that are deadly to salmon and steelhead.

F



Surviving the Dams

Most salmon and steelhead in the Columbia and Snake River Basin must pass through a series of dams. In 2001, the federal government completed less than 30% of the actions in the Salmon Plan to improve dam passage. Salmon and steelhead experienced the worst in-river survival rate since they were listed under the Endangered Species Act.

F



Tributary & Estuary Habitat Improvements

Instead of partially removing the four federal dams on the lower Snake River, the Salmon Plan relies heavily on improvements in the tributary and estuary habitats of the Columbia and Snake rivers. The federal government completed less than 20% of the actions related to habitat improvements required by the Salmon Plan, but it has made some important progress.

D



Hatcheries & Harvest

The federal government failed to complete any of the hatchery and harvest actions called for in the Salmon Plan.

F



Studies & Reporting

Instead of proposing aggressive, new recovery actions, the Salmon Plan relies on studies and plans for possible future actions. Yet, the federal government was unable to complete even 25% of these studies and plans.

F



Funding

Adequate funding is necessary to implement the measures proposed in the Salmon Plan. In 2001, the Administration failed to ask for even 50% of the \$900 million/year needed to implement the plan.

F

Overall Grade

After failing 5 of 6 subjects, the federal government is far behind schedule after the first year of the new Salmon Plan.

F

Salmon Plan Measure

Clean Water Improvements

F

Fail=4 • Incomplete=3 • Pass=2

Maintain Water Temperatures at Lower Granite Dam at or Below 68° F.	(RPA Action 19)	—
Repairs at Dworshak Hatchery for Temperature Improvements.	(RPA Action 33)	+
Water Quality Monitoring Plan for Irrigation Projects.	(RPA Action 39)	—
Total Dissolved Gas Study.	(RPA Action 130)	+
Monitor Effects of Total Dissolved Gas.	(RPA Action 131)	≠
Plan for Evaluating Gas Monitoring System.	(RPA Action 132)	—
Complete Gas Model.	(RPA Action 133)	≠
Spillway Deflector Optimization Program.	(RPA Action 134)	≠
Plan to Model Water Temperature Effects of Columbia & Snake River Dams.	(RPA Action 143)	—

Surviving the Dams

F

Fail=18 • Incomplete=11 • Pass=11

Meeting River Flow Objectives.	(RPA Action 14)	—
Flows to Support Chum Salmon Spawning in Ives Island.	(RPA Action 15)	—
Access for Chum Salmon Spawning in Hamilton & Hardy Creeks.	(RPA Action 16)	+
Coordination of Flow & Spill Operations.	(RPA Action 17)	—
Refill Reservoirs to Meet Flow Levels.	(RPA Action 18)	—
Flood Control Levels.	(RPA Action 19)	+
Operation of the Lower Snake River Dam Reservoirs & the John Day Reservoir.	(RPA Action 20)	≠
Flood Control Shifts in Upper Snake & Columbia Rivers.	(RPA Action 21)	≠
Flood Control Operations.	(RPA Action 22)	—
Banks Lake Operation.	(RPA Action 23)	+
Canadian Treaty for Water Storage.	(RPA Action 24)	≠
Additional Non-Treaty Water from Canada.	(RPA Actions 25, 26)	—
Salmon Trucking & Barging at Snake River Dams During Low Flow Years.	(RPA Action 40)	+
Spilling Water Over McNary Dam During the Spring.	(RPA Action 41)	—
Maximize Barging of Salmon & Steelhead During Summer Migration.	(RPA Action 42)	+
Limited Trucking & Barging of Fall Chinook at McNary Dam.	(RPA Action 43)	—
Decrease Trucking of Salmon & Steelhead in Snake River.	(RPA Action 44)	—
Identify & Implement Improvements to Trucking & Barging.	(RPA Action 52)	—
Evaluate & Implement Improvements at Collector Dams.	(RPA Action 53)	—
Annual Spill Program.	(RPA Action 54)	—
Initiate Planning & Design of Schultz-Hanford Transmission Line.	(RPA Action 55)	+
Evaluate, Plan, & Design Joint Transmission Project To Upgrade West-of-Hatwai.	(RPA Action 56)	—
Operate All Turbines for Optimum Fish Passage Survival.	(RPA Action 58)	—
Spill & Passage Survival Studies at The Dalles Dam.	(RPA Action 68)	—
Testing of Occlusion Devices at The Dalles Dam.	(RPA Action 69)	≠
Development of Safe Passage Technology at John Day Dam.	(RPA Actions 72, 98)	≠
New Fish Protection Screens at John Day.	(RPA Action 73)	≠
State-of-the-Art Turbine Design Technology.	(RPA Action 92)	—

“[The state of] Washington faces important challenges, and the

Progress at a Glance

KEY

Fail: -

Incomplete: ≠

Pass: +

Counting Adult Salmon Passing Through Turbines.	(RPA Action 93)	-
Improving the Existing Bypass Systems at Lower Snake River Dams.	(RPA Action 94)	+
Implement & Study Methods to Reduce Salmon Deaths Due to Predation in Lower Rivers.	(RPA Action 100)	+
Discourage Avian Predation.	(RPA Action 101)	≠
Adult Salmon Fallback & Delay.	(RPA Action 117)	+
Improving Adult Salmon Passage Conditions.	(RPA Action 120)	≠
Implementation of an Automated Monitoring & Alarm System.	(RPA Action 125)	+
Maintain Juvenile & Adult Fish Facilities.	(RPA Action 144)	≠
Maintenance Programs.	(RPA Action 145)	≠
Removal & Prevention of Debris from Fish Passage Facilities.	(RPA Action 146)	+

Tributary & Estuary Habitat Improvements

D

Fail=3 • Incomplete=13 • Pass=3

Reduce Stream Flow Depletions.	(RPA Action 27)	+
Study & Improve Irrigation Project Impacts on Salmon Recovery.	(RPA Action 30)	+
Acquiring Upper Snake River Water for Flows.	(RPA Action 32)	-
Fish Screens at Burbank Irrigation Project.	(RPA Action 38)	+
Bureau of Reclamation Priority Subbasins.	(RPA Action 149)	-
Bonneville Power Administration (BPA) Funding of Productive Non-Federal Habitat.	(RPA Action 150)	≠
Improving Tributary Water Flows.	(RPA Action 151)	≠
Protect 100 Miles of Riparian Habitat.	(RPA Action 153)	≠
Subbasin Assessments & Plans.	(RPA Action 154)	≠
Develop Compliance Monitoring Program.	(RPA Action 163)	-
Estuary Protection & Funding.	(RPA Actions 158-162, 194-197)	≠

Hatcheries & Harvest

F

Fail=3 • Incomplete=6 • Pass=0

Selective Fisheries Measures.	(RPA Action 164)	-
Harvest Management & Crediting Strategies.	(RPA Actions 165-168)	≠
Comprehensive Fish Marking Strategy.	(RPA Action 174)	-
Safety Net Artificial Production Programs (SNAPP).	(RPA Action 175)	-
SNAPP Funding.	(RPA Actions 177, 178)	≠

Studies & Reporting

F

Fail=17 • Incomplete=23 • Pass=12

One & Five-Year Implementation Plans.	(RPA Action 1)	-
One & Five-Year Plans for Dam Improvements.	(RPA Action 2)	-
One & Five-Year Water Management Plans for Federal Dams.	(RPA Action 3)	≠
One & Five-Year Capital Investment Plans.	(RPA Action 4)	-

There's no greater challenge than to save salmon... For all of us, the

One & Five-Year Water Quality Plans.	(RPA Action 5)	-
One & Five-Year Operation & Maintenance (O&M) Plans.	(RPA Action 6)	-
One & Five-Year Habitat Plans for Offsite Mitigation.	(RPA Action 7)	-
One & Five-Year Hatchery & Harvest Plans.	(RPA Action 8)	-
One & Five-Year Research, Monitoring, & Evaluation Plans.	(RPA Action 9)	-
Recovery Planning.	(RPA Action 10)	≠
Unanticipated Actions.	(RPA Action 11)	-
Approval of Plans.	(RPA Action 12)	-
Annual Reports on Achieving Performance Standards.	(RPA Action 13)	-
Banks Lake Operations to Assist in Flow.	(RPA Action 31)	-
Study Plan for Evaluating Trucking & Barging at McNary Dam.	(RPA Action 45)	+
Study on Trucking & Barging Snake River Chinook & Steelhead.	(RPA Action 46)	≠
Evaluation of Delayed Mortality Between Transported & In-River Salmon.	(RPA Action 47)	≠
Study Prototype Powerhouse at Bonneville in 2001.	(RPA Action 61)	-
Evaluation of Bonneville First Powerhouse Fish Screens.	(RPA Action 62)	≠
Investigation of Minimum Gap Runners at the Bonneville First Powerhouse.	(RPA Action 64)	≠
Investigation of 24-hour Spill at John Day Dam.	(RPA Action 71)	-
Predation Study & Changes for Little Goose Dam.	(RPA Action 79)	+
Continue Design Development for Safe Passage at Lower Granite Dam.	(RPA Action 80)	+
Investigating Survival of Juvenile Salmon Passing Dams over Spillways.	(RPA Action 82)	+
Study the Effect of Spill Volume & Duration on Salmon Passage.	(RPA Action 83)	≠
Investigation of Turbine Passage by Juvenile Salmon.	(RPA Action 89)	-
Develop Comparison of Survival Benefits of Various By-Pass Facilities at Bonneville First Powerhouse.	(RPA Action 97)	≠
Studies on Avian Predation above Bonneville Dam.	(RPA Action 102)	+
Predation by White Pelicans Study.	(RPA Action 103)	-
Predacious Bird Trend Study.	(RPA Action 104)	≠
Marine Mammal Predation Study.	(RPA Action 106)	-
Adult Salmon Protections at Columbia & Snake River Dams.	(RPA Actions 111, 113)	≠
Report on Adult Fishway at Bonneville by 2001.	(RPA Action 126)	+
Investigation of Bonneville Adult Fishway to Ensure its Operation.	(RPA Action 127)	+
Mainstem Habitat Program.	(RPA Action 155)	≠
Feasibility Study To Improve Chum Salmon Spawning Conditions at Ives Island.	(RPA Action 156)	+
Hatchery & Genetic Management Plan (HGMP) Development.	(RPA Actions 169-173)	≠
Fund & Expand Fish Marking & Recapturing Programs.	(RPA Action 185)	≠
Delayed Mortality Below Bonneville Dam.	(RPA Actions 186, 195)	+
Calculating the Rate of Adult Salmon Returns.	(RPA Actions 187, 189, 192)	≠
Studies on Early Life History of Snake River Fall Chinook.	(RPA Action 190)	+
Continue & Improve Adult Salmon & Steelhead Counting Programs at Federal Dams.	(RPA Action 191)	≠
Develop Common Data Management & Monitoring Systems.	(RPA Action 198)	≠
Endangered Species Act Authorization for Research & Monitoring Actions.	(RPA Action 199)	+

Funding

F

OVERALL SCORE

Fail=45 • Incomplete=56 • Pass=28
F

These fish are a wonder of nature and they must be preserved.”

Then-Candidate George W. Bush, 2000

Explanation of Grades

The Salmon Plan is a 10-year plan that sets forth 199 measures necessary to ensure the survival and recovery of threatened and endangered salmon and steelhead. The Salmon Plan does not require activity on all 199 measures in the first year. (These measures are called “Reasonable and Prudent Alternative Actions” or RPA Actions below.) Instead, it sets forth measures and deadlines that range from 2001 through 2010 and beyond.

This report only addresses those measures that had some relevance in the first year, 2001. That is, the Salmon Plan required that something happen in 2001 with regard to the specific measure. Consequently, we have only graded 129 measures and the funding needed to implement these measures. These 129 measures and their funding were then grouped into 6 categories.

For purposes of grading the federal government’s first year of implementation, we graded each of the 129 measures with a “Fail,” “Incomplete,” or “Pass” grade. Each category was then given a grade based on the number of fails, incompletes, or passes that fell into that category. The terms “Fail,” “Incomplete,” and “Pass” are defined as follows:

Fail = A “Fail” means that the federal government did not meet, or was significantly off of, the deadlines set forth in the Salmon Plan. A “Fail” can also mean that the federal government began some of the work but failed to complete a significant portion of the required measure.

Incomplete = An “Incomplete” means that the federal government did most, but not all of the work required for a specific measure. An “Incomplete” also includes measures where it was unclear how much work the federal government has completed because it did not follow the process set forth in the Salmon Plan. Instead of assuming the worst, the federal government was given the benefit of the doubt.

Pass = A “Pass” means that the federal government completed, or was significantly on track to complete, a specific measure as required in the Salmon Plan. Thus, a “Pass” does not necessarily mean that the federal government has successfully completed the measure. Instead, a “Pass” can mean that a reasonable certainty exists that the measure will be completed on or near its deadline.

Clean Water Improvements

Number of Actions Graded: 9

Fail=4 • Incomplete=3 • Pass=2

Maintain Water Temperatures at Lower Granite Dam at or Below 68° F.

Water temperatures reaching 68° F become potentially deadly for salmon and steelhead. Water in deeper storage reservoirs, like Dworshak Dam, stratifies with colder water found at deeper depths. By releasing deeper colder water, temperatures in the Snake River can be lowered toward non-deadly temperatures. Water temperatures were greater than 68° F for more than 90% of the days between June 30 and September 30, 2001. **(RPA Action 19) FAIL**

Repairs at Dworshak Hatchery for Temperature Improvements.

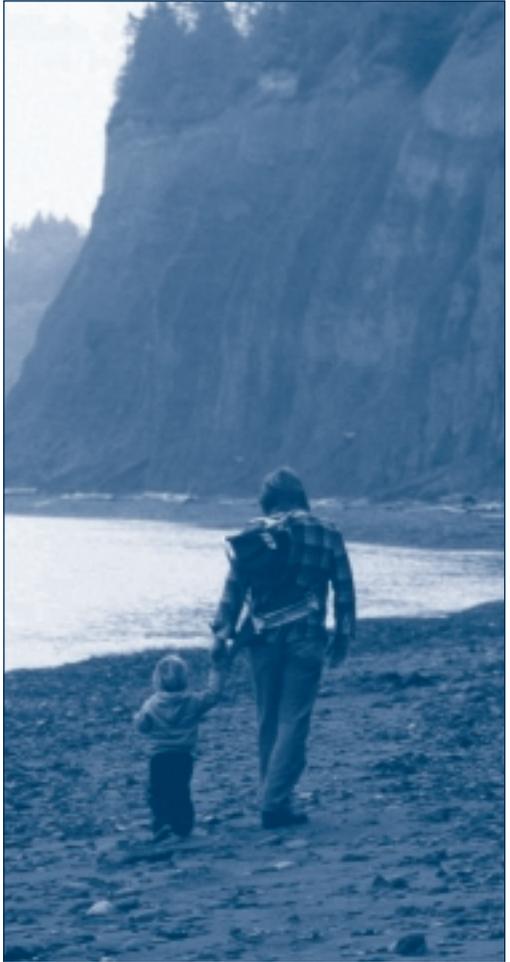
The Salmon Plan directs the Army Corps of Engineers (Corps) to design and implement repairs and modifications at the Dworshak Hatchery that allow for both effective hatchery operations and mitigation for hot water temperatures in the lower Snake River. Currently, the Corps stresses that Dworshak Hatchery limits the ability of the Dworshak Dam and Reservoir to meet water temperature requirements in the lower Snake. If the dam is operated to lower water temperatures in the Snake River, the hatchery receives water that is too cold for raising fish. The agency has begun repair work and is expected to complete the action before the 2003 deadline. **(RPA Action 33) PASS**

Water Quality Monitoring Plan for Irrigation Projects.

The Salmon Plan requires the Bureau of Reclamation (BOR), in consultation with the National Marine Fisheries Service (NMFS), to develop a detailed water quality monitoring plan by June 1, 2001. This plan evaluates the impacts of the reduced water quality coming from irrigation projects into the Columbia River. Because of the potential for harm to listed salmon and steelhead, detailed monitoring and analyses are needed to define these water quality impacts. BOR has completed a draft plan without consultation from NMFS, and the agencies are still debating what the plan should include. **(RPA Action 39) FAIL**

Total Dissolved Gas Study. When water spills over dams, it pushes oxygen and nitrogen into the river. Too much of these gases in the water can harm salmon and other aquatic life. As a result, the Salmon Plan requires the Corps to study methods for reducing the amount of gas produced by the dams. The Salmon Plan requires the Corps to complete this study by April 2001. This plan was completed by the Corps in September 2001. **(RPA Action 130) PASS**

Monitor Effects of Total Dissolved Gas. The Salmon Plan requires the federal government to monitor the effects of dissolved gas on salmon on an annual basis.



Poor water quality will deny future generations the chance to experience Columbia and Snake River salmon.

This monitoring is to be developed and implemented in consultation with the Water Quality Team, composed of federal, state, and tribal representatives. The Salmon Plan sets forth minimum physical and biological monitoring components. The Corps maintains a system that monitors the levels of gas at specified areas. Additionally, the Corps monitors the impacts on salmon at specified areas. However, no annual review by the Water Quality Team evaluating these monitoring efforts took place in 2001. **(RPA Action 131) INCOMPLETE**

Plan for Evaluating Gas Monitoring System. NMFS believes that the location of some of the gas monitoring stations may not be optimal for understanding the real gas levels in the rivers. As a result, the Salmon Plan requires the federal government to craft a plan to evaluate and make changes to the locations of gas monitoring stations. The federal government should have completed this plan by February 2001 and included it as part of the first annual water quality improvement plan. Additionally, some changes were to be incorporated by the 2001 spill season. Field studies were conducted at some monitoring sites in 2001. However, the federal government has failed to complete a final plan. The federal government intends to incorporate some changes and complete the final plan in 2002. **(RPA Action 132) FAIL**

Complete Gas Model. As part of the Corps' gas study (see RPA Action 130), the Salmon Plan required the Corps to create a gas model to use in the spring 2001 migration period. The application and results of the model are to be coordinated through the Water Quality Team. The Corps completed two gas models. Federal agencies were trained on the models during the 2001 spring migration but due to the low flow year in 2001, only one of the models was useable. The models have not yet been technically reviewed. **(RPA Action 133)**

INCOMPLETE

Spillway Deflector Optimization Program. The Corps currently has a spillway deflector optimization program. Spillway deflectors are devices that are placed on dams to help minimize the levels of gas trapped in the river when water plunges over the dams. The Corps' optimization program includes the addition of four deflectors at the McNary Dam and six at the Bonneville Dam by spring 2002. Given the limited work that has been done on deflector work at both of these dams, it is unlikely that the Corps will meet its obligations for this work in the next several months. **(RPA Action 134)**

INCOMPLETE

Plan to Model Water Temperature Effects of Columbia & Snake River Dams. Water temperature increases caused by impounding water behind the dams can cause injury and death to salmon and steelhead. The Salmon Plan requires the federal government to develop a water temperature model that will predict temperature conditions based on different dam operations. The Salmon Plan requires the completion of this model plan by June 30, 2001 and a focus on both the Snake and Columbia rivers. The federal government failed to complete this plan and has decided that its model will focus only on the Snake River. The Columbia River impacts will not be included in the model. This result seems particularly strange given that the Environmental Protection Agency (EPA) has a model that addresses both Columbia and Snake River temperature issues. **(RPA Action 143) FAIL**



Surviving the Dams

Number of Actions Graded: 40

Fail=18 • Incomplete=11 • Pass=11

Meeting River Flow Objectives. The Salmon Plan reaffirms the scientific conclusion that higher flows aid the migration of young salmon through the federal dam system. The Plan specifies required flow targets in the spring and summer for the Columbia and Snake rivers. In 2001, those flow levels were never met at federal dams except for a 2-3 day period at the Snake River dams. In fact, flows were less than half of that required by the Salmon Plan. As a result, survival of young

salmon and steelhead was the lowest since these fish were listed under the Endangered Species Act (ESA). The failure to meet these targets was partially influenced by drought conditions experienced in 2001, but the federal government did significantly less than was possible even under such conditions. **(RPA Action 14)**

FAIL

Flows to Support Chum Salmon Spawning in Ives Island.

Chum salmon have established spawning grounds in the mainstem Columbia River, just below Bonneville Dam in the Ives Island area. This area is susceptible to dewatering. The Salmon Plan calls for minimum flow targets at Bonneville Dam to ensure that this dewatering does not occur. Chum spawning occurs in late October to early November with young salmon emerging in April. Flow levels were to be maintained during this time period to ensure successful emergence of at least 60% of the young chum. High power demands at Bonneville Dam (more water going through the turbines) helped keep spawning beds watered early in 2001. When power demands began to drop and spring and summer flows were forecasted to be at record lows, water levels dropped. Most spawning beds were dewatered when only 15% of the young fish had emerged. **(RPA Action 15) FAIL**

Access for Chum Salmon Spawning in Hamilton & Hardy Creeks.

In addition to the Ives Island area, chum salmon spawn in Hardy and Hamilton creeks. Access to these creeks is also dependent on water levels and can be managed by outflows from Bonneville Dam. Access to these creeks was possible during the 2001 spawning seasons. **(RPA Action 16) PASS**

Coordination of Flow & Spill Operations. The Salmon Plan requires the coordination of flow and spill levels in the Columbia and Snake River dam system through a federal, state, and tribal group called the Technical Management Team (TMT). Higher flows decrease the migration time for young salmon and steelhead, and spill provides the safest way to pass through the dams. In 2001, flow targets were only met for 2-3 days in the Snake River and never met in the lower Columbia. Spill targets were never met in either river. The inability to meet these targets was partially influenced by drought conditions experienced in 2001, but the federal government did significantly less than it was able to do. For example, only 20% of the TMT's suggestions were implemented by the federal government. **(RPA Action 17)**

FAIL

Refill Reservoirs to Meet Flow Levels. The Salmon Plan directs the federal government to refill the federal dam reservoirs as much as possible while still maintaining flood control until April 10. The purpose of this action is to ensure that enough water will be available to meet Salmon Plan flow requirements to assist young salmon and steelhead migrating in the spring. By June 30, reservoirs should be completely full to augment flows during the summer migration. Spring flows

should be maintained during the April 10–June 30 refill period. In 2001, reservoir levels were far below the maximum flood control requirements. Review of end-of-the-month reservoir levels and requirements suggests that Libby, Hungry Horse, Grand Coulee, and Dworshak reservoirs fell approximately 60–70 feet below the requirements. Reservoir levels were 28.2, 18.2, 8.9, 12.7, and 0.8 feet short of refill levels for Libby, Hungry Horse, Grand Coulee, Dworshak, and Albeni Falls, respectively, on June 30. Furthermore, much of the water withheld for spring flow augmentation that went into partial refills of the reservoirs was not used for summer flow augmentation. **(RPA Action 18) FAIL**

Flood Control Levels. The Salmon Plan sets forth specific requirements for maintaining certain federal dam reservoirs both to aid migrating salmon and steelhead and to protect against flooding. Of the six dams specifically mentioned in this action, five generally met their targets. **(RPA Action 19) PASS**

Operation of the Lower Snake River Dam Reservoirs & the John Day Reservoir. Between April and September, reservoir levels at federal dams are decreased to increase the water velocity through the reservoir. Increases in water velocity assist the downstream migration rate for young salmon and steelhead and subsequently improve their survival. In 2001, out of the 174 day-period required by this action, Lower Granite Dam, Little Goose Dam, Lower Monumental Dam, Ice Harbor Dam, and John Day Dam, were operated 12, 9, 23, 26, and 55 days, respectively, outside the Salmon Plan's required levels. **(RPA Action 20) INCOMPLETE**

Flood Control Shifts in Upper Snake & Columbia Rivers. The Salmon Plan directs the Army Corps of Engineers (Corps) to implement flood control shifts from different reservoirs in the Columbia and Snake rivers as necessary to increase river flows in a manner that best protects listed salmon and steelhead. By shifting some of the flood control responsibilities from the Snake River reservoirs to the mid-Columbia reservoirs, Snake River flows can be met more frequently. Because of the very low runoff year in 2001, no water was available for such shifts in flood control to occur. **(RPA Action 21) INCOMPLETE**

Flood Control Operations. VARQ, or variable outflow, is a more flexible approach to storing and releasing water than previously implemented. In years when flood control risks are low to moderate, dam reservoir levels are allowed to increase, allowing for increased releases in the Columbia River during the summer migration period. Under VARQ, Hungry Horse and Libby can provide 400,000 acre-feet (i.e., the amount of water it takes to cover one acre with one foot of water) and 1.5 million acre-feet of more water, respectively, than under past constraints. The Corps did not operate these projects under VARQ operations in 2001. **(RPA Action 22) FAIL**

Banks Lake Operation. Banks Lake is an equalizing reservoir for the Grand Coulee pump-generating plant and provides water to irrigate 672,000 acres of Columbia River Project lands. The upper 5 feet of this reservoir contain 130,000 acre-feet of water that the Salmon Plan requires be used for summer flows. During August 2001, Banks Lake was at planned levels all but 5 days in August. **(RPA Action 23) PASS**

Canadian Treaty for Water Storage. The headwaters of the Columbia River originate in Canada. Arrow and Mica reservoirs in Canada are some of the largest storage reservoirs on the Columbia River. Treaty storage negotiations have secured 1 million acre-feet of water from Canada. The Salmon Plan calls for continued negotiations to request more water from Canada to augment spring and summer flows in the Columbia River. These negotiations are not public. Records of negotiations could not be found. **(RPA Action 24) INCOMPLETE**

Additional Non-Treaty Water from Canada. The Salmon Plan requires the federal government to secure more than 1 million acre-feet of water from Canada to assist in salmon and steelhead migrations. Negotiations to request water from Canada beyond that secured under the Treaty or to change operations at Canadian dams (e.g., to retrofit Mica and Revelstoke dams with additional turbines) to augment summer flows in the Columbia River are expected to help meet the Salmon Plan requirements. These negotiations are not public. Records of negotiations could not be found, but no additional water was secured in 2001. **(RPA Actions 25 & 26) FAIL**

Salmon Trucking & Barging at Snake River Dams During Low Flow Years. In normal to low water years, the Salmon Plan implements a “spread-the-risk” approach to salmon and steelhead recovery. That is, the Salmon Plan allows some salmon and steelhead to pass over dams and others are collected and put in barges and trucks and transported around the dams. Maximum trucking and barging occurs, however, in years when spill targets cannot be met and during summer migration of fall chinook. Because spill was not implemented in 2001, trucking and barging was maximized at Snake River dams. **(RPA Action 40) PASS**

Spilling Water Over McNary Dam During the Spring. The safest route of salmon passage at this dam during the spring is over the spillway. Thus, the Salmon Plan requires the federal government to spill water over the dam to aid young migrating salmon and steelhead during the spring. The required spill volumes are specified in the Salmon Plan. In 2001, the federal government provided spill levels at McNary that were well below the levels specified in the Salmon Plan. In fact, during the important period between May 24 and June 15, minimal spill levels were applied only every other day. **(RPA Action 41) FAIL**

Maximize Barging of Salmon & Steelhead During Summer Migration. Based on past research, the Salmon Plan chose to maximize the number of young fall chinook that are transported by truck and barge. During the 2001 summer migration no spill was implemented and trucking and barging of fall chinook was maximized. **(RPA Action 42) PASS**

Limited Trucking & Barging of Fall Chinook at McNary Dam. Because salmon barging at McNary Dam has not been effective, the Salmon Plan allows subyearling fall chinook to swim down river at this dam. In 2001, because the federal government did not meet spill and flow requirements, these salmon were barged at McNary Dam whenever possible. **(RPA Action 43) FAIL**

Decrease Trucking of Salmon & Steelhead in Snake River. Transporting young salmon and steelhead in trucks has proven to be more harmful than transporting them in barges. Subsequently, the Salmon Plan calls for a decrease in trucking for Snake River salmon and steelhead. Although the Corps has also proposed a decrease in trucking by extending the barging period for another 5 weeks, the extended barging period did not occur in 2001. Trucking was continued instead. **(RPA Action 44) FAIL**

Identify & Implement Improvements to Trucking & Barging. Due to the repeated failure to meet required flow targets in the past, most migrating salmon and steelhead are now barged or trucked. The Salmon Plan directs the Corps to identify and make improvements to this program. The greatest potential for improvements is to reduce post-release mortality. Studies were conducted in 2001 to examine timing of transport release to increase post-release survival. Also, in 2001, researchers at the University of Idaho investigated whether young chinook salmon survival is impacted by frequent interactions with steelhead while in barges. The federal government failed to complete any other research or improvements to the trucking and barging program. **(RPA Action 52) FAIL**

Evaluate & Implement Improvements at Collector Dams. The Salmon Plan directs the Corps to make these evaluations and improvements on an annual basis to assist migrating salmon and steelhead. No evaluations or structural and operational improvements were identified or reported in the Corps' Anadromous Fish Evaluation Program Annual Review. **(RPA Action 53) FAIL**

Annual Spill Program. As mentioned, the safest way for salmon to get past dams is over the spillway. Therefore, the Salmon Plan specifies measures to increase young fish passage over the federal dams. In 2001, the Bonneville Power Administration (BPA) declared a power emergency and consequently, the federal government did not initiate the spill program. BPA declared the emergency for the entire spring and summer migration

season. Spill volumes identified in the Salmon Plan were never met. In fact, no spill occurred at Snake River dams. Minimal spill was provided for approximately 3 weeks at lower Columbia River projects. **(RPA Action 54) FAIL**

Initiate Planning & Design of Schultz-Hanford Transmission Line. This proposed 500-kilo-Volt (kV) transmission line in central Washington would make additional daytime spill possible in the lower Columbia by restoring capacity to allow for energy transfers with California. The Salmon Plan calls for BPA to begin the planning effort in 2000, continuing through 2001, to allow for both congressional and National Environmental Policy Act (NEPA) review. Implementation is scheduled for 2003-4. In 2001, BPA began the public review process by releasing a scoping proposal. A draft environmental impact statement is due for release in early 2002. **(RPA Action 55) PASS**

Evaluate, Plan, & Design Joint Transmission Project To Upgrade West-of-Hatwai. This upgrade would make additional daytime spill at the Snake River dams possible by restoring Montana electricity transfer capability. Although the project is expected to be completed by BPA in 2003-4, the Salmon Plan directs planning to begin in 2000-1 to initiate NEPA review. To date, BPA has released no NEPA-related documents nor has it initiated public review of the project. **(RPA Action 56) FAIL**

Operate All Turbines for Optimum Fish Passage Survival. The Corps and BPA shall operate all turbines at peak efficiency, which is believed to be optimum for fish passage survival. This directs operation to within 1% of peak efficiency during the juvenile and adult migration seasons. The Corps has not met this directive. Instead, the Corps followed a lesser standard that allows for digression from the 1% criteria based upon power needs, research, and navigation (among other circumstances). This standard can be found in the Corps' Fish Passage Plan, a plan that was not subject to the same scrutiny as the Salmon Plan. **(RPA Action 58) FAIL**

Spill & Passage Survival Studies at The Dalles Dam. The Salmon Plan directs the federal government to continue to study methods to improve survival of young salmon and steelhead as they pass The Dalles Dam. Results were expected to be implemented to improve spill survival by 2002, but no later than 2005. Because the federal government failed to spill in 2001, most of the research at The Dalles Dam related to spill, survival, and spill efficiency was put on hold or marginalized. **(RPA Action 68) FAIL**

Testing of Occlusion Devices at The Dalles Dam. The Corps is directed to continue design, development and 2001 prototype testing of occlusion devices at the Dalles Dam, with the goal of decreasing turbine passage rates and encouraging juvenile salmon passage

through either the sluiceway or spillway. The Corps is also directed to install occlusion devices across the entire powerhouse, as warranted. These devices were tested in 2001, but due to the drought and lack of spill at The Dalles Dam, the results were inconclusive. Further testing is planned for 2002. **(RPA Action 69)**

INCOMPLETE

Development of Safe Passage Technology at John Day Dam. The Salmon Plan directs the Corps to improve passage at John Day Dam. Testing of a prototype is to be completed in 2002 and then the Corps is to install the best system by 2003. The Corps has been testing a prototype in its Waterways Experiment Station and found some complications. There are several technical issues that must be addressed before the prototype can be fitted for John Day Dam. It is unlikely that the Corps will meet the 2002 testing deadline or the 2003 installation deadline. **(RPA Action 72, 98)**

INCOMPLETE

New Fish Protection Screens at John Day. The Salmon Plan directs the Corps to design and construct a new screen system for the John Day Dam to help salmon migrate down river. The Corps' problems with passage technology described above has put further work on this action on hold. **(RPA Action 73)**

INCOMPLETE

PLETE

State-of-the-Art Turbine Design Technology. The federal government shall consider all state-of-the-art dam turbine design technology to decrease fish injury and mortality before implementing any future upgrades to the dams. This investigation is to be coordinated within the annual planning process. The federal government has current plans to make upgrades and changes at The Dalles and Ice Harbor dams. The 2002 one-year implementation plan does not propose any projects to accomplish this action item. The draft five-year implementation plan sets no timeline or budget for implementing those proposed programs. The agencies therefore have not substantially begun the work towards completing this program and may be behind schedule.

(RPA Action 92)

FAIL

Counting Adult Salmon Passing Through Turbines. The Salmon Plan requires the federal government to determine the number of adult salmon passing through dam turbines. Adults heading upstream are meant to pass the dams via fish ladders. Some adults that successfully ascend the ladders "fall back" past the dam and end up going either through the turbines or over the spillway, having to once again climb the ladder. This action item should determine the number of salmon that are affected, lessen the chances of this occurring, and improve survival when it does occur. In 2001, no consistent monitoring of adults passing through the federal dam turbines occurred. It appears that in 2002 some monitoring will occur at John Day Dam and at Bonneville's First Powerhouse. **(RPA Action 93)**

FAIL

Improving the Existing Bypass Systems at Lower Snake River Dams. The Salmon Plan requires the Corps to evaluate the need to improve existing by-pass facilities for young salmon at the lower Snake River dams (i.e., intake screens, gatewell vertical barrier screens' cleaning system). This investigation would then open the door for incorporation of new components and/or modifications to the dams. The federal government began several projects in 2001 and it has more slated for 2002. **(RPA Action 94)**

PASS

Implement & Study Methods to Reduce Salmon Deaths Due to Predation in Lower Rivers. The northern pikeminnow has been shown to be the major fish predator affecting juvenile salmon migrating through the Columbia River. Small mouth bass, catfish, and walleye also consume many young salmon and steelhead in the Columbia and Snake rivers. A young salmon or steelhead is more vulnerable to predators now than before the dams were in place because the salmon/steelhead are biologically stressed and confused when migrating through dams and reservoirs, increasing their susceptibility to these predators. In addition, the slack water of the reservoirs provide better habitat for these predators, increasing predator populations to levels greater than in free-flowing sections of river.

To compensate for these predator effects, BPA has funded a predator removal program since 1992, placing a bounty on pikeminnows that has reduced predation by approximately 15%. The pikeminnow removal program continued in 2001 with higher bounties than before.

(RPA Action 100)

PASS

Discourage Avian Predation. Birds can be effective predators of young salmon and steelhead. Birds are particularly effective at dams because after passing through a dam young salmon and steelhead become confused and stunned. Most federal dams have devices to discourage avian predation (e.g., water cannons, avian predator lines). It appears that old net frames at the Bonneville Dam bypasses have not been removed as required by the Salmon Plan. Additionally, although the Salmon Plan calls for progress reports on this issue and recommends additional measures, the federal government has failed to complete these actions. **(RPA Action 101)**

INCOMPLETE

Adult Salmon Fallback & Delay. The Salmon Plan directs the Corps to investigate the causes of adult salmon "fallback" at fish ladder junction pools and other sources of adult migration delay, and instructs the Corps to make the necessary changes. Modifying hydraulic conditions may reduce this delay. The Corps is currently working to complete this action, although adequate funding is a concern in implementation. **(RPA Action 117)**

PASS

Improving Adult Salmon Passage Conditions. The Corps shall improve operations of adult fish ladders at Columbia and Snake River dams so that the best possible conditions are provided for adult fish. Adult salmon



In 2001, Columbia and Snake River salmon experienced the worst survival rate since being listed under the ESA.

are attracted to the fish ladders by water flowing from and near the ladder. The Corps is directed to report to the National Marine Fisheries Service (NMFS) by the end of 2001 on its attraction flow study. The Corps has been developing a computer model that will aid in optimizing operations for the attraction flows. The Corps has made verbal reports to NMFS on their progress and plans to include further information in its 2001 Progress Report. In addition, the 2001 low water year provided data points on how the attraction flows operate in low flow years, but not during high flow years, so more research is needed. **(RPA 120) INCOMPLETE**

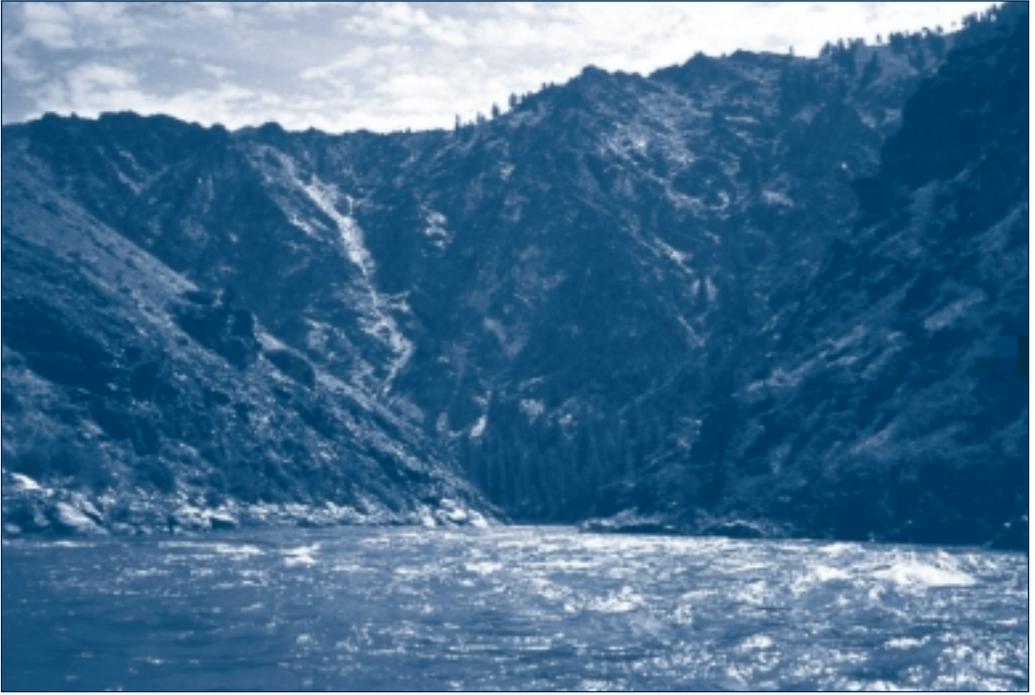
Implementation of an Automated Monitoring & Alarm System. The Corps shall develop and implement an automated monitoring and alarm system at appropriate dams, as determined by the NMFS Regional Forum. In the interim the Corps will work through the Fish Passage Operations and Maintenance Team (FPOM) to develop early detection measures and include these in the annual Fish Passage Plan before the 2001 migrations season. The annual coordination to implement this action is taking place. The long-term implementation of needed changes is a few years out, but likely on schedule to meet the deadline. **(RPA Action 125) PASS**

Maintain Juvenile & Adult Fish Facilities. The Corps shall maintain and operate juvenile and adult fish facilities according to criteria established in the Corps' Fish Passage Plan. The Salmon Plan directs the Corps to coordinate with NMFS on the development of these criteria before the start of each fish passage season, generally February 1. The Corps' 2001 Fish Passage Plan was released and partially implemented. In addition,

the Corps ignored some criteria recommended by tribal fisheries biologists and engineers to assist salmon and steelhead. **(RPA Action 144) INCOMPLETE**

Maintenance Programs. The Salmon Plan requires the Corps to develop preventative maintenance programs for fish passage facilities that ensure long-term reliability of these facilities, thus minimizing repair costs. The 2002 one-year implementation plan includes several maintenance projects that are slated to begin in 2002. The lack of suggested coordination in the development of the 2002 one-year implementation plan raises questions about when these maintenance programs were begun and whether they are currently behind schedule. **(RPA Action 145) INCOMPLETE**

Removal & Prevention of Debris from Fish Passage Facilities. The Corps shall solve debris problems and implement effective debris handling techniques to ensure that the performance of fish passage facilities is not compromised. The 2002 one-year implementation plan includes a detailed set of actions to improve the problems caused by debris. Some of these projects began in 2001. **(RPA Action 146) PASS**



The Columbia and Snake River Basin was once the greatest salmon watershed on earth.



Tributary & Estuary Habitat Improvements

Number of Actions Graded: 19

Fail=3 • Incomplete=13 • Pass=3

Reduce Stream Flow Depletions. The Salmon Plan requires the Bureau of Reclamation (BOR) to ensure that any new water transactions it authorizes will not harm listed salmon and steelhead. Existing BOR operations in the Columbia River Basin contribute to stream flow depletions in the Columbia during the salmon migration season. These depletions make it less likely that the federal government will meet the flow objectives set forth in the Salmon Plan. The BOR maintains that it is now meeting this requirement for all new transactions. **(RPA Action 27) PASS**

Study & Improve Irrigation Project Impacts on Salmon Recovery. BOR must address effects of irrigation projects on tributary habitat, water quality, and direct effects on salmon survival (e.g. impingement, entrainment in diversions, false attraction to return flows, and others). This analysis must be completed by 2003. The consultations and studies seem to be on track to meet that deadline. **(RPA Action 30) PASS**

Acquiring Upper Snake River Water for Flows. The federal government must acquire water for instream use from BOR's Upper Snake River basin irrigation projects and from the Idaho Power Company's Hells Canyon dams during the spring and summer to help meet the

Salmon Plan's flow objectives in the lower Snake. In 2001, BOR supplied only about 100 thousand acre feet (kaf) from its storage reservoirs (in contrast with the 427 kaf provided in the past) and the federal government did not secure additional water from the Hells Canyon dams. **(RPA Action 32) FAIL**

Fish Screens at Burbank Irrigation Project. The Salmon Plan requires BOR to install fish screens at two pump stations at the Burbank irrigation project by March 30, 2001. These screens keep salmon and steelhead from moving into irrigation canals rather than staying in the rivers. BOR has installed the screens. **(RPA Action 38) PASS**

Bureau of Reclamation Priority Subbasins. The Salmon Plan directs the BOR to initiate programs in 3 priority subbasins per year over 5 years to address all flow, passage, and screening problems. In 2001, the BOR should have initiated immediate work in the Lemhi, Upper John Day, and Methow subbasins, including beginning National Environmental Policy Act (NEPA) processes, requesting funding, and pursuing congressional authorizations. The BOR is instead relying on the subbasin planning and provincial review process to implement this action. However, since the subbasin plans will not be completed in this timeframe, BOR will rely on other unspecified "indicators" to establish priorities. The immediate work called for in the Salmon Plan is not being carried out as planned. It is unknown how or when BOR intends to pursue the required administrative processes, congressional authorizations, or funding under its new plan. **(RPA Action 149) FAIL**

Bonneville Power Administration (BPA) Funding of Productive Non-Federal Habitat. This measure puts

high priority on protecting tributary habitat that is currently productive, in accordance with criteria and priorities that the federal government should have developed by June 1, 2001. Specifically, the Salmon Plan calls on BPA to protect these habitats through conservation easements, acquisitions, etc. To date, the federal government has failed to develop the criteria specified in this measure. Despite this, in 2001 BPA did generate targeted solicitations for “high priority” habitat project recommendations. As reviewed by the National Marine Fisheries Service (NMFS), only some of these programs would implement Salmon Plan actions, and it is not clear which, if any, are associated with this particular RPA Action. **(RPA Action 150) INCOMPLETE**

Improving Tributary Water Flows. The Salmon Plan directs the federal government to “experiment” with innovative ways to increase tributary flows by, for example, establishing a non-profit water brokerage. This project would develop a competitive process to supply water for increased flows and improve water quality. In 2001, BPA was to fund the development of a methodology acceptable to NMFS to implement this action, as well as establish a new non-profit entity or contract with an existing entity to carry out these projects. The federal government failed to develop this plan. Instead, in 2001 BPA included actual tributary water transactions as implementation of this action. In December 2001, BPA released a Request for Qualifications for entities to accomplish this RPA Action. NMFS is currently developing the protocols for the plan. On this new timeline, the entity is not scheduled to be operational until April 2002. **(RPA Action 151) INCOMPLETE**

Protect 100 Miles of Riparian Habitat. The Salmon Plan directs BPA to negotiate and fund the protection of 100 miles of riparian habitat for 10 years by June 1, 2001. BPA is still in the process of defining some aspects of its criteria, but has, in cooperation with the Conservation Reserve Enhancement Program, either protected or begun negotiations for the protection of its first 100 miles of riparian habitat. **(RPA Action 153) INCOMPLETE**

Subbasin Assessments & Plans. The Salmon Plan directs BPA to work with the Northwest Power Planning Council to ensure the development and updating of subbasin plans and assessments, as well as help fund technical support for implementation, and match state and local funding. “Subbasin planning” is a long-term habitat and watershed recovery program for non-federal lands focusing on state and local stewardship. BPA is obligated to fund the bulk of these efforts. The Salmon Plan requires that the planning efforts for priority subbasins be complete by the 2003 check-in. Furthermore, the Salmon Plan directs the federal government to identify habitat actions from subbasin plans (as they become available) in the one- and five-year implementation plans and work towards implementing them.

BPA has committed to funding subbasin planning efforts, although substantial funding shortfalls have been identified. However, it is unclear if the federal government will complete planning for priority subbasins by the 2003 check-in. There appears to be consensus on moving forward in only some subbasins. This is likely to create competition for funding of projects and could serve to slow down the process. Similarly, the lack of a final five-year implementation plan and the lack of coordination in developing the 2002 annual implementation plan raises doubts as to whether available actions are being identified in a timely fashion. **(RPA Action 154) INCOMPLETE**

Develop Compliance Monitoring Program. The Salmon Plan directs agencies to work with NMFS and a habitat coordination team to develop a compliance monitoring program for inclusion in the first one- and five-year implementation plans. This action is important to ensure that all the actions called for in the Salmon Plan are taking place in an effective manner. So far, there is no evidence of progress toward developing a compliance monitoring program. Implementing this program is vital to informing both policy makers and the public about whether the Salmon Plan is accomplishing its goals and performance measures. **(RPA Action 163) FAIL**

Estuary Protection & Funding. The Salmon Plan has several actions aimed at restoring the Columbia River estuary, which serves as vital habitat for the 12 listed Columbia and Snake River salmon and steelhead. These actions have two purposes: 1) to protect 10,000 acres of tidal wetlands in the estuary; and 2) to undertake the monitoring and research necessary to better understand the importance of the estuary to salmon and steelhead. Some progress was made toward these goals in 2001, but many actions that the Salmon Plan called for in 2001 were not accomplished, due in large part to inadequate federal funding. Congress approved less than \$200,000 for estuary restoration in fiscal year (FY) 2002, when adequate implementation requires (according to Oregon Governor John Kitzhaber) about \$11 million in FY02. This major funding shortfall guarantees that the federal government will not be able to meet the Salmon Plan’s deadline for restoring the estuary and learning more about how it effects salmon. But, some progress was made toward selecting monitoring and research sites, improving monitoring technology, and taking an inventory of estuary habitat. More funding for estuary programs would help rectify a problem plaguing the Salmon Plan implementation in general: a lack of coordination among the federal agencies. This stems in part from the fact that many worthwhile estuary restoration and science projects are competing for funding from insufficient, diffuse sources. **(RPA Actions 158-162, 194-197) INCOMPLETE**



Hatcheries & Harvest

Number of Actions Graded: 9

Fail=3 • Incomplete=6 • Pass=0

Selective Fisheries Measures. The Salmon Plan clearly recognizes that salmon harvest has been significantly reduced in the Columbia River Basin over the past decade. It also notes that opportunities to further improve survival through additional harvest reductions are limited at best. Nonetheless, the Salmon Plan puts forth new and expanded harvest reforms. Specifically, the federal government and relevant fishery management agencies are directed to develop and fund a multi-year program to test and deploy selective fishing methods and gear. Initial implementation was to begin in FY2001 and be completed by the 2003 check-in.

Despite this plan, a recent NMFS-approved Fisheries Management Plan for lower Columbia River fisheries requires all commercial fishermen to develop, test, and deploy gear for a live-capture fishery in only one year. Thus, commercial fishermen on the lower Columbia River were required to accomplish, in one year, what the Salmon Plan calls for over a number of years. Moreover, very little, if any, federal funding was made available for this process. Although the measures required in the Salmon Plan are being implemented, this lack of coordination has resulted in unnecessary circumstances for many fishermen, and should not be credited as fulfilling the intent of this action. **(RPA Action 164) FAIL**

Harvest Management & Crediting Strategies. The Salmon Plan asks the federal government and other fishery managers to develop new management strategies, stock assessment tools, catch sampling programs, and methods to estimate incidental mortality to help accommodate these and other reforms and address their effects. Finally, the federal government is directed to work with others to develop methods to “credit” the benefits of these reforms toward other offsite mitigation responsibilities. These actions are to be completed by the 2003 check-in. These measures are in the initial stages of planning. It is not clear at this point if the Agencies are on track to have this work completed by the 2003 check-in. **(RPA Actions 165-168)**

INCOMPLETE

Comprehensive Fish Marking Strategy. The Salmon Plan requires that NMFS coordinate the development of a comprehensive marking strategy for all salmon and steelhead artificial production programs in the Columbia River Basin by the end of 2001. Specifically, by March 2001, funding was needed to begin marking all spring chinook salmon from federal or federally funded hatcheries, as well as to implement this marking plan for other production facilities. The action agencies have stated that “for logistical and other reasons” the

completion of step 1 in this process, completion of the comprehensive strategy, did not occur in 2001. This will likely result in delay for the entire process. **(RPA**

Action 174) FAIL

Safety Net Artificial Production Programs (SNAPP).

Because many salmon and steelhead populations in the upper Columbia and Snake River Basin are particularly low, the Salmon Plan calls on the federal government to develop safety-net programs designed to intervene in order to prevent extinction. The Salmon Plan stresses the importance that these programs be designed and implemented early, and emphasizes that the purpose of these programs will be undermined if the process suffers from delay. The Salmon Plan outlines a specific process for the creation of these programs and identifies four specific salmon/steelhead populations in need of immediate attention. The federal government has acknowledged that the planning process for these initial populations will not be completed by the deadline in the Salmon Plan, and that this initial list of populations may change. **(RPA Actions 175) FAIL**

SNAPP Funding. In 2002, the Salmon Plan specifically calls on BPA to fund the implementation of these safety-net programs as well as commit to a process whereby these funds can be made quickly available for additional safety-net programs. The initial delay in beginning this process makes implementation of these actions unlikely in 2002. **(RPA Action 177, 178) INCOMPLETE**



Studies & Reporting

Number of Actions Graded: 52

Fail=17 • Incomplete=23 • Pass=12

One & Five-Year Implementation Plans. The Salmon Plan requires the federal government to create plans annually to implement specific measures for dam, habitat, hatcheries, harvest improvements, and for research, monitoring, and evaluation needed to meet performance standards. The plans are expected to be coordinated with the region's tribal, state, and federal fish and wildlife managers. The National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) must then determine the adequacy of these plans. The plans must consider the current status of various salmon and steelhead populations; recent data and research results, monitoring, and evaluation actions; feasibility and timing of implementing each measure; and the probability of success for each measure. The one-year plan must provide project-specific detail needed to implement actions identified generally in the five-year plan. The five-year plan must explain how actions collectively contribute to meeting the performance standards. The Salmon Plan required the federal government to complete the first one-year plan by September 1, 2001. That



Although hatcheries produce millions of baby salmon, not enough return as adults to restore salmon populations.

2002 one-year plan was released on November 15, 2001 but it was not developed in coordination with federal, state, and tribal fisheries managers as suggested in the Salmon Plan. The first five-year plan was to be completed by March 31, 2001. A draft version of this plan came out on July 31, 2001 but has yet to be finalized. **(RPA Action 1) FAIL**

One & Five-Year Plans for Dam Improvements. The Salmon Plan states that each one-year plan must describe specific dam-related actions to be taken in the coming year. To assure broad input into decisions regarding the operation of the federal dams, the plan requires that the actions be coordinated through the NMFS Regional Forum and led by the Implementation Team. Because the federal government never consulted with states and Tribes on the 2002 one-year implementation plan, the coordination as described in the Salmon Plan did not occur. As discussed above, the five-year plan has yet to be finalized and thus, this plan is also delayed. However, both the draft five-year implementation plan and the 2002 implementation plan include specific dam-related actions. **(RPA Action 2) FAIL**

One & Five-Year Water Management Plans for Federal Dams. Many of the actions described in the Salmon Plan rely on river flow augmentation and spilling water over the dams. The water management plan, which includes flow and spill objectives, is intended to guide water resource management. The 2001 water management plan was finalized on July 9, 2001, more than halfway through the salmon migration season. The 2002 plan was expected by September 1, 2001. Although a draft plan was released on November 7, 2001, the final plan is not yet complete. The 2002

five-year water management plan is included in the draft five-year implementation plan. **(RPA Action 3) INCOMPLETE**

One & Five-Year Capital Investment Plans. The Capital Investment Plan, coordinated through the System Configuration Team, should prescribe needed investments, research, monitoring, etc., including budgets to address specific objectives for improving fish passage. This plan should be developed on an annual basis as one- and five-year plans. The draft 2002 five-year implementation plan includes a list of 89 system configuration projects, some with detailed workplans and budgets, others simply in draft form. The 2002 one-year implementation plan relists most of these projects along with work expectations for the year 2002. However, the federal government has failed to finalize the five-year plan and did not complete the 2002 one-year plan in a coordinated fashion as suggested by the Salmon Plan. **(RPA Action 4) FAIL**

One & Five-Year Water Quality Plans. The Water Quality Plan, coordinated through the Water Quality Team, should define objectives, priorities, and criteria for measures to improve water quality. The plan should also recommend specific federal dam operational improvements necessary to improve water quality. The plan should be developed and updated on an annual basis as one- and five-year plans and coordinated with the annual Water Management and Capital Investment plans. The draft 2002 five-year implementation plan includes a discussion of water quality objectives and priorities, but failed to include work plans for water quality projects. The 2002 implementation plan does include a list of water quality actions to avoid jeopardy. However, the federal government has failed to finalize

the five-year plan and did not complete the 2002 one-year plan in a coordinated fashion as suggested by the Salmon Plan. It should be noted that the Salmon Plan also calls for the development of a more general water quality plan for the mainstem Columbia and Snake rivers to address measures that further the objectives of the Clean Water Act, though not necessarily directly related to Endangered Species Act (ESA) obligations. The Salmon Plan called for a detailed workplan and timeline for this general plan by March 31, 2001, or soon thereafter. To date, no such plan has been completed. **(RPA Action 5) FAIL**

One & Five-Year Operation & Maintenance (O&M)

Plans. The Salmon Plan directs the federal government to establish and implement, through the annual planning process, one- and five-year O&M plans and budgets that improve fish facility operations at federal dams. This plan is specifically required to address the growing backlog of needed maintenance actions. The draft 2002 five-year implementation plan contains a brief discussion of current O&M strategies and Project Management Plans, but fails to include the detailed work plans called for in the Salmon Plan. The 2002 one-year implementation plan does include a more detailed set of O&M/fish passage activities. However, the federal government has failed to finalize the five-year plan and did not complete the 2002 one-year plan in a coordinated fashion as suggested by the Salmon Plan. **(RPA Action 6) FAIL**

One & Five-Year Habitat Plans for Offsite Mitigation.

The Salmon Plan calls for many tributary and estuary habitat improvements to mitigate expressly for failure to make major changes that improve migratory habitat degraded by dams. These measures are included in the draft five- year and one-year plans for 2002, but inadequate detail is provided. Additionally, the federal government has failed to finalize the five-year plan and did not complete the 2002 one-year plan in a coordinated fashion as suggested by the Salmon Plan. **(RPA Action 7) FAIL**

One & Five-Year Hatchery & Harvest Plans. Hatchery production increased dramatically after completion of the hydrosystem in 1975 in an attempt to mitigate for the expected loss of salmon and steelhead populations. Now hatcheries are believed to be potentially harmful to wild salmon and steelhead. The Salmon Plan calls for improving hatchery practices.

Harvest of salmon and steelhead in the Columbia River Basin was substantial during most of the 20th century. Even before the listings under the ESA, harvest of salmon and steelhead had been drastically reduced. Management agreements and treaties govern harvest rates between Canada and the U.S., and between several states (CA, OR, WA, AK), and Tribes. The plans are only meant to outline how the federal government can facilitate changes in harvest practices.

Hatchery and harvest measures are included in the draft one- and five- year implementation plans for 2002, but detail is still lacking. The federal government

has also failed to finalize the five-year plan and did not complete the 2002 one-year plan in a coordinated fashion as suggested by the Salmon Plan. **(RPA Action 8) FAIL**

FAIL

One & Five-Year Research, Monitoring, & Evaluation

Plans. The one and five- year implementation plans should describe the research, monitoring, and evaluation programs that are to be implemented to reduce critical uncertainties, identify potential survival improvements, and assess the effectiveness of the suite of actions in the Salmon Plan. The one- and five- year research, monitoring, and evaluation programs are included in the one- and draft five- year implementation plans for 2002. The federal government has failed to finalize the five-year plan and did not complete the 2002 one-year plan in a coordinated fashion as suggested by the Salmon Plan. **(RPA Action 9) FAIL**

Recovery Planning. Recovery planning is a comprehensive process led by NMFS to address and provide solutions to the factors and problems that have led to the decline of Pacific salmon and steelhead. The Salmon Plan directs the federal government to work with NMFS to incorporate the results of recovery planning into the Northwest Power Planning Council's Fish and Wildlife Program on an annual basis. However, the results of recovery planning will not become final in time. The Salmon Plan therefore calls on the Bonneville Power Administration (BPA) to ensure that annual Fish and Wildlife funding recommendations are consistent with ESA findings and asks NMFS to work within this processes to ensure that ESA needs are being met. To date, NMFS has provided guidance for solicitations on projects in various subbasins and provinces. The extent to which this guidance relates to recovery planning efforts is uncertain. **(RPA Action 10) INCOMPLETE**

INCOMPLETE

Unanticipated Actions. The Salmon Plan calls on the federal government to develop procedures for carrying out actions that could not be anticipated in the planning process, but that are necessary to achieve performance standards. These procedures were to be completed by September 30, 2001. The 2002 one-year implementation plan includes a section on "adaptive management," or modifications to actions in order to achieve performance standards. However, to date, no procedures have been developed to expedite the process for implementing *new or unplanned* activities as specified in this action. **(RPA Action 11) FAIL**

Approval of Plans. The Salmon Plan directs NMFS and USFWS to participate in the review, development and approval of the annual one- and five-year implementation plans. As such, the federal government must coordinate this review and approval in a timely manner. Although there have been attempts to coordinate the review of the draft 2002 five-year implementation plan, the government has yet to finalize the document. Similarly, NMFS and USFWS have yet to review the 2002

one-year implementation plan. These agencies intend to review the implementation plans in early to mid 2002. **(RPA Action 12) FAIL**

Annual Reports on Achieving Performance Standards.

The Salmon Plan sets forth some standards (and others yet to be determined) by which the federal government plans to judge the success of the Salmon Plan. Although some performance standards cannot be evaluated until adult fish return and other standards have yet to be developed, several performance standards are annual goals. The annual reports are meant to document the federal government's compliance with the measures and schedules described in the Salmon Plan and in the one- and five- year implementation plans, progress toward meeting interim and long-term performance standards, dam improvements, and non-mainstem habitat improvements. The Salmon Plan does not make clear when annual progress reports are due. Presumably, this information would be extremely valuable in developing the following year's one-year implementation plan. The 2001 annual progress report is not currently available but is expected to be completed in early 2002. **(RPA Action 13) FAIL**

Banks Lake Operations to Assist in Flow. The Salmon Plan requires the Bureau of Reclamation (BOR) to complete a National Environmental Policy Act (NEPA) process to determine if the Banks Lake reservoir could be operated in a manner that would assist salmon migration in the summer. Banks Lake could offer up to 260,000 acre-feet in flow augmentation if the reservoir is kept 5 feet below its current levels. This would provide migrating salmon and steelhead with much needed water in the summer. The Salmon Plan requires process completion by June 2002. BOR is not on schedule to meet this deadline. **(RPA Action 31) FAIL**

Study Plan for Evaluating Trucking & Barging at McNary Dam.

The Salmon Plan calls for a plan to evaluate the barging and trucking of upper Columbia River salmon and steelhead at McNary Dam. The Salmon Plan requires this plan to be completed by 2001 and states that research should be underway in 2002. The Army Corps of Engineers (Corps) has developed a plan and will begin implementation of field studies in 2002. **(RPA Action 45) PASS**

Study on Trucking & Barging Snake River Chinook & Steelhead.

In an attempt to circumvent the impacts of the Snake and Columbia River dams, young salmon and steelhead have been captured at the dams on the lower Snake River, put in barges or trucks, transported around the dams, and released below Bonneville dam. For several years, the federal government has evaluated the efficacy of these transportation programs and the Salmon Plan required further study to be coordinated through the annual planning process. In 2001, several studies were completed (e.g., Bouwes et al. 2001; Sandford and Smith 2001; Marsh et al. 2001). These studies were not available for decisions in 2001. **(RPA**

Action 46) INCOMPLETE

Evaluation of Delayed Mortality Between Transported & In-River Salmon. Stressful experiences in a barge/truck or migrating through reservoirs and dams may not kill a fish immediately but may reduce survival later in the life cycle. This phenomenon is referred to as delayed mortality. Delayed mortality has been shown to be higher for barged or trucked fish than for fish traveling through the river naturally. The relative difference in delayed mortality between these two groups of fish is called the "D" value. The Salmon Plan acknowledges that we have very little information regarding "D" value and as such, requires a thorough evaluation. Some studies regarding "D" value for spring/summer chinook salmon have been completed. A Comparative Survival Study completed in 2001 estimated a "D" value that was lower than that used by NMFS in the Salmon Plan. This suggests that the analysis NMFS conducted for the Salmon Plan is at best inadequate and overstates the benefits of the Salmon Plan on the overall survival of salmon. The federal government failed to complete similar studies for steelhead and fall chinook in 2001. **(RPA Action 47) INCOMPLETE**

Study Prototype Powerhouse at Bonneville in 2001.

The dam passage survival rate past Bonneville Dam is one of the lowest in the federal dam system. The Salmon Plan required the Corps to complete in 2001 a report meant to document the consideration of the biological and engineering uncertainties used to decide whether to go forward with permanent construction at the Bonneville Powerhouse. The report was not completed in 2001. Currently, the 2002 one-year implementation plan calls for the decision report. Research opportunities were limited last year due to low flow conditions and may be responsible for the delay. **(RPA Action 61) FAIL**

Evaluation of Bonneville First Powerhouse Fish Screens.

The Salmon Plan requires this evaluation to be completed in 2001 and then a decision on whether to move forward was to come from that review. Evaluations of the effectiveness of extended screens occurred in 2000. The 2002 draft five-year implementation plan indicates that a decision on whether to move forward with the screens would be made in 2001 and that construction would be underway by 2002 as required by the Salmon Plan. The one-year implementation plan for 2002, however, calls for this determination with no mention of implementation or construction. **(RPA Action 62) INCOMPLETE**

Investigation of Minimum Gap Runners at the Bonneville First Powerhouse.

Changes in pressure caused by turbines and direct hits by turbine blades kill young salmon and steelhead when passing the Bonneville Dam. Minimum gap runners are expected to decrease deaths caused by the turbine blades. Some research began in 1998 on Bonneville turbine modifications. A final report on this investigation was due February



For centuries, people fished at Celilo Falls on the Columbia River. Dam construction destroyed the falls.

2001. No evidence that this report was completed could be found. **(RPA Action 64) INCOMPLETE**

Investigation of 24-hour Spill at John Day Dam. The Salmon Plan directs the federal government to continue investigating the feasibility of implementing 24-hour spill at John Day Dam. Results were to be used to determine if daytime spill would further improve juvenile fish survival. Because the federal government severely curtailed all spill operations in 2001, it also failed to implement the 24-hour spill evaluation. This study was not completed. **(RPA Action 71) FAIL**

Predation Study & Changes for Little Goose Dam.

Before the 2000 migration, the Salmon Plan directed the Corps to conduct studies and make changes at the Little Goose Dam to minimize or eliminate aquatic predators. A new mechanism at the dam that traps debris flowing in the water had been shown to provide a hiding place for salmon and steelhead predators. This action was proposed to address that concern. Studies in 2001 indicated that predators were not as abundant as originally thought. During the 2002 migration, the Corps plans to complete regular cleaning at the dam to prevent predation of salmon and steelhead. **(RPA Action 79) PASS**

Continue Design Development for Safe Passage at Lower Granite Dam.

The Salmon Plan directs the Corps to continue testing different prototype devices (e.g., behavioral guidance systems and upper turbine intake occlusion devices) that will help salmon and steelhead pass Lower Granite Dam safely. These types of technologies may increase safe passage for salmon and steelhead by reducing forebay residence time, reducing stress, and reducing gas supersaturation due to higher

spillway passage efficiencies. The Corps is actively testing some prototypes at Lower Granite Dam and plans to do a full seasonal test on the systems in spring 2002. The Corps seems to be on schedule to meet the 2003 check-in requirements. **(RPA Action 80) PASS**

Investigating Survival of Juvenile Salmon Passing Dams over Spillways.

The Salmon Plan directs the federal government to investigate the survival of salmon that pass over Columbia and Snake River dams. The federal government is to set priorities, costs, and schedules to continue spillway passage survival studies in 2001 and future years. For young salmon, passing over the dams is preferable to other means of crossing the dams. These studies are meant to ensure that the dams are operated in a way that results in the lowest possible mortality to salmon. The federal agencies have initiated multiple studies and more are slated for future years to satisfy the requirements of this mandate. However, the spill requirements must be implemented, as they were not in 2001, for this action's benefits to be realized.

(RPA Action 82) PASS

Study the Effect of Spill Volume & Duration on Salmon Passage.

The Salmon Plan directs the federal government to study the effect of spill duration and volume on the number of salmon passing over the dams via spill. In addition, the study must include the effect of spill on the survival of young salmon and steelhead passing Columbia and Snake River dams – at both each individual dam and over the total federal dam system. Adult fish passage considerations are also to be incorporated. The Salmon Plan requires that an overall phased study approach be determined in the one-and five-year implementation plans. Numerous studies have begun with more planned for the coming year. It is unclear whether

these studies will be sufficient to determine the effects and benefits of spill. Due to the lack of coordination with the 2002 one-year implementation plan, it is unlikely that the coordination required by this action was completed. **(RPA Action 83) INCOMPLETE**

Investigation of Turbine Passage by Juvenile Salmon.

The Salmon Plan directs the federal government to investigate the effects of turbine passage on young salmon and steelhead. The aim is to develop less harmful turbines and improve dam operations to increase salmon and steelhead survival. The Corps must submit a report with the findings of the first phase of the Turbine Passage Survival Program by October 2001, with annual progress reports thereafter. The Corps, instead, plans to release the report in mid-2002. **(RPA Action 89) FAIL**

Develop Comparison of Survival Benefits of Various By-Pass Facilities at Bonneville First Powerhouse.

The Salmon Plan directs the federal government to complete this comparison by 2002. This analysis should study the relative advantages of several bypass systems to Bonneville Dam's First Powerhouse. Research has been conducted on the efficiency of different bypass facilities. However, no research described in the 2000 or 2001 Anadromous Fish Evaluation Program annual review has evaluated the fish survival benefits of these routes of passage as required by this action. This action is also not included in the Corps' Anadromous Fish Evaluation Program FY2002 research agenda. **(RPA Action 97) INCOMPLETE**

Studies on Avian Predation above Bonneville Dam.

In the late 1980's, Caspian terns first started nesting on islands made of dredged materials in the lower Columbia River. Their numbers on Rice Island grew to nearly 10,000 pairs by the late 1990s, making this the largest tern colony in the world. Although the terns are not responsible for the crash in salmon populations (most of which occurred before the late 1980s), efforts have been made to relocate these terns to East Sands Island. Because this island is closer to the estuary, terns also consume other fish relieving some pressure on young salmon and steelhead. More tern research, including using barges covered with sand as possible nesting areas, continued in 2001. **(RPA Action 102) PASS**

Predation by White Pelicans Study. White pelicans may be a potential source of mortality to migrating young salmon and steelhead. As a result, the Salmon Plan required the federal government to complete a study plan by September 30, 2001, detailing the study objectives, methods and schedule. No plans to study white pelican predation at McNary Dam were found in the Corps' 2001 Anadromous Fish Evaluation Program annual review for 2002 nor in the 2002 implementation plan. **(RPA Action 103) FAIL**

Predacious Bird Trend Study. The Salmon Plan requires the federal government to collect information from predacious bird colonies and evaluate any trends associated with that data collection. The Salmon Plan recognizes the need to separate out any specific relationships between hatchery and wild salmon in these trends. This information is meant to help fish biologists make decisions necessary to reduce the impacts of birds on listed salmon populations. While the federal government continued efforts to collect the information required by this action in 2001, it did not complete the recovery efforts for the year. The Salmon Plan does not require the completion of the study for several more years. **(RPA Action 104) INCOMPLETE**

Marine Mammal Predation Study. The Salmon Plan recognizes that the existence and operation of some dams, like Bonneville Dam, increases salmon deaths related to marine mammals, such as seals, eating salmon. As a result, the Salmon Plan required the federal government to create a plan for a study to reduce this predation by June 30, 2001. This study plan has yet to be submitted. **(RPA Action 106) FAIL**

Adult Salmon Protections at Columbia & Snake River Dams.

The Salmon Plan directs the Corps to study and then implement measures at the federal dams that will reduce adult mortality caused by passing through turbines, particularly at the Bonneville Dam. Study plans, recommendations, and a schedule for accomplishing this action should be developed through the annual planning process. The Corps has ongoing studies that are monitoring adult salmon and steelhead behavior at the dams. The 2001 studies were less conclusive due to low flow and limited spill. The Corps plans to continue additional studies in 2002. In the future, the results from these studies are intended to be used for taking corrective measures. **(RPA 111 & 113) INCOMPLETE**

Report on Adult Fishway at Bonneville by 2001.

Elevated nitrogen gas levels, harmful to salmon and steelhead, have been found in the auxiliary water supply systems in the adult fishway at Bonneville Dam. The Salmon Plan directed the Corps to complete a report by the end of 2001 that included measures to improve or replace aging components and help minimize the gas level problems. The Corps completed this report. **(RPA Action 126) PASS**

Investigation of Bonneville Adult Fishway to Ensure its Operation. The Bonneville Dam Second Powerhouse adult auxiliary water facilities failed in 1997 during the peak of the adult fall chinook and steelhead migrations. The Salmon Plan directs the Corps to continue investigations of this fishway to prevent another failure. In its investigation the Corps has addressed the water supply issue for the ladders at Bonneville Dam. It is questionable, however, whether funding will be available to implement the necessary changes at this facility. **(RPA Action 127) PASS**

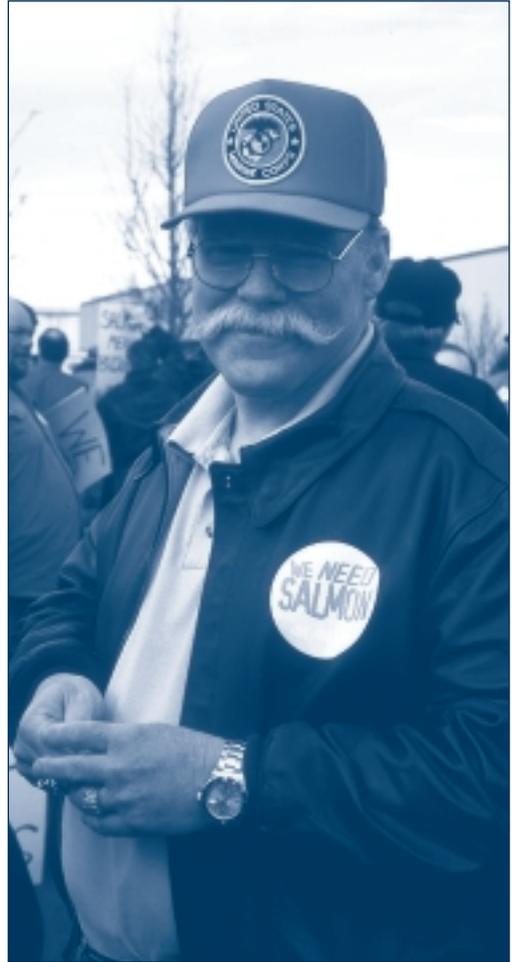
Mainstem Habitat Program. The Salmon Plan acknowledges that, to date, there have been no systematic assessments of mainstem habitat degradation caused by dam construction on the Columbia and Snake rivers, despite the significant impact these river impoundments have had on mainstem-spawning salmon populations. To address this shortfall, the Salmon Plan mandates that BPA develop a program to identify research needs and development-improvement plans for all mainstem reaches. The results of this research and planning should be reported annually. To date, there have been no reports of initial research relating to this action. However, a similar project was proposed within the FY02 Provincial Review process and is in the initial planning and preparatory stage. Future years will determine if this project meets the intent of the Salmon Plan. **(RPA Action 155) INCOMPLETE**

Feasibility Study To Improve Chum Salmon Spawning Conditions at Ives Island. The Salmon Plan required this study to be completed by 2003. Feasibility studies to improve the spawning area near Ives Island were conducted 2001. **(RPA Action 156) PASS**

Hatchery & Genetic Management Plan (HGMP) Development. Reform of certain hatchery operations is identified in the Salmon Plan as a critical way to reduce or eliminate the adverse genetic and ecological effects of hatchery production on natural production. An important step towards achieving these reforms is the development of HGMPs for specific subbasins and watersheds. The Salmon Plan directs that the federal government fund the development of these NMFS-approved plans, targeting facilities most affecting listed populations as a priority. Specifically, the Salmon Plan targets hatchery programs within the Columbia and Snake River Basins, including Grand Coulee mitigation programs and federally funded hatcheries. The federal government has stated that it is already behind in the development of HGMPs for facilities in several different provinces, and is now in the process of identifying "alternative approaches" to ensure that these plans are developed on schedule. **(RPA Actions 169-173) INCOMPLETE**

Fund & Expand Fish Marking & Recapturing Programs. The Salmon Plan directs the federal government to fund and expand the fish marking and recapturing programs to determine juvenile survival for fish that migrate in-river compared to those that are transported in trucks and barges. Determining relative survival rates requires tagging large numbers of juvenile salmon. This program was conducted in 2001, but the Comparative Survival Study has proposed to expand the number of fish tagged. The Northwest Power Planning Council has not yet approved funding for this project, but the Council has scheduled a vote. **(RPA Action 185) INCOMPLETE**

Delayed Mortality Below Bonneville Dam. The Salmon Plan directs the federal government to establish a comparative evaluation of the behavior and survival of



Communities that depend on salmon depend on this plan's implementation and success.

salmon that travel in-river to those that travel in trucks and barges. The federal government will use this evaluation to determine causes of delayed mortality (see RPA Action 47) between Bonneville Dam and the mouth of the Columbia River. Several studies occurred in 2001 to address this source of mortality. These studies will then be used to partition the mortality among various contributing factors, as required by RPA Action 195. **(RPA Actions 186, 195) PASS**

Calculating the Rate of Adult Salmon Returns. Salmon and steelhead that have been put in trucks and barges appear to survive until they are released into the river. The problem is that barged fish do not return as adults in very high numbers. This phenomenon is referred to as delayed mortality. These actions are intended to study the effects of trucking and barging, determine the rates of delayed mortality, and decide whether to continue this costly and questionable method of getting salmon down river. While some studies have been done towards completing this mandate, there is significant additional work to do over the next two years to satisfy these actions. **(RPA Actions 187, 189, 192) INCOMPLETE**

Studies on Early Life History of Snake River Fall Chinook. The survival, growth, migration rates and other early life history attributes of Snake River fall chinook

have been monitored in the free-flowing section of the Snake River above Lower Granite dam since the early 1990's and continued in 2001. **(RPA Action 190)**

PASS

Continue & Improve Adult Salmon & Steelhead

Counting Programs at Federal Dams. Enumerating the number of adult salmon at several federal dams is important in estimating adult timing, smolt-to-adult survival rates, adult survival rates, and other information. These counts continued in 2001, however, reporting methods do not appear to have changed. **(RPA Action 191)** **INCOMPLETE**

Develop Common Data Management & Monitoring

Systems. The Northwest Power Planning Council is currently in the early stages of developing a common data monitoring system, working with NMFS, BPA, the Lower Columbia River Estuary Program (LCREP), and a private contractor. A plan for this action is expected by late 2002. **(RPA Action 198)** **INCOMPLETE**

Endangered Species Act Authorization for Research & Monitoring Actions.

The Salmon Plan includes research activities that may require additional definition on proposed methods. Some of these plans may require Endangered Species Act permits to be legally carried out. Therefore, the Salmon Plan describes a list of research activities that can be anticipated now. By the 3-year check-in, the federal government is directed to implement these items and take the necessary steps for appropriate authorization. NMFS has begun processing applications for the necessary permits to begin carrying out these actions. It is unclear whether the agencies are on track to complete this research by the 2003 check-in. **(RPA Action 199)** **PASS**

Columbia and Snake River salmon have already indicated the need for a sharp increase in funding. An internal National Marine Fisheries Service (NMFS) document written just prior to the December 2000 release of the Salmon Plan estimates a need for funding of \$857.9 million in FY02 and \$918 million in FY03. The NMFS estimate also includes \$460 million for which the Bonneville Power Administration (BPA) is responsible in FY02 to meet its share of Salmon Plan obligations. Recently, both Oregon Governor John Kitzhaber and Idaho Senator Mike Crapo have also submitted Salmon Plan funding proposals that, while varying slightly, mirror NMFS' estimate.

The same NMFS document recognized that the Salmon Plan was released after Congress had already allocated all federal funds for the fiscal year. To ensure funding immediately in 2001, NMFS indicated the need for nearly \$200 million in supplemental funding for FY01. However, this need went unheeded by Congress and the federal government. Thus, federal agencies began 2001 with less than half of the funding they needed to begin implementing the Plan.

In FY02, Congress appropriated \$435.6 million to programs needed to implement the Salmon Plan. While this amount is more than the \$350 million requested by the Administration for FY02, it amounts to about half of the federal funding needed to fully implement the Salmon Plan. Similarly, BPA has allocated \$186 million for salmon programs in FY02, drastically less than NMFS estimated was necessary.

The funding that did occur, while necessary, generally is not slated for programs that are aimed exclusively, or even primarily, at recovering Columbia and Snake River salmon. For instance, funding for the Pacific Coastal Salmon Recovery Fund increased \$20 million from FY01 to FY02. This fund benefits state and tribal salmon recovery programs throughout the various watersheds of Washington, Oregon, California, and Alaska, but not Idaho, where most Snake River salmon spawn and rear. Similarly, the benefits of agricultural conservation programs run by the Natural Resources Conservation Service, which also received \$20 million in additional funding for FY02, are spread among the entire country. Columbia and Snake River salmon would have benefited both from more funding in general and from funding that was aimed more precisely at improving conditions for salmon in the Columbia and Snake River Basin, and indeed the Salmon Plan requires such funding. Funding for agencies with less of a history of responsibility for salmon recovery, such as the U.S. Forest Service, the Bureau of Reclamation, and even the Fish and Wildlife Service fell far short of state and federal estimates of what is needed for implementation. **FAIL**



Funding

Required for all 2001 Actions
Less than 50% funded

The extent of funding for many individual actions required by the Salmon Plan is impossible to discern. However, the general state of Columbia and Snake River salmon recovery funding can be ascertained by examining how well Congress and the Administration funded the programs that funnel money to the individual actions called for in the Salmon Plan. From this perspective, a drastic lack of funding in fiscal years (FY) 2001 and 2002 will prevent full implementation of the Salmon Plan.

The federal agencies responsible for recovering

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YEAR 1
2001

Federal Salmon Plan Report Card



Conclusion

This report documents the massive failure of the federal government to implement its Columbia and Snake River Salmon Plan in 2001, its first year of existence. The federal government successfully completed less than 25% of the measures called for in the Salmon Plan. We have only begun to see the effects of this failure—2001 witnessed the deadliest juvenile salmon and steelhead migration since these fish were listed for protection under the Endangered Species Act.

These delays and setbacks will have significant implications for the health and survival of salmon and steelhead in the Northwest, and the communities and cultures that rely on them, for years to come.

However, these failures and biological losses tell only part of the story. The federal government now enters 2002 well behind schedule on every aspect of the Salmon Plan, including the most important aspects: mainstem, tributary, and estuary habitat improvements. These delays and setbacks will have significant implications for the health and survival of salmon and steelhead in the Northwest, and the communities and cultures that rely on them, for years to come.

There is good reason to doubt the effectiveness of the strategies set forth in the Salmon Plan; the Salmon Plan is already a big gamble, even if implemented fully. Credible science has proven

overwhelmingly that partially removing the four lower Snake River dams, along with a suite of tributary and estuary habitat restoration measures, constitute the surest and most cost-effective means to expedite the recovery of Columbia and Snake River salmon. The federal government admits as much in the Salmon Plan itself. But the federal government promised aggressive implementation of the Salmon Plan, so we might know as quickly as possible if its measures can indeed restore this treasured natural resource.

Aggressive implementation did not occur in 2001. Aggressive implementation in 2002 will be difficult given the lack of funding that has been appropriated to implement the Salmon Plan. Yet the federal government still has time to renew its commitment, both financially and substantively, to implement the Salmon Plan and make up for lost time. In making this crucial decision on whether to commit to implementing the plan, the federal government must consider its legal and moral responsibilities to Northwest Native Tribes to honor treaty obligations; to salmon-dependent communities to aid the continuance of a way of life; and to both regional electricity ratepayers and national taxpayers to uphold the law, protect this national treasure, and achieve a sound return on a multi-billion dollar investment.

The federal government must honor the Salmon Plan and demonstrate its success, or be prepared to embrace lower Snake River dam removal as the best option for recovery. 



“The eyes of the future are looking back at us and they are praying for us to see beyond our own time. They are kneeling with hands clasped that we might act with restraint, that we might leave room for the life that is destined to come.”

–Terry Tempest Williams, *Red*

With a combined membership of over 6 million, Save Our Wild Salmon (SOS) is a nationwide coalition of conservation organizations, commercial and sportfishing associations, businesses, river groups, and taxpayer advocates working collectively to restore healthy and abundant wild salmon to the rivers and streams of the Pacific Northwest.



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