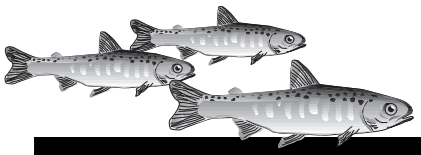
US Army Corps of Engineers®
Walla Walla District

Lower Snake River JUVENILE SALMON MIGRATION Feasibility Study



JANUARY 1999 NEWSLETTER NO. 5

The U.S. Army Corps of Engineers (Corps) is conducting a feasibility study of ways to improve juvenile salmon migration through the hydropower system on the lower Snake River. The study focuses on how the lower Snake River dams can be changed to improve survival and recovery prospects for Snake River salmon stocks listed under the Endangered Species Act.

STUDY UPDATE

By Greg Graham, Corps Project Manager for the Study

FR/EIS Schedule Changes

The schedule for the feasibility study has been extremely tight, and I appreciate all the team members' efforts to keep the study on track. However, even with the extra effort, we have reached a strategic point in the study that resulted in a schedule change. This schedule change will affect the completion of the Draft and Final Feasibility Report/Environmental Impact Statement (FR/EIS). The extent of the change is unknown at this time. We will advise everyone as soon as there is a firm schedule.

This schedule change is a result of delays in the completion of the Anadromous Fish Appendix, which is being prepared by the National Marine Fisheries Service (NMFS). The primary reason for this is a delay in the completion of the Plan for Analyzing and Testing Hypotheses (PATH) Fiscal Year 1998 Report, which is a critical source of information for this appendix. Now that the final PATH report has been released, NMFS is working hard to incorporate this information into their appendix.

Public Information Meetings

About 1,000 people attended the second set of Corps-sponsored public information meetings on the feasibility study in November to receive updated information and ask questions of study experts.

The meetings opened with an introduction and overview of the feasibility study. The overview covered the scope of the study and the parties involved in the technical work, and the possible alternative pathways that are being evaluated. A question-and-answer session for the public with key resource specialists from the Corps and other agencies followed the overview. The Corps emphasized that the facts are not all in yet and there is no pre-determined outcome.

Tom Cooney, a fisheries biologist from the National Marine Fisheries Service (NMFS), spoke and answered questions regarding preliminary results from biological modeling conducted by the Plan for Analyzing and Testing Hypotheses (PATH) workgroup to determine potential effects on anadromous fish. Preliminary results of model runs for fall chinook salmon were not in yet, but preliminary model results for spring/summer chinook salmon predict a higher probability of attaining survival goals with natural river drawdown compared to improved juvenile fish transportation.

Dennis Wagner, a Corps economist, also spoke and answered questions on the preliminary results from the economic workgroups. Analyses are not complete, but preliminary estimates of the least-cost option for replacing power that would be lost from drawdown range from $150 to $360 million per year. Also according to preliminary estimates, the annual cost of alternate downriver transportation for agricultural and other products without navigation on the affected stretch of river is $50 to $60 million.

Comments and issues discussed in the information meetings will be addressed in the next newsletter.

NMFS Makeup Meeting for Tri-Cities

Because the NMFS representatives were unable to attend the public meeting in the Tri-Cities, a makeup meeting featuring a presentation and question-and-answer session regarding preliminary PATH findings for anadromous fish is scheduled for **Wednesday, January 27**. The meeting will run from **7 to 9 p.m.** at the Assembly Hall, Work Force Training Center, **Columbia Basin College**, in Pasco, Washington.

Regional Coordination Update

Corps Plans Interactive Community Forums

Community members of selected towns and cities throughout the lower Snake River basin are invited to participate in a series of interactive community forums run by University of Idaho (UI) facilitators for the Corps. These community forums are another tool the Corps is using to reach out and solicit input from communities that could potentially be affected by salmon study efforts on the lower Snake River.

UI facilitators have selected the following 17 communities: Prescott, Wash.; Washtucna/Kahlotus, Wash.; Enterprise, Ore.; Stanfield, Ore.; Adams, Ore.; Umatilla, Ore.; Burbank, Wash.; Pasco, Wash.; Kennewick, Wash.; Pomeroy, Wash.; Colfax, Wash.; Orofino, Idaho; Weippe, Idaho; Genesse, Idaho; Riggins, Idaho; Lewiston, Idaho; and Clarkston, Wash.

Community members, serving as local experts, will work together to explore the historic changes that have taken place in the basin's communities from 1960 to the present, assess their community's current situation and their vision for its future, determine the likely positive and negative impacts to their community from each of the salmon study alternatives the Corps is considering, and identify possible measures that might be effective for minimizing or maximizing the social impacts of the proposed alternatives. Information from the community self-assessments will be considered in the environmental impact statement that the Corps is producing.

These community forums will not be structured like a typical information meeting or public hearing. The Corps has contracted the UI to provide interactive forums that are individually tailored for each community. Participants will work intensely in small groups for 4-hour sessions. The environment will be cooperative, structured, and goal-oriented. Questions and answers about the proposed alternatives will not be addressed, although the best available information from the Corps Lower Snake River Juvenile Salmon Migration Feasibility Study will be available to assist in the small group evaluations.

Your participation is vital to the success of the forums!

The 17 communities have been selected to represent the variety of current conditions and potential social impacts across agricultural, timber, recreational, and manufacturing based cities and towns of different sizes. Communities were selected to maximize their diversity in geographic locations relative to the Snake River (reservoir, upstream, and downstream; Washington, Oregon, and Idaho), and for their differences in their social and economic relationships to the Snake River.

For the forums to be successful, it is important that a variety of individuals representing a range of interests from each location selected attend the meeting for their specific community. All community members are invited to attend and participate in their community self-assessment. In fact, your participation is vital to the success of the forums!

In addition, approximately one dozen active and involved citizens from each of the selected communities will be formally invited to share their knowledge about their community and to represent the diversity of perspectives, organizations, and activities within each community. Interested parties from communities where forums will not be held are invited to observe a forum in their area.

The forums are tentatively scheduled for late January through March. The first two forums are Wednesday, January 20 in Prescott, Wash., at the Prescott Lyons Hall from 6:30 p.m. to 10:45 p.m. and Tuesday, January 26, in Washtucna/Kahlotus at the Washtucna High School gymnasium from 6:30 p.m. to 10:45 p.m. The other communities will be notified of specific times and locations at least 2 weeks in advance via the local media.

Feasibility Study Goals and Pathways

The Corps is conducting this feasibility study at the request of NMFS. In their 1995 Biological Opinion, they requested the Corps to conduct a feasibility study to look at drawdown on the lower Snake River and to look at alternatives to drawdown. Furthermore, they requested that a decision or recommendation be made in 1999. The Corps had made a commitment to NMFS and the region to do this work and meet the 1999 recommendation date. However, a delay in the completion of the Anadromous Fish Appendix, which is being prepared by NMFS, will postpone the recommendation until early 2000.

The ultimate goal of the study is to improve survival for listed Snake River anadromous salmon and steelhead stocks as they migrate downstream through Lower Granite, Little Goose, Lower Monumental, and Ice Harbor dams.

To comply with the National Environmental Policy Act and the 1995 Biological Opinion issued by NMFS, the Corps is gathering public and interagency input to define and evaluate three courses of action (pathways) for improving juvenile fish survival during migration through the hydropower system, and plans to provide a final recommendation in early 2000. Congress will review the recommendations, appropriate funding, and authorize a course of action.

Individual pathways and their alternatives will be discussed in more detail in each newsletter; see page 4 of this newsletter for a summary of some of the components of the natural river drawdown pathway.

Existing System

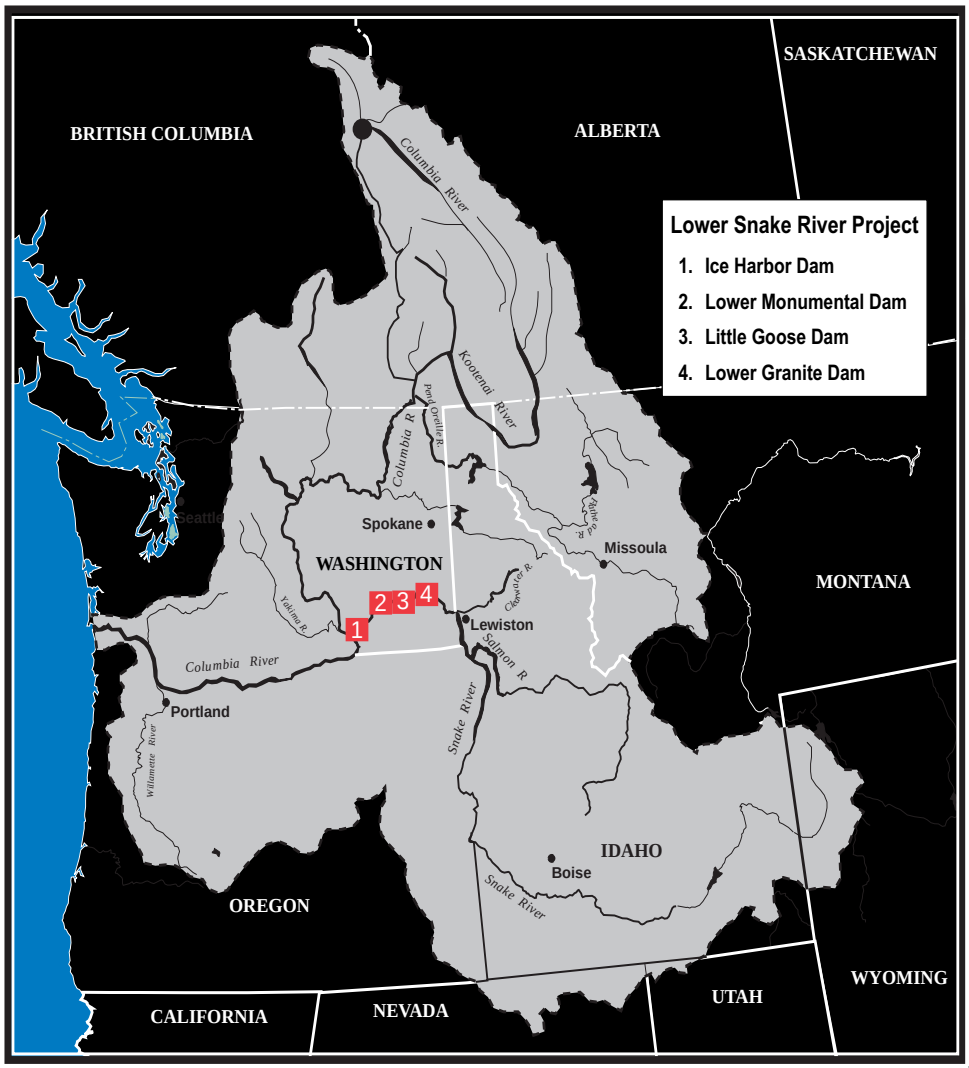
Ocean-going juvenile salmon pass the dams through turbines, fish bypass systems, or over the spillways. In accordance with the 1995 Biological Opinion issued by NMFS for operation of the Federal Columbia River Power System, the Corps also implements flow augmentation and increased spill measures to assist migration. Screens are used to guide most fish away from turbines and into a bypass system. The young salmon and steelhead are then routed back to the river or into barges or trucks for transport downriver. The Biological Opinion states that approximately 50 percent of the smolts are to be transported. This system is constantly being evaluated and improved by scientists and engineers. Ongoing improvements include longer screens, additional barges, and flow deflectors on spillways.

Major System Improvements

These improvements are aimed at increasing the effectiveness and efficiency in how smolts are bypassed around dams. They include construction of surface bypass collection systems (fish bypass systems that divert fish nearer the water's surface than current systems), fish guidance improvements, turbine modifications, structural changes to reduce harmful dissolved gas levels from spillways, and possible operational changes such as modifying river flows and spills. These improvements could be used with the juvenile fish transportation system or by letting juveniles migrate in-river.

Natural River Drawdown

Four of the existing Snake River reservoirs would be permanently lowered to a natural free-flowing condition by removing a section of each dam's earthen embankment, creating a 140-mile free-flowing river. This would eliminate existing reservoir-related and dam passage mortality at the four lower Snake River dams, as well as speed the downriver migration of juvenile salmon. (The juvenile fish would, however, still have to pass the four lower Columbia River dams to reach the ocean.) Commercial navigation and hydropower production on the Snake River would cease. Irrigation, recreation, social, and economic opportunities would be affected and ongoing wildlife compensation efforts would be impacted as well.



Columbia River Basin

Roadmap to the Pathways: Natural River Drawdown Part I— What would be Involved in Physically Making Drawdown Happen?

How Would Drawdown be Accomplished?

Drawdown refers to removing the earthen embankments and the water from each of the four reservoirs in the Lower Snake River Project and returning the river to free-flowing conditions. In past studies, the Corps and others have looked at a whole range of drawdown alternatives. Based on those studies, it was determined that the pathway evaluated for this feasibility study would involve permanent drawdown of all four reservoirs.

Teams of engineers are exploring how to modify the turbines at each dam so they could be used as the outlets to draw down each reservoir. Engineers are also studying how to best excavate (remove) the embankment (the earthen portion of each dam), and create a channel to direct the river to flow through the opening left after embankment removal. The concrete portions of each dam would be left intact to minimize expenses.

However, primarily for cost comparison, the feasibility report/environmental impact statement (FR/EIS) will also include information on removing the concrete portions of the dam as well. Other study teams are evaluating the effects of drawdown on private water intakes and the best ways to protect bridge, railroad, and road embankments.

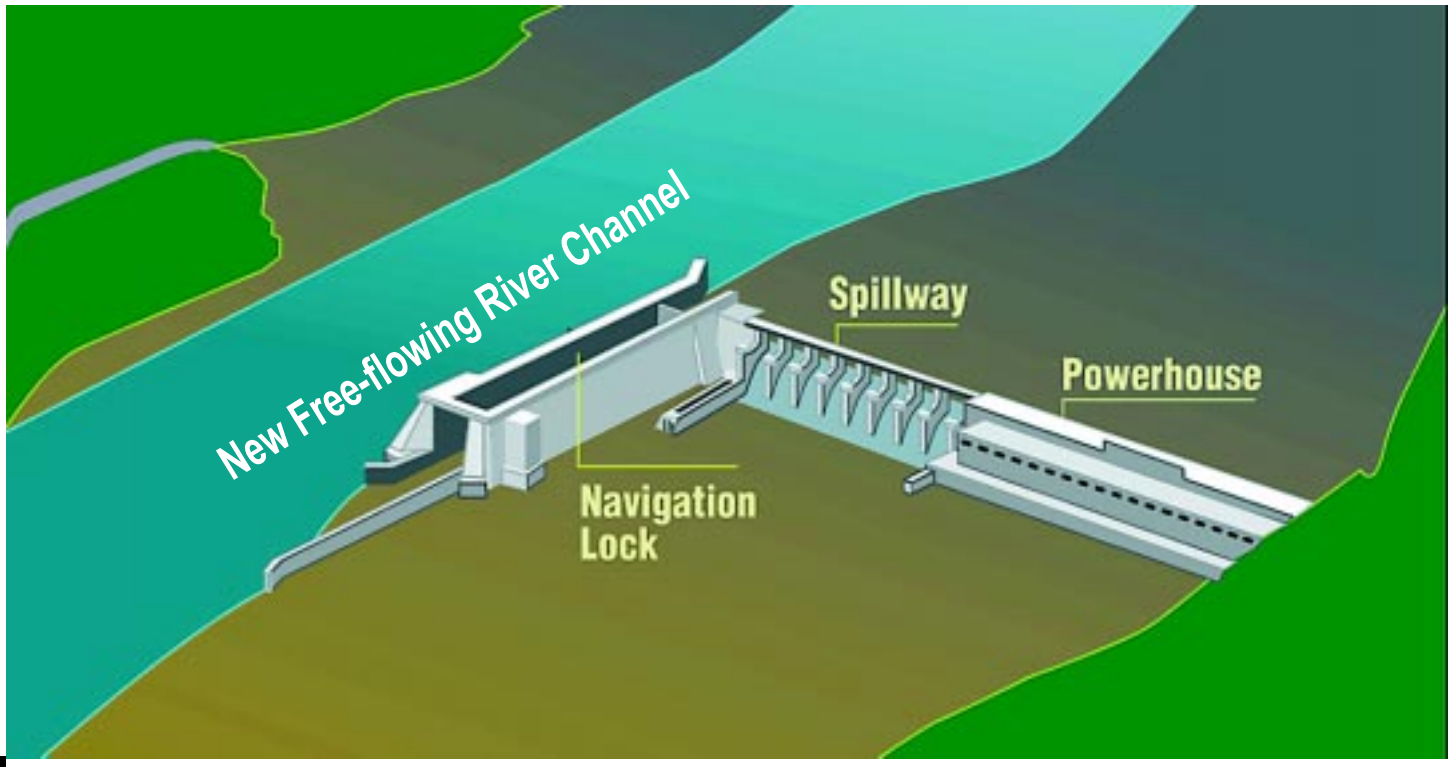
Drawdown and Embankment Removal Are Only Part of the Picture

The Corps estimates it would take 8 to 9 years to fully implement drawdown. There would be studies to complete, designs to finalize, contracts to award, and stabilization activities to conduct before embankment removal and reservoir drawdown could begin. Actual reservoir drawdown would occur in the sixth or seventh year.

Once it begins, the process of removing the embankments and the water from the reservoirs must be accomplished very quickly. Each drawdown could occur within a 60- to 90-day window at a rate of about 2 feet per day so that everything could be completed in the timeframe between the end of spill season in August and the start of high water runoff season in January. The idea is to accomplish a steady, gradual "controlled breach" that would meet time requirements while minimizing embankment failures for structures along the reservoirs.

"Because the water would be going down at such a high rate, there is the potential for damage to roads and railroads," said Stephen Tatro, Corps Lead Engineer for Drawdown Engineering Studies. "We're anticipating there would be substantial repair work, and it could be a major expense."

In preparation for drawdown, the Corps anticipates the following work would need to be done to ensure that appropriate activities along the reservoirs could continue to occur after drawdown: stabilize bridge piers, railroad embankments, and highway embankments; modify pumping stations, water intakes, culverts, recreation areas, and Lyons Ferry Fish Hatchery water supply; install a fish collection system to catch and transport adults who would be moving upstream during construction; relocate railroad tracks; revegetate exposed mudflats; and provide additional fencing and cattle watering stations. The Economics Appendix to the FR/EIS will include a discussion of who would pay for these measures.



Once preparation activities, protection of cultural resource sites, wildlife mitigation, embankment removal, and reservoir drawdown were finished, the Corps would complete authorized repairs to structures along the reservoirs (roads, railroads, bridges, etc.), then begin the task of closing down the hydropower facility and securing the site.

If the reservoirs were drawn down, no water would be passing through the dam structures, and no hydropower would be produced at these facilities. Commercial navigation on the Snake River would cease. Irrigation, recreation, social, economic, and wildlife opportunities would also be affected.

The Big Picture

The natural river drawdown pathway has received a lot of attention from the region. It is important to remember that it is just one of the alternatives for salmon recovery that the Corps is evaluating. There is no pre-determined outcome.

Ongoing technical analyses on the natural river drawdown pathway (and the other two pathways) are attempting to answer two important questions:

- What would be involved in physically making drawdown happen?
- What economic, social, and biological tradeoffs would this pathway of action involve?

This newsletter addressed the first question. The other question will be discussed in the next newsletter under *Roadmap to the Pathways: Natural River Drawdown Part II.*

COMMONLY ASKED QUESTIONS

Question:

Why did the government wait until the fish were listed under the Endangered Species Act (ESA) to take action?

Answer:

For more than 60 years the Corps has been actively developing and installing fish protective devices and systems, and building fish hatcheries to compensate for fish losses caused by Corps projects on the Columbia-Snake River System. The Corps spends considerable time, effort, and money each year in cooperative efforts with federal, state, and local agencies and stakeholders to improve salmon and steelhead survival.

Many factors have contributed to the decline of the fish runs to the status requiring listing under the ESA. Many people believe that climate and ocean conditions have more to do with fish abundance than the dams. The general decline of salmon and steelhead runs throughout the Northwest has been attributed to habitat decline and ocean conditions. Many fish stocks on rivers without dams are also listed.

Through this feasibility study and related efforts, the Corps will continue to contribute towards local, regional, and national salmon and steelhead recovery measures.

Question:

When will I get to compare the alternatives in detail and formally give the Corps my comments?

Answer:

The draft feasibility report/environmental impact statement (FR/EIS) should be available for public review in the summer of 1999. This report and its associated technical appendices will describe and compare the effects of each alternative on the affected resources. Once the draft FR/EIS is released, the Corps will enter into the formal comment period required under the National Environmental Policy Act. During this time, the public will have the opportunity to provide written comment on the alternatives by mail and/or attend a series of public hearings to learn about the alternatives and provide written or oral comment. The Corps will release more details about the upcoming comment period in a future newsletter that coincides with the release of the draft FR/EIS. Public comments will then be considered as the Corps revises the FR/EIS.

Question:

Will the economic analyses consider the economic benefits of each alternative in addition to economic costs?

Answer:

Potential economic benefits are being considered in the economic analyses, including potential benefits to fisheries, sports fisheries, recreation, and tourism.

Question:

How do the PATH biological models measure “success” in terms of salmon and steelhead recovery?

Answer:

The biological models used by the Plan for Analyzing and Testing Hypotheses (PATH) workgroup predict the probability of achieving established survival goals for chinook 24 and 48 years after action for recovery, and 24 and 100 years after action for long-term survival. Benchmark years have not yet been set for steelhead or sockeye. NMFS is working with the Corps and others to determine how changes at the Lower Snake River Project might contribute to overall goals.

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STUDY MILESTONES

☑ = Task already completed

☑	Notice of Intent	June 1995
☑	Scoping Meetings	July 1995
☑	Interim Status Report	December 1996
☑	Regional Roundtable Workshops Initiated	April 1997
☑	First Set of Public Information Meetings	September 1997
☑	Second Set of Public Information Meetings	November 1998
☐	Complete Technical Analysis (Economics, Engineering, Biological, etc.)	April 1999*
☐	Distribute Draft EIS	Summer 1999*
☐	Public Review of Draft EIS	Summer 1999*
☐	Distribute Final EIS	To Be Determined*
☐	Sign Record of Decision	To Be Determined*

*** These projected dates have changed since the last newsletter and are tentative.**

FOR MORE INFORMATION

You can request more information about this study, ask to be added to the study mailing list, learn more about upcoming events, and become involved in the study process by:

- Visiting the Walla Walla District home page at http://www.nww.usace.army.mil
- E-mailing Dave Dankel, Juvenile Salmon Migration Feasibility Study Public Involvement Coordinator at dave.a.dankel@usace.army.mil or calling him at (509) 527-7288
- Writing to the U.S. Army Corps of Engineers, Walla Walla District, 201 North Third, Walla Walla, WA 99362-1876

Traveling displays and an informational video are available to interested groups for events, conferences, and meetings. Contact the Corps in Walla Walla to request information regarding these resources.