

# Chapter 5

## Columbia River Regional Forum

## 5.0 COLUMBIA RIVER REGIONAL FORUM

### 5.1 COLUMBIA RIVER REGIONAL FORUM CONCEPT

In laying the foundation for the SOR, BPA, the Corps, and Reclamation realized they had to find a way to keep the SOS constantly tuned to the multiple uses and dynamic nature of the river system. Because a new SOS would not be developed annually, the issue was how to provide a continuous role in helping shape decisions on the Columbia River System for governments, such as tribes; organized interests, such as environmental and citizens groups; and state and Federal fish and wildlife agencies.

For convenience, the agencies named this new collaborative approach the "Columbia River Regional Forum." The intent is to encourage debate on system operation issues before decisions are made. The Forum also will provide an ongoing mechanism for resolving conflicting recommendations about river uses.

The Congressional authorizing legislation for the individual Federal projects stipulated intended use, but seldom contained explicit provisions for operating the individual projects or for their coordinated operation within the total system. Additional information is normally provided in project-specific reports by the agency to the Congress. Beyond those reports, the Corps and Reclamation are responsible for deciding how to operate their projects based on principles of multiple-use operation, their agency charters, operation experience, and public concerns. Overall operation plans are contained in project operation and water control manuals prepared for each project.

#### 5.1.1 Current Decisionmaking Environment

Within the guideline of the authorizing legislation and the physical capabilities of the 14 Federal projects, there currently are three levels of decisionmaking. These range from

very broad policy decisions to very specific, immediate kinds of decisions.

The first level of decisionmaking is to determine an overall strategy, or a broad operating regime of storage elevations, outflows, and their timing designed to balance the multiple uses of the river. The current operating strategy "exists" as a collection of multiple-use requirements for individual projects and several system objectives that are met through these project requirements. A more formal strategy (the SOS) will be one of the major products of the SOR.

At the next level of decisionmaking, annual operating plans are developed for power and nonpower uses. In the current decisionmaking process, the SOR lead agencies act as the decision maker. Project authorizing legislation established some broad, general guidelines, and other legislative mandates also established some requirements for flows and elevations necessary to meet needs and authorized purposes. Decisions also occur in response to advice provided by discussions and consultations with the NMFS, input from other Federal and state agencies, tribes, and the various river users. The agencies must comply with the provisions of the Pacific Northwest Electric Power Planning and Conservation Act, NEPA, and ESA.

The NPPC has established a Fish Operations Executive Committee (FOEC) that develops an annual plan for implementation of mainstem fish passage measures to implement the Council's Fish and Wildlife Program. Membership on the FOEC includes the NPPC, the Federal operating agencies, the Federal fisheries agencies, power users, operators of non-Federal dams, and environmental groups. In the event the FOEC is unable to reach consensus, the Council resolves disputes.

The 1995 Biological Opinion established a Technical Management Team (TMT) to advise the operating agencies on dam and reservoir

operations to help optimize passage conditions for juvenile and adult anadromous salmonids. The TMT consists of representatives from NMFS, USFWS, Reclamation, the Corps, and BPA. The TMT has a Technical Group, composed of technical specialists, and an Executive Group composed of senior managers to assist in resolving issues on which the Technical Group cannot reach consensus. Each year by April 15, and preferably before flow augmentation normally begins in the Snake River, the TMT will prepare a Water Management Plan. This plan will form the basis for consultations between the operating agencies and NMFS and USFWS.

Based on all these discussions and negotiations, the Corps and Reclamation determine the nonpower requirements and communicate these to numerous entities affected by system generation requirements. The SOR lead agencies then work with the fisheries agencies and tribes to develop a Coordinated Plan of Operation (CPO) for management of the nonpower resources, and also work with the other PNCA entities to develop an annual plan for management of the power resources. The Corps and Reclamation then operate the dams themselves. When decisions come up that require consultation, the SOR lead agencies consult with either the PNCA entities, the TMT, FOEC, the Fish Passage Center, or other interested and affected parties.

The actual operations take place in what is described as "real time," that is, decisions must be made in a few hours, days, or at most a few weeks. Operators regulate the system in an effort to satisfy all the power and nonpower purposes contained in the strategy and annual operating plan. Decisions may need to be made to respond to instream conditions for fish or navigation, or to take advantage of an opportunity to make a profitable power sale. Boating accidents, generator outages, short-term climatic events, even the timing of recreational events can influence these kinds of operational decisions.

Real-time operations decisions are made in a short time, ranging from several hours to several days, or sometimes, several weeks. Throughout the year, "users" of the river may request a specific operation. The operators review the request to determine whether it is consistent with the annual operating plans, whether it could have impacts on other uses, and whether there would have to be any consultation with or between the affected parties. If the interests of other parties could be affected, the operators usually contact them for a discussion of potential impacts prior to making decisions.

The 1995 NMFS Biological Opinion provides that the TMT will meet weekly during the fisheries season to examine and recommend flow quantities on the river system. If the official forecast indicates that flows will not meet the flow objectives described in the NMFS Biological Opinion, the TMT may either recommend lower summer reservoir elevations or recommend establishing an alternative flow objective, taking into account the ability to achieve flow objectives later in the current or future years. The TMT meetings will be open meetings, and individuals may provide information or recommend operations to the TMT. In particular, Operations Requests from the Fish Passage Center will be sent to the TMT for review. The operating agencies will make an agency decision on the recommendation(s) and will provide the decision, along with a written description and justification, to the TMT, and to the NPPC for distribution to its FOEC. The turn-around for these decisions will be very rapid, often less than 24-hours, since the decision will be implemented beginning the following week.

Because of the time urgency of real-time operations, the operators must have the authority to make the decisions. There may be questions to be resolved between the parties after the decisions are made, but the operators will do the best they can to consult with directly affected parties within the time constraints. Appendix Q contains a complete discussion of current

institutional decisionmaking and the development and evaluation of the alternatives described below.

### 5.1.2 Alternative Development

The SOR agencies began development and analysis of Forum alternatives after the September 1992 mid-point meetings and the subsequent selection of SOS alternatives. They created a Forum Alternatives Work Group through which ideas for enhanced regional participation in system planning and operations were identified and circulated for discussion. At key points in the process, the Forum group sponsored workshops attended by representatives of the full spectrum of regional interests. The work group used this feedback to define Forum alternatives. Appendix Q describes the Forum process in more detail.

The SOR lead agencies sought to meet six basic objectives in defining the Forum alternatives:

1. Enhance participation by providing all parties with effective, affordable access to the decision process;
2. Ensure an open, visible public process for decisionmaking;
3. Provide a setting that encourages interactive communication among all parties;
4. Develop a structure capable of providing timely decisions that meet real-time demands of river operations;
5. Provide accountability so that it is clear who makes the decisions and who bears the responsibility for the consequences; and
6. Provide a mechanism by which changes in strategy can be made based on new knowledge about the interaction between river operations and fish survival.

Two key elements are addressed in each of the Forum alternatives: who makes the final

decision and how much involvement by the public will occur before the decision is made. Because these alternatives are strictly institutional, they do not have environmental impacts that need to be covered in a NEPA document. Section 5.2 however, discusses the merits of the various Forum alternatives.

### 5.1.3 Forum 1 Through 7

Table 5-1 identifies the characteristics of the seven Forum alternatives. These alternatives follow:

- Forum 1—Decisionmaking by the SOR Lead Agencies and a Public Involvement Lead Program Conducted by the SOR Agencies
- Forum 2—Decisionmaking by the SOR Lead Agencies and Recommendation by an Existing Regional Entity
- Forum 3—Decisionmaking by the SOR Lead Agencies and Recommendation by a New Entity
- Forum 4—Decisionmaking by a Federal Consultation Forum (all Federal Agencies with Jurisdiction) and a Public Involvement Program Conducted by the Federal Consultation Forum
- Forum 5—Decisionmaking by a New Entity and a Complete Public Involvement Program
- Forum 6—Decisionmaking by One Federal Operating Agency and a Public Involvement Program Conducted by the Federal Operating Agency
- Forum 7—Decisionmaking by Another Federal Agency and a Public Involvement Program Conducted by this Federal Agency

### Public Involvement Characteristics

Under all seven alternatives, the Forum would develop and carry out a complete public involvement program to provide the opportunity for river users and the public to be consulted

Table 5-1. Forum alternatives

Process Steps	Forum 1 SOR Lead Agencies	Forum 2 Recommendation by Existing Entity	Forum 3 Recommendation by New Entity
Appraisal	<ul style="list-style-type: none"> <li>Conducted by Federal agencies.</li> </ul>	<ul style="list-style-type: none"> <li>Conducted by SOR agencies.</li> </ul>	<ul style="list-style-type: none"> <li>Federal agencies prepare a report for analysis by the new entity.</li> </ul>
Public Involvement	<ul style="list-style-type: none"> <li>Conducted by Federal agencies.</li> <li>Written public comment period.</li> <li>Public workshops or meetings.</li> </ul>	<ul style="list-style-type: none"> <li>Conducted by existing entity.</li> </ul>	<ul style="list-style-type: none"> <li>Conducted by new entity.</li> </ul>
Define Options	<ul style="list-style-type: none"> <li>Federal agencies screen options and combine into alternatives.</li> </ul>	<ul style="list-style-type: none"> <li>Non-Federal entity proposes options, following consultation with SOR agencies.</li> </ul>	<ul style="list-style-type: none"> <li>Options proposed by new entity or its staff.</li> </ul>
Analysis of Options and Environmental Compliance	<ul style="list-style-type: none"> <li>Analysis of issues done by working groups.</li> <li>Alternatively, Federal agencies complete analysis.</li> <li>SOR agencies consult NMFS, USFWS.</li> </ul>	<ul style="list-style-type: none"> <li>Analysis could be conducted by: Federal agencies; non-Federal agencies; jointly by agencies and entity.</li> <li>SOR agencies consult NMFS, USFWS.</li> </ul>	<ul style="list-style-type: none"> <li>Analysis could be conducted by staff of new entity or jointly by staff of new entity and Federal agencies.</li> <li>SOR agencies consult NMFS, USFWS.</li> </ul>
Public Review	<ul style="list-style-type: none"> <li>Conducted by Federal agencies.</li> </ul>	<ul style="list-style-type: none"> <li>Designed and conducted by non-Federal entity.</li> </ul>	<ul style="list-style-type: none"> <li>Designed and conducted by staff of new entity.</li> </ul>
Summary and Evaluation of Alternatives	<ul style="list-style-type: none"> <li>Completed by Federal agencies.</li> <li>Available to public after decisionmaking.</li> </ul>	<ul style="list-style-type: none"> <li>Prepared by non-Federal entity and transmitted to Federal agencies.</li> </ul>	<ul style="list-style-type: none"> <li>Recommendation approved by new entity.</li> </ul>
Decision-making	<ul style="list-style-type: none"> <li>By Federal agencies.</li> <li>Agencies publish a summary of why decision was made and relationship to public comment.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Forum 1.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Forum 1.</li> </ul>
Communication to Operating Groups	<ul style="list-style-type: none"> <li>Publication of Annual Operating Plan.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Forum 1.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Forum 1.</li> </ul>
Implementation	<ul style="list-style-type: none"> <li>Projects operated by Bureau of Reclamation and Corps of Engineers.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Forum 1.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Forum 1.</li> </ul>

Table 5-1. Forum alternatives

Forum 4 Decision by Federal Consultation Forum	Forum 5 Decision by New Entity	Forum 6 Decision by One Operating Agency	Forum 7 Decision by One Other Federal Agency
<ul style="list-style-type: none"> <li>Conducted by Federal agencies with jurisdiction over river resources.</li> <li>Same as Forum 1.</li> </ul>	<ul style="list-style-type: none"> <li>Congress authorizes new decisionmaking body.</li> <li>New entity hires staff to appraise existing situation.</li> <li>Initiated and conducted by new entity.</li> </ul>	<ul style="list-style-type: none"> <li>Conducted by the one operating agency.</li> <li>Conducted by the one operating agency.</li> </ul>	<ul style="list-style-type: none"> <li>Conducted by the Federal agency.</li> <li>Conducted by the Federal agency.</li> </ul>
<ul style="list-style-type: none"> <li>Federal agencies jointly screen options and propose alternatives.</li> <li>Same as Forum 1.</li> </ul>	<ul style="list-style-type: none"> <li>Proposed by new entity or its staff.</li> <li>Conducted by new entity.</li> <li>SOR agencies consult NMFS, USFWS.</li> </ul>	<ul style="list-style-type: none"> <li>Operating agency screens options and combines into alternatives.</li> <li>Conducted by the operating agency</li> <li>SOR agencies consult NMFS, USFWS.</li> </ul>	<ul style="list-style-type: none"> <li>The Federal agency screens options and proposes alternatives.</li> <li>Could be conducted by Federal agency or jointly by Federal agency and SOR agencies.</li> <li>SOR agencies consult NMFS, USFWS.</li> </ul>
<ul style="list-style-type: none"> <li>Same as Forum 1.</li> </ul>	<ul style="list-style-type: none"> <li>Designed and conducted by new entity.</li> </ul>	<ul style="list-style-type: none"> <li>Designed and conducted by the operating agency.</li> </ul>	<ul style="list-style-type: none"> <li>Designed and conducted by the Federal agency.</li> </ul>
<ul style="list-style-type: none"> <li>Jointly completed by Federal agencies.</li> <li>Available to public after decisionmaking.</li> <li>Shared among several Federal agencies.</li> <li>Agencies publish a summary of why decision was made and relationship to public comment.</li> <li>Same as Forum 1.</li> </ul>	<ul style="list-style-type: none"> <li>Prepared by new entity staff.</li> <li>Made by new entity, and rationale described to public and Federal agencies.</li> </ul>	<ul style="list-style-type: none"> <li>Prepared by the one operating agency and transmitted to operating agencies.</li> <li>Made by the operating agency and rationale described to the public and other Federal agencies.</li> </ul>	<ul style="list-style-type: none"> <li>Prepared by the Federal agency and transmitted to operating agencies.</li> <li>Made by the Federal agency and rationale described to public and other Federal agencies.</li> </ul>
<ul style="list-style-type: none"> <li>Same as Forum 1.</li> </ul>	<ul style="list-style-type: none"> <li>Annual Operating Plan transmitted to Federal agencies.</li> </ul>	<ul style="list-style-type: none"> <li>Annual Operating Plan transmitted to the other operating agency and others.</li> </ul>	<ul style="list-style-type: none"> <li>Annual Operating Plan transmitted to operating agencies and others.</li> </ul>
<ul style="list-style-type: none"> <li>Same as Forum 1.</li> </ul>	<ul style="list-style-type: none"> <li>Projects operated by Bureau of Reclamation and Corps of Engineers under direction of new entity.</li> </ul>	<ul style="list-style-type: none"> <li>Projects operated by Bureau of Reclamation and Corps of Engineers under direction of the operating agency.</li> </ul>	<ul style="list-style-type: none"> <li>Projects operated by Bureau of Reclamation and Corps of Engineers under direction of the other Federal agency.</li> </ul>

prior to the final decision. The differences in public involvement characteristics among the seven alternatives only involve the identity of the organization(s) conducting the program. A complete public involvement program would include:

- Full information about the nature of the issues, the alternatives being considered, and the impacts associated with them;
- Opportunities for the public to participate in all stages of decisionmaking;
- Forums to provide for interaction between the public and the decisionmakers;
- Full accounting of how public comments were incorporated into the decision; and
- Collaboration between the lead agencies and the public whenever possible to select an option that has broad public support.

### Decisionmaking Characteristics

The key differences among the Forum alternatives relate to who would make the final decision. The identity of the decisionmaker(s) among the seven alternatives would range from the three lead agencies (as at present), acting alone or with other agencies, to an entirely new entity that would need to be authorized by Congress.

Under Forum 1, 2, 3, and 4, the three Federal lead agencies would continue to make the final system operation decisions.

Forum 1 essentially represents the existing situation, with enhanced public involvement. The three lead agencies would be joined by other Federal agencies with jurisdiction, such as NMFS and USFWS, to comprise the decisionmaking entity under Forum 4. Under Forum 2 or 3, the three lead agencies would make decisions only after considering recommendations from an existing regional entity (e.g., the NPPC) or a new entity. While the recommendations would be advisory only, they would carry considerable weight. The SOR lead agencies would report back to the regional entity on deviations from the recommendations and the reasons for those deviations. The

regional entity would have qualified technical staff to evaluate proposals, and a legal mandate to make decisions on all river uses.

The new entity created in Forum 3 would have a representative board of directors responsible for making recommendations. This board might be composed of:

- Members of Federal and state agencies only;
- Representatives of Federal and state agencies, with some representation from river user groups; or
- Appointees of the governors of the four Northwest states.

Forum 5 represents the most significant departure from the existing situation. Under this alternative, Congress would authorize a new decisionmaking body, with members who would represent all users of the river. This body would take over decisionmaking from the SOR lead agencies and would have its own staff. The members of this body could include:

- Representatives of concerned state and Federal agencies and the current SOR lead agencies only;
- The SOR lead agencies, some state agencies, and some representatives of users groups; or
- Representatives of the four Northwest states only.

Forum 6 or 7 would address a public concern that comprehensive, integrated responses to system operation issues are hindered by the distribution of authority among several agencies. Under Forum 6, either the Corps or Reclamation would be responsible for the appraisal, analysis, and public involvement aspects of the process. Another agency with resource jurisdiction, such as NMFS, would assume this responsibility under Forum 7.

The Forum would continue to operate under all existing legal authorities and obligations including but not limited to the authorizations of the various projects, the Pacific Northwest Power Planning and Conservation Act, NEPA, and the ESA.

#### 5.1.4 Forum Alternatives Not Studied in Detail

Appendix Q describes the development of Forum alternatives in detail. Section 3.3 of Appendix Q identifies the major characteristics of these alternatives and presents 12 decisionmaking options and 12 public involvement options. Theoretically, the range of Forum alternatives includes all possible combinations of these options. The seven Forum alternatives described in Section 5.1.2 of this chapter are considered to be the most logical combinations of decisionmaking and public involvement options. Consequently, other possible combinations of options were not considered in detail.

### 5.2 EVALUATION OF FORUM ALTERNATIVES

Appendix Q provides a full discussion of how the SOR lead agencies evaluated the Forum alternatives and what they concluded from this evaluation. The following discussion summarizes why the evaluation focused on the institutional characteristics of the Forum alternatives and describes the key institutional attributes of the alternatives.

#### 5.2.1 Basis of Evaluation

In evaluating the Forum alternatives, the SOR agencies concluded that environmental effects would result from implementing the SOSs, but these environmental effects would be related to the content of decisions about river operations, not the process used to reach those decisions. The only basis for determining that one Forum alternative would be environmentally preferable to another would be if one could predict with certainty what kind of decisions would be made by different Forums. The SOR agencies believe it is not possible to predict the content of decisions that would be made by a particular Forum based on the composition of the Forum, the procedures it would follow, or the amount and type of public involvement the Forum employs. Consequently, there are no

environmental impacts associated with any of the Forum alternatives.

Future revisions to a system operating strategy, the annual decisions for its implementation, and other actions that affect the strategy would have to be evaluated by the SOR agencies to determine whether additional environmental review is required by NEPA. The SOR agencies intend that the SOR analysis is broad enough in considering system operating strategy alternatives to enable future refinements without major environmental reviews.

The Forum Work Group established a number of criteria for evaluating the alternatives. The criteria considered institutional and administrative needs. These included:

- Extent to which decisionmaking is consolidated
- Ability to reduce legal/political challenges
- Credibility
- Equitable treatment of all interests
- Accountability
- Cost to implement
- Cost of annual operation
- Cost to participate

#### 5.2.2 Institutional Characteristics by Alternative

A brief evaluation of each alternative based on these criteria follows. Table 5-2 summarizes this evaluation.

#### Forum 1: Decisionmaking by the SOR Lead Agencies and a Public Involvement Program Conducted by the SOR Lead Agencies

The primary strengths of this alternative are its low implementation costs and the fact that the three operating agencies could implement it at any time. Because decisionmaking would be by the same operating agencies as today, implementation costs would be minimal and the agencies could put it into effect at any time. This alternative would not consolidate decisionmaking. It may reduce legal/political



**Table 5-2.** Assessment of Forum alternatives

Process Steps	Forum 1 SOR Lead Agencies	Forum 2 Recommendation by Existing Entity	Forum 3 Recommendation by New Entity
Consolidates Decisionmaking	No change.	Little change; may add one additional step for influencing decision.	Little change; may add one additional step for influencing decision.
Reduces Legal/Political Challenges	No change if challenge is based on content; may improve credibility through more open process.	No change if challenge is based on content; may improve if entity is perceived as neutral.	No change if challenge is based on content; may improve if entity is perceived as neutral.
Trust/Credibility	Greater for those aligned with traditional interests.	Improved for those who are suspicious of SOR agencies.	Improved for those who are suspicious of SOR agencies.
Equitable Treatment of All Uses	No change.	No change or slight improvement if entity represents all uses.	More equitable because all interests represented.
Accountability	No change.	Could improve political accountability; might allow decisionmakers to "hide" behind entity's recommendations.	Could improve political accountability; might allow decisionmakers to "hide" behind entity's recommendations.
Cost/Effort to Get in Place	No change.	Requires memorandum of understanding and/or Federal Advisory Committee Act authorization.	Requires agreement on membership and Federal Advisory Committee Act authorization.
Cost of Annual Operation	Slight increase.	Slight increase to cover new activities.	Increase to cover new activities.
Cost to Participate	No change.	Somewhat higher to influence recommendations and decisions.	Somewhat higher to influence recommendations and decisions.

Forum 4 Decision by Federal Consultation Forum	Forum 5 Decision by New Entity	Forum 6 Decision by One Operating Agency	Forum 7 Decision by One Other Federal Agency
Improved; consolidates into one process.	Improved; consolidates decisions into one entity.	Improved; consolidates decisions into one entity.	Improved; consolidates decisions into one entity.
No change if challenge is based on content; may improve due to consolidation.	Uncertain; improvement with all parties at the table or no change other than who sues whom.	Number of decisionmakers reduced, but may result in little or no change.	Number of decisionmakers reduced but may result in little or no change.
Improved by bringing river uses to decision table.	Significant improvement if all uses at table; could decrease depending on how it is set up.	Possible improvement if individual interests are aligned with selected agency.	Possible improvement if individual interests are aligned with selected agency.
More equitable.	More equitable.	No change.	No change.
No change to slight improvement.	Increased, but may be confused; may be difficult to confer legal accountability on new entity.	Increased, but may be confused depending on setup.	Increased, but may be confused depending on setup.
Requires agreement on consultation process.	Requires Congressional authorization.	Requires Congressional authorization.	Requires Congressional authorization.
Slight decrease due to consolidation.	Reduced if decisionmaking is consolidated; increased if no clear authority given.	Reduced if decisionmaking is consolidated; increased if no clear transfer in authority given.	Reduced if decisionmaking is consolidated; increased if no clear transfer in authority given.
Slight decrease.	Increase for representation.	Reduced if decisionmaking is consolidated.	Reduced if decisionmaking is consolidated.

challenges to decisions based upon lack of public participation in decisionmaking. Enhanced public involvement would make the decisionmaking process more open and could reduce the number of legal and political challenges to operating decisions. If legal challenges are based on substantive decisions, this alternative would not reduce challenges, and could actually increase the perception that all uses were treated equitably. It would not materially improve accountability (although it does make the decisionmaking process more public) nor does it alter the costs to participate. It would increase costs over the current process, but would be less costly than having a recommendation developed by another entity.

#### **Forum 2: Decisionmaking by the SOR Lead Agencies and Recommendation by an Existing Regional Entity**

The primary strengths of this option are that it would increase trust and the perception that all uses are treated equitably. By basing decisions on recommendations from an existing regional entity, such as the NPPC, this alternative would increase public confidence in the equitable treatment of all river uses. It would potentially reduce legal or political challenges, and it is within the authority of the agencies to implement without Congressional action. This alternative does not alter accountability, although it increases visibility. Costs to participate could increase somewhat since interests may feel obliged to participate both with the recommending agency and with the three operating agencies. This alternative would cost more to implement than Forum 1 and less than Forum 3, which creates a new agency structure.

#### **Forum 3: Decisionmaking by the SOR Lead Agencies and Recommendation by a New Entity**

This alternative is similar to Forum 2 and its analysis yielded similar results. A decision based on outside recommendations developed by a new entity could have greater credibility, which would increase trust, foster equitable treatment of all river uses, and reduce

legal/political challenges. Forum 3 would also foster the equitable treatment of all river uses. On the other hand, the costs to create and maintain a new entity would be higher than those of Forum 2.

#### **Forum 4: Decisionmaking by a Federal Consultation Forum and a Public Involvement Program Conducted by the Federal Consultation Forum**

One of the advantages of Forum 4 is that, like Forum 1, it can be implemented without Congressional authorization or Federal Advisory Committee Act authorization. It could reduce costs somewhat if it consolidates SOR/ESA decisionmaking. There would be costs for initial consultations among the agencies to develop agreement on the process, although these would be relatively modest compared to the costs of creating a new entity. Trust and credibility would potentially increase over the current process as well as Forum 1 because the ESA agencies would be at the table with the operating agencies. The downside would be the difficulty in getting the five agencies to agree on decisions.

#### **Forum 5: Decisionmaking by a New Entity**

A new entity would be created specifically to ensure representation of all interests. By placing decisionmaking in a newly created regional entity, and including a complete public involvement program, this alternative has the greatest potential to increase credibility in the decisionmaking process. This alternative would require Congressional action, and it would cost the most since it proposes creating a permanent new entity.

#### **Forum 6: Decisionmaking by One Federal Operating Agency (e.g., Corps or Reclamation) and a Public Involvement Program Conducted by the Federal Operation Agency**

This alternative would consolidate decisionmaking, and it would not require creation of a new bureaucracy. It also could

reduce total costs. It would, however, require Congressional authorization. Its effects on regional credibility and the issues of trust, equitable treatment, and legal/political challenges would be minor or insignificant.

#### **Forum 7: Decisionmaking by Another Federal Agency (e.g., NMFS) and a Public Involvement Program Conducted by This Agency**

This alternative is similar to Forum 5 and its analysis yielded similar results. The Federal agency to which decisionmaking would be transferred would be an agency with a major mandate for fish and wildlife. Groups concerned about fish and wildlife might view this option as more credible than Forum 5. Groups with a traditional relationship to the existing operating agencies might view this option as having considerably less credibility. Costs would likely be greater in transferring decisionmaking to an agency other than one of the existing operating agencies. This process would require Congressional action.

### **5.3 PROPOSED ACTION**

As noted in Section 5.1, the establishment of a Regional Forum is an administrative process that would not result in impacts upon the environment and therefore does not require analysis in a NEPA context. The composition of and procedures followed by a decisionmaking body cannot—in and of themselves—be used to predict a particular decision with definable impacts on the environment. Nevertheless, because of the relationship to the other SOR actions, the SOR lead agencies have included documentation in the EIS Main Report and Appendix Q to provide opportunities for review and comment upon Forum alternatives.

Because the Forum is not subject to NEPA documentation requirements, the SOR lead agencies are not required to formally identify a Preferred Alternative. However, the SOR agencies want the public to know of its proposed action. Section 5.3 reviews the existing situation (which is informative, given recent events such

as the 1995 Biological Opinions), describes a proposed interim action, and assesses the proposed action relative to the criteria presented in Section 5.2.

#### **5.3.1 Review of Existing Situation**

In many ways, recent events have overtaken the discussion of the need for a Forum. When the SOR was begun, the agencies heard frequent comments based on the perception that the PNCA served as the place where "real" operating decisions were made. Since fisheries interests did not have a seat at the PNCA table, it was argued that there was an inequity, with fisheries interests receiving inadequate representation. Power users, on the other hand, argued that a joint power and non-power decisionmaking process was unduly cumbersome, could delay the annual planning process and did not provide sufficient predictability for long-term power resource planning.

In 1991 and 1992, NMFS listed sockeye and then chinook under the provisions of the ESA. Subsequently the USFWS issued a Biological Opinion regarding sturgeon and other species. These actions have considerably altered the system planning process, and require extensive consultation between the SOR lead agencies and NMFS and the USFWS. In addition, there have been judicial reviews of many of the actions.

The world of power generation has changed as well. BPA has alerted the region that it is preparing for the possibility of a competitive world in which the cost of BPA power could be approximately the same as that from other sources of power. In addition, changes in Federal regulations make it easier for power generators, public or private, to transport power over the existing transmission grid. BPA is taking significant actions to reduce costs and adopt a market-driven approach to the delivery of power services. This new competitive world has, however, introduced even more uncertainty into power resource planning.

The analysis of the public comments shown in Appendix T is that there is no regional consensus to take the initiative to establish a new Regional Forum. The sparse number of comments received on this topic and the contradictory nature of these comments do not give the SOR lead agencies a sense that there is any single Forum alternative that enjoys the support of the region. Certainly the ESA listings have changed the perception that the "real" decisions are made by the PNCA. On the other hand, the ESA consultations have not simplified the process, made it more predictable, nor made the process more open and visible to all interested parties in the region.

### 5.3.2 Proposed Interim Action

In the absence of a regional consensus, the SOR lead agencies do not believe it is appropriate for Federal agencies to prescribe a forum to provide regional representation. On at least an interim basis, the SOR lead agencies propose to continue with the current decision making process, which is best described in Forum 1.

It should be noted that although Forum 1 indicates decisions are made by the SOR lead agencies, these decisions are made only after extensive consultation with NMFS and USFWS. There must also be consultation with the NPPC. At a minimum, all five Federal agencies are clearly at the decisionmaking table. On the other hand, the relationship between the parties is not that which is described in Forum 4. The Federal Consultation Forum described in Forum 4 would provide each of the five agencies a voice in all operating decisions. The current situation provides NMFS and the USFWS a voice in those decisions affecting anadromous fish.

The current situation—the proposed interim action—was summarized previously in Section 5.1. To recap, after publication of the Final EIS and consultation with NMFS and the USFWS, the SOR lead agencies will publish a Record of Decision describing the SOS to be used in the future. This SOS will allow for some degree of

flexibility, and will be subject to annual scrutiny and modification in the future.

Once the SOS is in place to provide overall guidance, the lead agencies will continue to prepare annual operating plans. The process for developing annual operating plans is described in more detail in Appendix Q. It includes three separate elements: 1) preparing the Assured Operating Plan (AOP), which defines usable Treaty reservoir storage space for power and flood control; 2) preparing a CPO that will include the nonpower needs of the system; and 3) conducting PNCA planning for annual operations.

Actual operations will then proceed within the provisions of the SOS and the annual operating plans. In addition, under the treaty with Canada, a Detailed Operating Plan (DOP) may be developed to define actual Treaty storage rights and obligations during the upcoming operating year. This DOP can take into account the latest PNCA plan. PNCA operations are then simulated, using a program referred to as Actual Energy Regulation (AER). The simulation process in the AER, results in an "accounting" for the PNCA parties' ongoing entitlements and obligations to load carrying capability. During the spring and summer season, the TMT will meet on a weekly basis to prepare recommendations for operations needed for the fish protection and recovery programs. Actual operations of the system are determined by Reclamation or the Corps. They will strive to operate within all the various plans, taking into account the actual amounts of water and flows in the river, and responding to events as they occur.

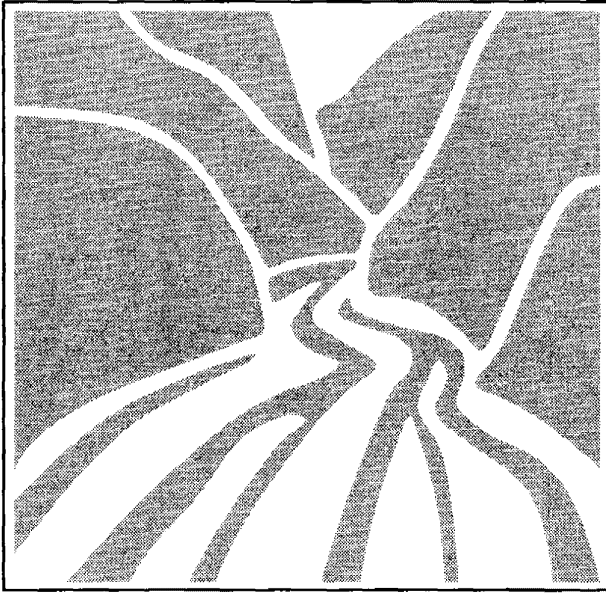
### 5.3.3 Evaluation

The proposed interim action would not satisfy a number of the criteria identified Section 5.2 (see Appendix Q, Chapter 7 for a more detailed discussion). ESA consultations have actually increased the number of points at which people can influence decisions, introduced new legal issues, and may have increased the costs to participate. The SOR lead agencies would have

preferred a solution that simplified the decisionmaking process, encouraged all interests to meet at the same table, and consolidated the number of points at which people attempt to influence the process. However, the SOR lead agencies do not believe it is appropriate to propose a more dramatic course of action when there is little regional consensus on any particular course of action, or even agreement that changes need to be made in the decisionmaking process.

The SOR agencies have described the proposed action as an "interim" action precisely because they believe that there are deficiencies in the current institutional arrangements. It is possible that once the region has absorbed the impact of the ESA listings it may wish to consider new arrangements. If so, the SOR consideration of the Forum concept may provide some stimulus to the discussion of alternatives.





## Chapter 6

# Pacific Northwest Coordination Agreement



## 6.0 PACIFIC NORTHWEST COORDINATION AGREEMENT

### 6.1 PNCA ALTERNATIVES

The PNCA is a complex contract for power coordination among Federal agencies and power-generating utilities in the region. The PNCA optimizes the power benefits of the region's major hydroelectric generating utilities and Federal agencies by planning and operating the Columbia River as a single-owner system. The technical appendix on the PNCA (Appendix R) contains detailed information on the agreement and the alternatives under consideration in the SOR. There are currently 17 parties to the PNCA:

- United States (Corps, BPA, and Reclamation)
- U.S. Entity (Corps, BPA)
- Portland General Electric
- Pacific Power & Light
- Washington Water Power
- Puget Sound Power & Light
- Montana Power Company
- Eugene Water & Electric Board
- Seattle City Light
- Tacoma City Light
- Grant County PUD
- Chelan County PUD
- Douglas County PUD
- Cowlitz County PUD
- Snohomish County PUD
- Pend Oreille County PUD
- Colockum Transmission Company

The section below is a summary of the PNCA and the major elements of the alternatives.

In annual planning sessions, the parties jointly and cooperatively determine the system's aggregate firm energy capability. They mutually support each other's operations to meet nonpower requirements, carry firm load, use their hydroelectric resources most economically and effectively, and enhance the production of nonfirm energy. Load-carrying capability is ensured through entitlements and obligations

related to assurance of storage operations or energy exchanges.

PNCA planning establishes guidelines for storage reservoirs that determine how much load can be carried under the most adverse streamflow conditions. These guidelines take the form of planned reservoir storage elevations. The agreement includes provisions that the nonpower uses of a coordinated reservoir have priority over power coordination. A coordinated approach to power production results in more power being produced from the available water. For more information on the PNCA, see the SOR public information document, *Power System Coordination: A Guide to the Pacific Northwest Coordination Agreement*.

#### 6.1.1 Alternative Development

The lead agencies established a PNCA Alternatives Analysis Group in early 1992. This work group identified issues, alternatives, evaluation criteria, and analytical techniques for the comparative analysis of alternatives. Each alternative addresses four broad elements of coordination, which were defined on the basis of the power coordination issues the work group identified. The coordination elements are:

1. Administrative
  - Parties to the agreement
  - Operational control
  - Operating procedures
2. Planning
  - Planned nonpower requirements
  - Firm hydro resource capability planning criteria
    - Shifting
    - Shaping
  - Secondary hydro resource capability planning criteria
3. Uses of Hydro Resource Capability
  - In-lieu energy
  - Interchange energy

- Proportional draft
  - Adjustments to firm hydro resource capacity
  - Storage service
  - Transmission service
  - Provisional energy
  - Treatment of unplanned nonpower requirements
4. Charges
- Service charge process
  - Interchange energy pricing
  - Headwater benefit payments

Each element has several options within it that are discussed in Appendix R, PNCA.

The PNCA Alternatives Analysis Group decided the EIS would analyze five alternative approaches to the coordinated generation of power on the basis of these power coordination elements. These alternatives are identified in Table 6-1 and summarized below. Each alternative could operate in several different ways, depending on how the elements of coordination are combined to define that alternative (Appendix R, PNCA). It is the responsibility of the action agencies to designate a "no action" alternative. CEQ has stated that there are two distinct interpretations of what constitutes a no action alternative, the status quo and not going forward with the proposed action. Under these interpretations, there were two distinct "no action" PNCA alternatives, Alternative 1, which contemplates that there would not be a replacement agreement, and Alternative 3, which assumes a continuation of the status quo. Given the concerns of Draft EIS commentors, the SOR agencies redesignated Alternative 1 as the No Action Alternative in the Final EIS. However, Alternative 3 remains the base case for purposes of analyzing impacts resulting from different alternatives.

#### **6.1.2 PNCA 1—Existing Contract Terminates, No Replacement Contract (No Action)**

Parties to the PNCA would use the existing agreement until it expires in 2003. It would not

be replaced by a similar agreement. This is the No Action Alternative. After 2003, the Corps, BPA, and Reclamation would most likely sign a written agreement for planning and operation to achieve continued coordinated Federal operations. The non-Federal part of the system would not be coordinated with the Federal system after 2003. After the PNCA expires, the Federal agencies would likely continue to base the Federal firm hydro resource capability on critical-period planning (the worst-case scenario based on the historical 50-year streamflow record). Non-Federal utilities could choose to determine their FELCC by other means.

After 2003, fees for services would be arranged among utilities. The FERC would determine and collect non-Federal payments for headwater benefits from Federal reservoirs. The current PNCA would address treatment of nonpower requirements until 2003; after that, it is expected that individual utilities would continue to meet nonpower operating requirements at their projects.

In the absence of a specific Federal action to renew the existing PNCA or adopt a new agreement, PNCA 1 is the most likely scenario for the Federal agencies. Given the size of the system, the benefits of coordinated operation, and the various demands placed on the Federal projects, it is unlikely that future operation of the Federal projects would occur without some form of coordination in the absence of a new PNCA.

#### **6.1.3 PNCA 2—Contract to Maximize Regional Power Benefits**

This alternative envisions a new agreement, which would maximize regional power benefits, both energy and capacity. The agreement likely would be open only to parties with major power resources of value to the Northwest. The objectives of this alternative are to:

- Provide for centralized control over planning and operation of regional projects;
- Maximize power generation to provide least-cost service;

Table 6-1. PNCA alternatives<sup>1/</sup>

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PNCA	Administrative	Planning	Use of Hydro Resource Capability	Service Charges
PNCA 1 Existing Contract Terminates, No Replacement Contract (No Action)	Beyond 2003, administrative considerations would shift from regionwide to bilateral arrangements for power coordination. Current parties would operate systems independently. Federal agencies would require written agreement to operate in coordinated fashion.	Current critical period planning would likely continue. Firm resource capacity would be estimated by individual utilities on a period-by-period basis. All parties would be expected to include nonpower requirements in planning. Parties would likely use shifting and shaping mechanisms. Parties downstream of others' reservoirs would have to make assumptions of expected upstream operations to determine resource capability.	Parties with reservoirs would use their storage to develop firm resource capability. Those without reservoirs would lose ability to receive water or its energy equivalent from upstream parties in a coordinated manner. Unplanned nonpower requirements at Federal projects would continue to be met at the discretion of the involved Federal project operator.	No service charges or process to determine service charges. FERC would likely determine payments for storage benefits.
PNCA 2 Contract to Maximize Regional Power Benefits	Agreement open only to parties with major power resources of value in region. Complete pooling arrangement directed by a central control.	Six-year lead time for planned nonpower requirements before they are reflected in coordinated planning; nonpower requirements could be implemented by project owner with cooperation of central entity. Planning objectives designed to maximize power benefits.	Complete pooling arrangement directed by a single entity. Centralized operation of the coordinated system to maximize power benefits. Cost of unplanned nonpower requirements borne by project owner without impact to contract rights and obligations of other parties.	Service charges unnecessary because parties' loads would be met and benefits distributed by a single entity.
PNCA 3 Extension of Existing Contract (Base Case)	Parties would be the current signatories. Additional parties could be added pursuant to terms of the existing agreement. Parties would continue to operate their own projects. Operating procedures may or may not be used to help parties implement the contract.	Submitted nonpower requirements (e.g., fish flow) would continue to be incorporated into annual operating plan. Parties would continue to plan on a critical period basis and estimate firm resource capability for each party and the system.	Firm resource capability and maximum production of secondary energy would be achieved through current contract mechanisms. Impacts resulting from unplanned nonpower requirements would continue to be addressed by the parties.	No change from current process.

Table 6-1. PNCA alternatives<sup>1/</sup>

Page 2 of 2

PNCA	Administrative	Planning	Use of Hydro Resource Capability	Service Charges
PNCA 4 Modified Contract Supplemented with Operating Procedures	Parties would be the current signatories. Additional parties could be added pursuant to terms of the existing agreement. Parties would continue to operate their own projects. Combination of short- and long-term operating procedures would be used.	Submitted nonpower requirements (e.g., fish flow) would continue to be incorporated into annual operating plan. Parties would continue to plan on a critical period basis. Shifting and shaping would probably continue.	Parties would attempt to develop firm resource capability and maximize production of secondary energy. Current in lieu energy, provisional energy, interchange energy, reservoir drafting for firm hydro resource production, and flexibility adjustments would continue. Impacts from unplanned nonpower requirements would be alleviated by available hydro resource flexibility, or distributed among affected parties.	Service charges would be used to compensate parties for providing contract services. Charges could be adjusted more frequently than under current contract.
PNCA 5 Power Coordination Agreement to Enhance Nonpower Considerations	Agreement would be open to extra-regional parties with major power resources and to regional parties with multiple-use authorities. Operational control would involve a pooling arrangement directed by a central authority.	Planned nonpower requirements for the Federal parties would be established by a regional forum. Firm hydro resource capability would be based on SOS selected. Shifting and shaping for power purposes would likely be precluded. Secondary hydro capability would give first priority to nonpower uses.	Single entity would control operation of pooled resources. System would operate to preserve system flexibilities for operational nonpower uses. Costs and benefits from operational nonpower uses would be shared by parties in an equitable formula of distribution agreed to by all.	Service charges would be unnecessary since costs and benefits would be distributed by a single entity.

<sup>1/</sup> Each alternative has several options for each element of coordination. This table describes a representative example for each alternative to demonstrate how various options for each of the elements could be combined to define the alternative. For a complete description of the options, see Appendix R.

- Satisfy contractual entitlements of individual parties; and
- Provide for equitable distribution of contractual benefits.

Operations would involve a complete pooling arrangement. Pooled resources would be centrally planned and operated, under the direction of a single entity designated by the parties. The entity would operate the coordinated system, consistent with its authorities, to maximize power benefits. A project owner could implement nonpower requirements for a project at any time; planned nonpower requirements would require a 6-year lead time before they would affect coordination rights and obligations. The costs of unplanned nonpower requirements would be borne by project owners exclusively and not affect contract rights and obligations. The terms of the new agreement would extend to 2024 to coincide with the anticipated term of the Columbia River Treaty.

#### **6.1.4 PNCA 3—Extension of Existing Contract (Base Case)**

This alternative would roll over the current contract, either without operating procedures or with the existing operating procedures. The terms of the new agreement would extend to 2024, to coincide with the anticipated term of the Columbia River Treaty. Parties would be the same as for the current PNCA with provisions for new signatories. Parties would continue to operate their own projects, both for their own needs and to fulfill contract rights and obligations. Operating procedures might or might not be used to help the parties implement the contract.

Nonpower requirements would continue to be incorporated into the annual operating plan. Parties would continue to plan on a critical-period basis and estimate firm resource capability for their specific projects and the system. Parties would attempt to develop firm resource capability as planned, as well as maximize production of secondary energy through current contract mechanisms. Service

charges and the process for modifying service charges would remain unchanged.

#### **6.1.5 PNCA 4—Modified Contract Supplemented with Operating Procedures**

Under this alternative, a combination of short- and long-term operating procedures would be added to the existing PNCA. Currently, PNCA parties prepare operating procedures each year that clarify terms of the existing agreement. This alternative would introduce an element of longer-term planning into operating procedures.

#### **6.1.6 PNCA 5—Power Coordination Agreement to Enhance Nonpower Considerations**

Under this alternative, the existing contract would be modified to make more accommodation for nonpower purposes. While multiple-use requirements are presumably being met, this alternative would dedicate the remaining flexibility of hydro system operations to serving and enhancing nonpower/ environmental purposes. (The SOS adopted by the agencies would determine the amount of flexibility available.) Modifications could include allowing nonsignatories to the PNCA to submit nonpower requirements to the annual planning process, or removing the consensus requirement for sharing impacts from ad hoc nonpower operations. Operational control and operating procedures could be modified to better accommodate nonpower purposes. For example, system planning could de-emphasize planned firm hydro resource capability in favor of other concerns, such as environmental or economic objectives. Service charges could be eliminated or changed.

#### **6.1.7 PNCA Alternatives not Studied in Detail**

A significant issue that surfaced in the development of PNCA alternatives was whether alternatives should address coordination of multiple river uses or coordination of power only. Based on a review of key contract

elements of the existing PNCA, the PNCA Alternatives Analysis Group concluded that the agreement was truly a power coordination contract, since nonpower requirements were identified independently and presented to the PNCA Contract Committee as pre-existing obligations. The group decided, therefore, to limit the analysis to consider only power coordination alternatives. Multiple use coordination for Federal projects would be set by the SOS. Non-Federal project owners would also continue to define their requirements independently in other arenas, such as the FERC licensing process.

The PNCA Alternatives Analysis Group identified 17 power coordination issues that became elements used in developing PNCA alternatives for evaluation (see Appendix R, Chapter 3, for a detailed discussion). They also identified options for treating each element in a new agreement. The group developed a set of alternatives to incorporate the perspectives of various regional interests. Alternatives that were not included in this final set represent less plausible options for power coordination.

## 6.2 IMPACTS OF PNCA ALTERNATIVES

The PNCA is the mechanism for coordinating the generating resources of a number of agencies and utilities in the Columbia River Basin. The PNCA Work Group developed five alternatives to achieve this (see Section 6.1). The following discussion describes the environmental, hydropower system, and financial implications of the alternatives. Table 6-2 summarizes the work group's assessment of the PNCA alternatives against the environmental, power system, and financial evaluation criteria.

### 6.2.1 Environmental Impacts

The PNCA Work Group developed power coordination alternatives under the premise that Federal power operations would be coordinated within the limits and flexibility allowed by the SOS selected as a result of the SOR analysis. They concluded that the significant environ-

mental impacts would derive from the SOS alternatives and not from PNCA alternatives. Non-Federal project power would be coordinated within the limits and the flexibility of the non-Federal nonpower requirements, as defined by those project owners.

Because the significant environmental impacts are captured in the analysis of SOS alternatives (Section 4.2 of this Main Report; see also Appendix R, Section 4.2), the impacts from power coordination are only those that occur within the flexibility allowed by the SOSs. These impacts were assumed to be small enough to be handled through a qualitative environmental analysis. Therefore, because Federal reservoir operators would be implementing the selected SOS alternative under any of the PNCA alternatives, the environmental analysis would essentially duplicate the environmental analysis of the SOS.

The analysis does not present any conclusion about the effects of the PNCA alternatives on other resources (fish, wildlife, etc.). To determine whether they are positive or negative for a specific user group, the reader must cross-reference the information regarding the potential physical changes to reservoir elevations and outflows with the appropriate SOR appendix.

The analysis in the PNCA Appendix, Appendix R, identifies potential physical changes to the reservoir system resulting from the various elements and options of the PNCA alternatives. These physical changes are: (1) impacts to reservoir levels and flows during different times of the year, and (2) impacts to power production requiring the use of existing nonrenewable resources and the need to develop replacement nonrenewable resources. Criteria used to evaluate the environmental effects of the physical changes include:

- the certainty/probability of being able to accommodate operations for nonpower uses;
- ability to accommodate changes in planned operations for nonpower uses; and

Table 6-2. Assessment of PNCA alternatives

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Impact	PNCA 1 Existing Contract Terminates No Replacement Contract (No Action)	PNCA 2 Contract to Maximize Regional Power Benefits	PNCA 3 Extension of Existing Contract (Base Case)	PNCA 4 Modified Contract Supplemented with Operating Procedures	PNCA 5 Power Coordination Agreement to Enhance Nonpower Considerations
Physical	<ul style="list-style-type: none"> <li>• Similar to PNCA 3.</li> </ul>	<ul style="list-style-type: none"> <li>• Similar to PNCA 3.</li> </ul>	<ul style="list-style-type: none"> <li>• Higher fall/winter flows from shifting, shaping, flexibility adjustments, and provisional drafts</li> <li>• Lower fall/winter storage reservoir elevations.</li> <li>• Reduced summer/spring flows and storage reservoir elevations.</li> </ul>	<ul style="list-style-type: none"> <li>• Similar to PNCA 3.</li> </ul>	<ul style="list-style-type: none"> <li>• Eliminates shifting, shaping, flexibility adjustments, and provisional draft.</li> <li>• More water remains in storage; reduced flows result.</li> <li>• Impacts driven by nonpower focus.</li> <li>• Increases need for renewable resources.</li> </ul>
Environmental Reliability	<ul style="list-style-type: none"> <li>• Likely no loss of reliability to Federal system.</li> <li>• Non-Federal parties would lose reliability from lack of access to assured storage releases.</li> <li>• More difficult to meet some nonpower uses.</li> </ul>	<ul style="list-style-type: none"> <li>• Potentially more reliable than PNCA 3 due to central authority access to coordinated system.</li> </ul>	<ul style="list-style-type: none"> <li>• High degree of reliability.</li> <li>• Power operations consistent with nonpower uses.</li> </ul>	<ul style="list-style-type: none"> <li>• Similar to PNCA 3.</li> </ul>	<ul style="list-style-type: none"> <li>• More reliable than PNCA 3.</li> <li>• More water for nonpower needs.</li> <li>• Addition of nonpower parties should improve planning.</li> <li>• Potential conflicting nonpower demands could reduce reliability.</li> </ul>
Environmental Flexibility	<ul style="list-style-type: none"> <li>• Likely no loss of flexibility by Federal system.</li> <li>• Many non-Federal parties could lose flexibility.</li> </ul>	<ul style="list-style-type: none"> <li>• Central authority improves ability to respond to changing conditions.</li> </ul>	<ul style="list-style-type: none"> <li>• High degree of flexibility.</li> </ul>	<ul style="list-style-type: none"> <li>• Similar to PNCA 3.</li> </ul>	<ul style="list-style-type: none"> <li>• If central authority is better for nonpower needs, would be better than PNCA 3 and about the same as PNCA 2.</li> </ul>
Hydro Power System Reliability	<ul style="list-style-type: none"> <li>• Little impact to Federal system.</li> <li>• Less reliable for non-Federal system because of loss of assured Federal storage releases and information.</li> </ul>	<ul style="list-style-type: none"> <li>• Central authority could plan and operate all pooled resources for maximum reliability.</li> </ul>	<ul style="list-style-type: none"> <li>• System coordinated to maintain reliability.</li> </ul>	<ul style="list-style-type: none"> <li>• Impact to firm hydro resource capability could be reduced to cover unplanned nonpower requirements.</li> </ul>	<ul style="list-style-type: none"> <li>• Ability to reliably produce firm resource capability nearly the same as PNCA 2, 3, and 4, although capability could be less.</li> <li>• More reliable than PNCA 1.</li> </ul>
Hydro Power System Efficiency	<ul style="list-style-type: none"> <li>• Total regional hydro power efficiency reduced from PNCA 3.</li> <li>• Loss of efficiency more pronounced in non-Federal system.</li> </ul>	<ul style="list-style-type: none"> <li>• Central authority's access to all resources for planning and operation would be more efficient than PNCA 3.</li> </ul>	<ul style="list-style-type: none"> <li>• High degree of efficiency.</li> </ul>	<ul style="list-style-type: none"> <li>• Similar to PNCA 3.</li> </ul>	<ul style="list-style-type: none"> <li>• Less efficient than PNCA 2, 3, and 4 because of weight given to nonpower considerations.</li> <li>• More efficient than PNCA 1 because of coordination for power purposes.</li> </ul>

Table 6-2. Assessment of PNCA alternatives

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Impact	PNCA 1 Existing Contract Terminates No Replacement Contract (No Action)	PNCA 2 Contract to Maximize Regional Power Benefits	PNCA 3 Extension of Existing Contract (Base Case)	PNCA 4 Modified Contract Supplemented with Operating Procedures	PNCA 5 Power Coordination Agreement to Enhance Nonpower Considerations
Hydro Power System Flexibility	<ul style="list-style-type: none"> <li>• Most non-Federal parties would lose flexibility.</li> <li>• Minimal impact on Federal system.</li> <li>• Lose coordinated response.</li> </ul>	<ul style="list-style-type: none"> <li>• More flexible than PNCA 3 because of access by central authority to all pooled resources.</li> </ul>	<ul style="list-style-type: none"> <li>• Flexibility provided from coordinating diverse resources and maximizing power generation.</li> </ul>	<ul style="list-style-type: none"> <li>• More flexible than PNCA 3.</li> </ul>	<ul style="list-style-type: none"> <li>• Much less flexible for power than PNCA 2, 3 or 4 due to use of flexibility to enhance nonpower purposes.</li> </ul>
Financial Reliability	<ul style="list-style-type: none"> <li>• Greater cost to maintain current level of reliability.</li> <li>• Most additional costs borne by non-Federal parties.</li> </ul>	<ul style="list-style-type: none"> <li>• Operation by single entity should mean same reliability at lower cost than PNCA 3.</li> </ul>	<ul style="list-style-type: none"> <li>• High degree of reliability at low cost.</li> </ul>	<ul style="list-style-type: none"> <li>• Similar to PNCA 3.</li> </ul>	<ul style="list-style-type: none"> <li>• More costly than others.</li> <li>• Firm capability reductions could require acquisition or use of higher-cost nonrenewable resources.</li> </ul>
Financial Efficiency	<ul style="list-style-type: none"> <li>• More expensive than PNCA 3.</li> </ul>	<ul style="list-style-type: none"> <li>• Single-entity efficiencies should lower power costs.</li> </ul>	<ul style="list-style-type: none"> <li>• High level of efficiency.</li> <li>• Efficiency reduces costs of operating and acquiring renewable resources.</li> </ul>	<ul style="list-style-type: none"> <li>• Similar to PNCA 3.</li> </ul>	<ul style="list-style-type: none"> <li>• Most costly because nonpower enhancement could reduce efficient hydro system operation.</li> <li>• Could require acquisition of nonrenewable resources.</li> </ul>
Financial Flexibility	<ul style="list-style-type: none"> <li>• Less flexibility would increase costs for non-Federal parties.</li> </ul>	<ul style="list-style-type: none"> <li>• Greater flexibility should lower power costs.</li> </ul>	<ul style="list-style-type: none"> <li>• Flexibility reduces reliance on relatively expensive nonrenewable resources.</li> </ul>	<ul style="list-style-type: none"> <li>• Similar to PNCA 3 except for higher costs to cover unplanned nonpower requirements.</li> </ul>	<ul style="list-style-type: none"> <li>• More costly than other alternatives.</li> </ul>



- efficiency, reliability, and flexibility for power.

Efficiency, reliability, and flexibility for power refer to the environmental impacts attributable to an alternative's effect on power production, including the power generated by a given amount of water (efficiency), the certainty of producing planned resource capability (reliability), and the ability to modify the planned level of production to match changing needs (flexibility). These translate into environmental impacts if the region needs to acquire and/or operate nonrenewable replacement resources. For example, air quality could deteriorate if more coal-fired generation becomes necessary. The qualitative discussion of environmental impacts follows.

#### **PNCA 1—Expiration of Existing Contract, No Replacement (No Action)**

Under this alternative, there would be no power coordination. This alternative would have negative impacts on the environment because of the system's reduced reliability, efficiency, and flexibility for both nonpower and power purposes. In addition, increased acquisition and use of nonrenewable resources would have adverse environmental effects.

#### **PNCA 2—Contract to Maximize Regional Power Benefits**

The main feature of this alternative would be an arrangement under which parties would centrally plan and operate their pooled resources. This alternative could enhance benefits for both nonpower and power purposes because of the increased reliability, efficiency, and flexibility achieved by centralizing planning and operations within one entity.

#### **PNCA 3—Extension of Existing Contract (Base Case)**

PNCA 3 would be positive for both the environment and power. It would accommodate all nonpower requirements identified by the

project owners before any power coordination takes place. It also would allow project owners to operate their projects to accommodate ad hoc nonpower requirements. It would extend the existing contract benefits of hydropower system coordination that have historically worked so well for the region.

#### **PNCA 4—Modified Contract Supplemented With Operating Procedures (Preferred)**

The environmental impacts of PNCA Alternative 4 would be similar to those of PNCA 1.

#### **PNCA 5—Power Coordination Agreement to Enhance Nonpower Considerations**

This alternative should be the most beneficial to the environment because it would gear regional power planning and operations primarily for nonpower use. These benefits could be offset if the emphasis on nonpower uses increased the need to acquire and/or operate nonrenewable resources.

### **6.2.2 Hydropower System Impacts**

Hydropower system impacts refer to changes in the hydro system's ability to produce power reliably, efficiently, and flexibly. Reliability is defined as maintaining a level of certainty in producing planned capability from the hydro system. Efficiency refers to the cost of producing power, and flexibility is the system's ability to respond to changing conditions that affect power operations. The qualitative evaluation of the PNCA alternatives from this perspective follows.

#### **PNCA 1**

PNCA 1 would lack many of the benefits of current power coordination.

#### **PNCA 2**

This alternative would offer greater regional power benefits than today's operations and

would have generally positive results for hydropower system reliability, efficiency, and flexibility.

### **PNCA 3 and 4**

Both alternatives would have generally positive hydro system impacts.

### **PNCA 5**

This alternative would be about the same as PNCA 2, 3, and 4 with respect to the certainty of producing firm resource capability, although the magnitude of that capability could be lower under PNCA 5. The number of parties allowed to submit nonpower requirements would increase beyond project owners under this alternative. This would likely mean more requirements and less firm resource capability available for power production. It would not produce as much secondary resource capability that could be used strictly for power purposes, as would other alternatives.

### **6.2.3 Financial Impacts**

Financial impacts include the cost of maintaining the reliability, efficiency, and flexibility of the hydro system. These terms are defined for financial purposes as: (1) reliability—the cost of maintaining the same level of certainty of producing one's planned resource capability; (2) efficiency—maintaining the ability to develop resource capability on a least-cost basis; and (3) flexibility—the financial impacts of adapting to changing conditions while maintaining a certain level of reliability.

### **PNCA 1**

Without coordination, the Federal system could incur some financial risk because of the U.S. obligation to return energy and capacity to Canada under the Columbia River Treaty. Apart from Treaty issues, PNCA 1 would cause difficulties for the PNCA parties, particularly the non-Federal parties, as a result of losses in reliability, flexibility, and efficiency.

### **PNCA 2**

This alternative would do the best job of all of the PNCA alternatives in reducing the regional cost of producing power.

### **PNCA 3 and 4**

Under the current system, which is similar to PNCA 4, the region enjoys a high standard of reliable power at a relatively low cost.

### **PNCA 5**

This alternative would likely be the most expensive for meeting the region's power needs. Nonpower considerations can increase the cost of power production, and this alternative would likely foster additional nonpower requirements.

### **Cumulative Impacts**

NEPA requires that the cumulative impacts of a proposed action and all other foreseeable activity be identified and considered in an EIS. The financial or economic impacts of a coordination agreement are de minimis and fall within the impacts resulting from a system operating strategy. Thus, as currently structured, none of the PNCA alternatives would have significant additional economic impacts, either individually or cumulatively, from those identified with respect to the system operating strategy.

### **6.2.4 Contractual Impacts**

Contractual impacts include several considerations. "Ability to implement" refers to the ease or difficulty of administering the contract. Legal considerations refer to the alternative's consistency with statutory authorities and FERC licenses. Columbia River Treaty considerations refer to the alternative's consistency with the Columbia River Treaty. Autonomy deals with parties' ability to control and be accountable for the operations of their own projects. Finally, given that this is a contract requiring the consent of the parties, acceptability refers to the willingness of parties

to enter into the arrangements contemplated in the alternatives.

#### **PNCA 1**

Although this is the no-contract alternative, contractual considerations have some relevance. Most importantly, legal considerations, such as the Treaty and Federal legislation, might require or encourage some form of coordination. Therefore, it is unlikely that this alternative would be acceptable to all the parties.

#### **PNCA 2**

This alternative appears to have the best overall regional power benefits, but the greatest obstacle to achieving those benefits would be loss of autonomy, as defined above under "Contractual Impacts."

#### **PNCA 3**

This alternative is positive with respect to all of the evaluation criteria.

#### **PNCA 4**

Contractually, this alternative is very similar to the base case.

#### **PNCA 5**

This alternative differs from the others in that it is more nonpower driven. Given that nonpower requirements are already taken into account prior to any consideration of power concerns, it is doubtful that this agreement would be acceptable to the majority of the parties.

### **6.3 SUMMARY AND COMPARISON**

Section 6.3.1 presents a summary evaluation of five alternatives for renewing or modifying the PNCA, which coordinates the operations of Northwest hydroelectric resources for power generation. Section 6.3.2 identifies the SOR agencies' preferred alternative for the PNCA, and explains the rationale for that preference.

#### **6.3.1 Evaluation of Alternatives**

The PNCA Alternatives Analysis Group assigned numerical ratings to each of the alternatives for each of the evaluation criteria reported in Section 6.2. These ratings are presented in Table 6-3, which simplifies the comparison of the environmental, hydro power system, financial, and contractual impacts of the five alternatives. The following discussion summarizes the group's overall assessment of each alternative.

##### **PNCA 1—Expiration of Existing Contract, No Replacement (No Action)**

Under this alternative, the regional parties would lose the coordination that now results in dependable and usable hydro generation capability. This would result in a loss of both reliability and efficiency in operating the hydro power system. The Federal agencies would likely need a written agreement to coordinate their projects. The Federal system would also assume some financial risk because of the obligation to return energy and capacity to Canada under the Columbia River Treaty.

##### **PNCA 2—Contract to Maximize Regional Power Benefits**

This alternative would increase the regional power benefits offered by the current contract. The results would be greater system reliability, efficiency, and flexibility, which would also mean lower costs of producing power.

##### **PNCA 3—Extension of Existing Contract (Base Case)**

Continuation of the planning and coordination of operations for optimum energy production would have a positive effect on power system operations. The region would continue to enjoy a high standard of reliable power at a relatively low cost.

Table 6-3. Summary of comparative analysis of PNCA alternatives

Evaluation Criteria	PNCA 1 Existing Contract Terminates, No Replacement Contract (No Action)	PNCA 2 Contract to Maximize Regional Power Benefits	PNCA 3 Extension of Existing Contract (Base Case)	PNCA 4 Modified Contract Supplemented with Operating Procedures	PNCA 5 Power Coordination Agreement to Enhance Nonpower Considerations
<b>Environmental</b>					
Physical	4	4	4	4	5
Reliability	F=3, N=1	5	4	4	5
Flexibility	F=3, N=1	4 or 5	3	4	3
<b>Hydro Power System</b>					
Reliability	F=4, N=1	5	4	3 or 4	3
Efficiency	F=3, N=2	5	4	4	3
Flexibility	F=3, N=1	5	4	4	1 or 2
Ability to Implement	N/A	4	3	3	2 or 3
<b>Financial</b>					
Reliability	F=3, N=2	5	4	4	2
Efficiency	F=3, N=2	5	4	4	2
Flexibility	F=4, N=2	5	4	4	2
<b>Contractual</b>					
Ability to Implement	N/A	3	4	4	3
Legal	2	2	4	4	2
Columbia River Treaty	1	5	4	4	2
Autonomy	5	1	4	4	1
Acceptability	2	1	4	3	1

F=Federal, N=Non-Federal; 1=Poor, 2=Fair, 3=Satisfactory, 4=Good, 5=Excellent

### **PNCA 4—Modified Contract Supplemented with Operating Procedures**

As with PNCA 3, this alternative would offer highly reliable and efficient power. In addition, some PNCA parties believe that including short-and long-term operating procedures would resolve some long-standing issues in the current contract.

### **PNCA 5—Power Coordination Agreement to Enhance Nonpower Considerations**

This alternative would offer greater emphasis on system operations to benefit fish programs, meet flow targets, and achieve minimum reservoir elevations. It would not affect reliability, but the addition of nonpower interests in planning operations could mean more requirements and less firm capability for producing power. This alternative would be the most expensive for meeting the region's power needs.

#### **6.3.2 Preferred Alternative**

The Corps, Reclamation, and BPA have selected PNCA 4 as the Preferred Alternative for a power coordination agreement. This alternative reflects the tentative understandings reached to date between current contract parties during the negotiating sessions that began in 1989. The majority of concerns raised by the reviewers and other outside groups were well known to the action agencies prior to the commencement of the negotiations. The positions taken by the Federal agencies, and tentative agreements reached, reflect many of these concerns.

PNCA 4 is very similar to the existing contract, although there would be some degradation to the reliability of developing planned resource capability. The cause of this degradation is the decision of the Federal action agencies to further clarify the protection of non-power uses. PNCA 4 would be a significant improvement for power coordination compared to having no coordination agreement after the current contract expires in 2003 (PNCA 1).

This analysis concluded that there are not significant impacts that result from any of the PNCA alternatives. This is because all PNCA alternatives analyzed must accommodate reservoir party decisions for multiple-use operation. Those operational decisions (i.e., the SOS) result in the actual environmental impacts. Thus, all of the PNCA alternatives are environmentally preferred in the meaning of the CEQ guidelines. For the SOR action agencies, the keystone of the multiple use operation is the preferred alternative for a SOS. That SOS is effectively being implemented in actual operations and reflected in the existing PNCA (PNCA 3). PNCA 4 would be at least as effective. To the extent that there remains any operating flexibility that can be influenced by this preferred alternative, this is a much improved coordination agreement for the environment with respect to its additional restrictions to practices some may deem contrary to SOS objectives. The improvements are discussed in the following paragraphs.

The parties in PNCA 4 are those currently in the agreement. However, nothing would preclude additional entities from seeking to become a party.

PNCA 4 encourages reservoir owners to incorporate known non-power requirements into the PNCA planning process. The Corps and Reclamation are committed to incorporating multiple-use requirements, such as those from the March 1995 Biological Opinion recommendations, into PNCA planning. The SOS Preferred Alternative (SOS PA) is derived from that opinion. If adopted, it will effectively move the PNCA studies toward Option 4 of Element 5, wherein power production is incidental to non-power requirements.

PNCA 4 retains critical water planning as a tool to determine planned firm hydro resource capability. This is prudent as hydropower resources are a significant portion of the resource base of Northwest utilities, and those utilities desire a conservative estimate of hydro capability that results from implementation of the

SOS. This will not preclude consideration or use of other techniques outside of PNCA coordination, such as actual operations or short-term operational planning.

PNCA 4 allows shifting of firm resource capability between years in the planning studies to continue to the extent the shifting does not violate or negatively impact non-power uses. Shifting will be more limited under PNCA 4 than that allowed by the current contract.

PNCA 4 adopts the current practice of determining secondary hydro resource planning criteria. This will continue to provide northwest utilities with opportunity to reduce costs of producing energy while maintaining the non-power operation of the SOS. SOS PA has effectively moved the actual ability to produce secondary capability to that of Option 2 of Element 6, wherein all secondary capability is a result of operation for non-power uses.

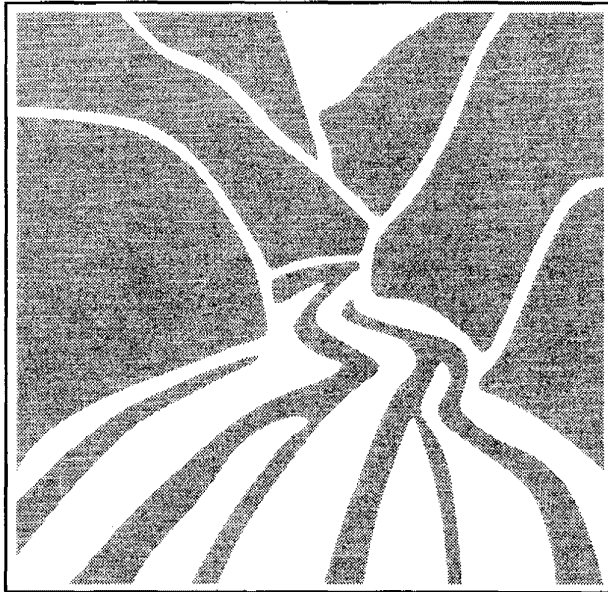
Parties will continue to use Interchange as a mechanism to facilitate power coordination. The distinction between hydro and nonhydro interchange will be eliminated to relieve some of the concerns of the all-hydro systems that were addressed by Option 3.

The current practice of adjustments to firm hydro resource capability (flexibility adjustments) will be limited under PNCA 4. Flexibility adjustments will only be allowed to the extent that it can be demonstrated that the hydro system can continue to implement the SOS.

PNCA 4 will offer increased storage service. This could facilitate increased storage of energy in the system and could provide more water for use in meeting future power demands or implementing the SOS.

PNCA 4 offers improved treatment of unplanned non-power requirements (Option 2). This will facilitate use of hydro system flexibility to distribute costs of implementing non-power operations that were not addressed in planning. It could reduce the reluctance of some parties to implement non-power operations.

Interchange energy pricing under PNCA 4 will be a single price based on market value. This could result in less use of stored water to meet interchange rights and obligations, depending on market price as parties may choose to purchase on market versus drafting stored water.



# Chapter 7

## Canadian Entitlement Allocation Agreements

## 7.0 CANADIAN ENTITLEMENT ALLOCATION AGREEMENTS

### 7.1 CEAA ALTERNATIVES

The Columbia River Treaty (Treaty), signed in 1961 and ratified by the U.S. Congress in 1964, provided for the construction of four storage dams to harness 500 miles (805 km) of the upper Columbia River in Canada. Three of these dams (Mica, Duncan, and Keenleyside) are in British Columbia. The fourth (Libby) is in the United States but impounds water into Canada. The regulation of streamflows made possible by these projects enabled dams downstream in the United States and Canada to produce more usable power and also provided increased flood protection.

Because Canada did not need additional power at the time of the Treaty, it sold its share of the power (the Canadian Entitlement) for the first 30 years to a 41-member utility group in the Northwest, the Columbia Storage Power Exchange (CSPE). The CEAs are contracts between BPA, acting on behalf of the U.S. Entity, and the three mid-Columbia PUDs that own the hydroelectric projects where CSPE power is generated.

There are five Allocation Agreements, one for each of the five PUD-owned dams on the mid-Columbia (Wells, owned by Douglas County PUD; Rocky Reach and Rock Island, owned by Chelan County PUD; and Wanapum and Priest Rapids, owned by Grant County PUD). [The contracts establish how the Canadian Entitlement was attributed to each of the five non-Federal projects located downstream of Canadian Treaty storage.] The three PUDs are responsible for power generation and delivery to BPA. BPA is responsible for delivering the power to the 41 CSPE parties.

The agreements expire in 2003, but by April 1998, the Canadian Entitlement from the first of the Canadian projects (Duncan) must be returned to Canada. The benefits from the second Canadian project (Keenleyside) must be returned beginning in 1999, and the benefits from the

third (Mica) beginning in 2003. The Columbia River Treaty specifies the method to be used to determine the downstream benefits, but leaves it up to U.S. parties to determine how the return obligation is to be shared among benefiting parties. The goal of the new allocation agreements is to equitably distribute the return obligations among the U.S. downstream parties that benefit from the upstream Canadian Treaty storage.

#### 7.1.1 Alternative Development

The United States and Canada have conducted talks to identify alternatives for the return of the Canadian power entitlement. The allocation of the Canadian Entitlement among U.S. parties is intended to reflect the relative amounts of power benefits accruing on the Federal and non-Federal systems due to Canadian Treaty reservoir operation. The final allocation scheme will be negotiated among the U.S. parties. Several methods of allocating the Canadian Energy and Capacity Entitlement have been proposed to date. These methods are not a part of the SOR analysis, as these methods will almost certainly be superseded by negotiations. They will, however, fall within the bounds established for the environmental review, which represent a Federal/non-Federal allocation percentage that is applied to current estimates of the Canadian Entitlement. Appendix P describes the CEAA study process.

The lead agencies began development and analysis of CEAA alternatives after the September 1992 midpoint meetings and the subsequent selection of SOS alternatives. BPA staff conducted the SOR effort addressing the CEAA, with input and review from a subgroup of the Power Work Group. The subgroup based its identification of alternatives on informal, preliminary meetings between U.S. Entity staff and regional utilities; these meetings pre-dated the SOR.



### 7.1.2 Alternative CEAA Return Allocations

With respect to the SOR, the CEAA alternatives involve only the distribution of Canadian Entitlement return obligations among the Federal and non-Federal parties. The staff who developed CEAA alternatives followed a fundamental premise that the allocation of return obligations would be based on the relative distribution of downstream power benefits accruing to the respective parties. (These benefits reflect increments in both the average annual usable energy and dependable capacity provided by the Treaty storage to the Federal and non-Federal projects downstream.) The CEAA alternatives therefore are defined by the Federal and non-Federal percentages of the Canadian Entitlement return obligation. Table 7-1 summarizes these alternatives.

The allocations of the return obligation among the four CEAA alternatives range from 100 percent to 55 percent for the Federal government, and from 0 to 45 percent for the non-Federal parties. The differences in the percentages reflect differing ways of allocating the downstream power benefits of Treaty storage.

Under the No Action Alternative (CEAA 1), the current Allocation Agreements would expire without replacement. It is assumed that the Federal system would undertake the entire

Canadian Entitlement delivery obligation beginning in 1998, while allowing the non-Federal projects to generate with water released from Treaty projects. The non-Federal parties would not be obligated to deliver Canadian Entitlement. This maximizes the Federal obligation (100 percent) and minimizes the non-Federal obligation (zero percent), while still allowing the non-Federal projects to use all flows on the Columbia River. The non-Federal project owners would generate and keep all downstream power benefits at their projects resulting from Canadian Treaty storage.

CEAA 2 represents the situation where the Federal obligation would be minimized and the non-Federal obligation is maximized. The Canadian Entitlement obligation for both capacity and energy in this case would be 55-percent Federal and 45-percent non-Federal. This allocation was determined by examining the series of studies that are used to compute the Canadian Entitlement obligation. The percentages roughly approximate the increase in annual average generation (over a 30-year streamflow period) accruing to the Federal and non-Federal projects as a result of Canadian Treaty storage. CEAA 3 represents a percentage allocation that lies between the bounds provided by CEAA 1 and 2. This distribution is based on the fact that Federal projects have about 70 percent of the downstream generating capacity, and non-Federal projects about 30 percent.

Table 7-1. CEAA alternatives

	CEAA 1 No Action	CEAA 2	CEAA 3	CEAA 4 No Agreement
Federal Obligation (Percent)	100	55	70	55-100
Non-Federal Obligation (Percent)	0	45	30	0-45

Source: Appendix P, Canadian Entitlement Allocation Agreements

CEAA 4 assumes U.S. parties negotiate but are unable to reach agreement on an allocation of the Canadian Entitlement among Federal and non-Federal systems. The U.S. Entity anticipates that it would condition the use of improved stream flows and employ rulemaking to obligate non-Federal parties to return a portion of the Canadian Entitlement commensurate with benefits received. It is likely that the outcome of this process would result in Federal and non-Federal obligations that are within the range examined in CEAA Alternatives 1 through 3.

### 7.1.3 CEAA Alternatives not Considered in Detail

CEAA Alternatives 1 through 4 bracket the range of reasonable allocations of the Canadian Entitlement return obligations. Additional alternatives could have been identified which would represent intermediate allocations between the endpoints defined by alternatives CEAA 1 and 3. The SOR agencies saw no need to make any further distinctions in the percentage allocation. Any alternatives using allocations beyond the stated endpoints would be unreasonable because they would have no basis in the relative distribution of downstream power benefits.

## 7.2 IMPACTS OF CEAA ALTERNATIVES

The renewed CEAA are not expected to greatly influence hydro system operations for two reasons. The most likely scenarios for satisfying the Canadian Entitlement obligation are the acquisition of new resources or the purchase of power. To the extent that the FCRPS and non-Federal projects would be used to generate power to deliver to Canada, changes in river flows would be minor.

The SOR analysis assumes that changes in hydro system operations would not occur because of different CEAA allocation methodologies. Each allocation alternative falls within the range of hydro system flexibility provided by the SOSs for power needs. To understand the potential environmental effects of

the alternatives, the hydro system allocation operations should be compared to the evaluation in Section 4.2 of potential environmental effects.

The obligation to deliver the Canadian Entitlement power may ultimately be satisfied in one of a number of ways yet to be negotiated by the United States and Canada. The environmental impacts of delivering the power to various possible locations, purchasing all or a portion of the obligation, and issues attendant to the agreements were examined in a separate EIS—the Delivery of Canadian Entitlement EIS. The environmental impacts of resource acquisition choices that may be made to meet BPA's load obligations (including delivery of the Canadian Entitlement) were examined in the Resource Program EIS (BPA, 1993a) and are not repeated here.

In order to evaluate the potential environmental effects of CEAA energy alternatives, a version of the System Analysis Model (SAM II) was used that simulates the Pacific Northwest hydro and thermal system for Federal, Investor Owned Utilities, and Generating Public Utilities. Monthly flows at The Dalles were analyzed due to their importance for the migration of anadromous fish. Monthly reservoir elevations were analyzed at Grand Coulee, Libby, and Hungry Horse because of their importance for cultural resources, recreations, and resident fish.

The delivery of the capacity component of the Entitlement was not modeled explicitly, however, potential capacity effects of CEAA alternatives were examined by analyzing the flows required to generate the entire capacity Entitlement obligation. This analysis assumes the entire capacity Entitlement obligation is borne by the hydro system. This analysis is intended to provide an estimate of the magnitude of the power system requirements involved to compare with the environmental analyses and impacts presented in Section 4.2. The actual Entitlement return will be made from total "system" resources, including hydro generation, non-hydro generating facilities, and purchases. Table 7-2 shows the energy and capacity requirements for each of the alternatives.

### 7.2.1 CEAA 1—No Action

Under CEAA 1, the agreements would expire without replacement. CEAA 1 assumes that non-Federal parties would not be obligated to deliver any of the Canadian Entitlement. Therefore, the Federal system would be responsible for delivering all of the Entitlement. This alternative was used as the base case to which other alternatives were compared. SAM II was used to simulate hydro system operations on an energy basis. Flows at The Dalles and reservoir elevations at Grand Coulee, Libby, and Hungry Horse were established. Flows and reservoir elevations from other CEAA alternatives were compared to this alternative to measure incremental changes for evaluation of environmental effects. If the capacity Entitlement return is generated only from Grand Coulee downstream, the Federal system would be required to generate up to an estimated 1,400 MW of capacity and would require a flow of approximately 23 kcfs (651 cms).

### 7.2.2 CEAA 2—55 Percent Federal, 45 Percent Non-Federal

Compared to CEAA 1 (No Action), CEAA 2 may reduce the amount of resource acquisitions by the Federal system and increase those required by the non-Federal project owners. Based on the study results, it is apparent that allocation alternatives had virtually no impact on Columbia River flows or reservoir elevations when evaluating the energy component of the Entitlement. For delivery of the capacity Entitlement, 13 kcfs (368 cms) of flow would be needed to generate the capacity portion of the obligation. The non-Federal portion would require 25 kcfs (708 cms) for producing the capacity obligation.

### 7.2.3 CEAA 3—70 Percent Federal, 30 Percent Non-Federal

Compared to CEAA 1 (No Action), CEAA 3 may reduce the amount of resource acquisitions by the Federal system and increase those required by the non-Federal project owners, but less so than Alternative 2. Like Alternative 2,

this alternative had virtually no impact on Columbia River flows or reservoir elevations when evaluating the energy component of the Entitlement. The system flows and water volumes needed to generate the capacity portion of the Entitlement obligation would be about the same for the Federal and non-Federal obligations. The flow needed to generate the capacity entitlement would be approximately 16 kcfs (453 cms) for both the Federal and non-Federal systems.

### 7.2.4 CEAA 4—No Agreement

CEAA 4 assumes U.S. parties negotiate but are unable to reach agreement on an allocation of the Canadian Entitlement among Federal and non-Federal systems. The U.S. Entity anticipates that it would condition the use of improved stream flows and employ rulemaking to obligate non-Federal parties to return a portion of the Canadian Entitlement commensurate with benefits received. It is likely that the outcome of this process would result in Federal and non-Federal obligations that are within the range examined in CEAA Alternatives 1 through 3. Therefore, the environmental effects of CEAA Alternative 4 will be bounded by CEAA Alternatives 1 through 3.

## 7.3 PREFERRED ALTERNATIVE

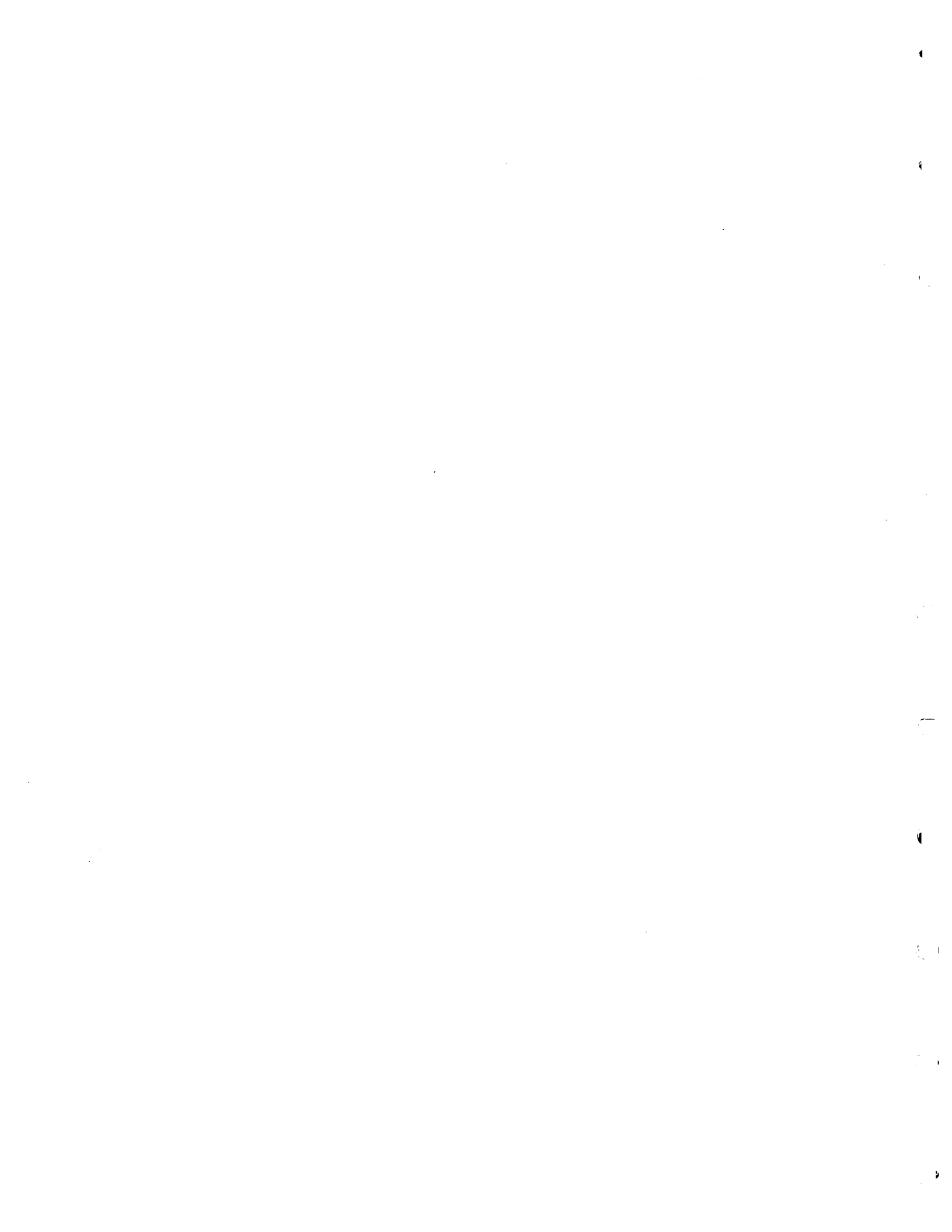
The SOR action agencies have selected CEAA Alternative 3—Entitlement Allocation: 70 percent Federal and 30 percent non-Federal—as the Preferred Alternative. This alternative mostly closely represents the expected outcome of negotiations between the U.S. Entity and non-Federal utilities for allocation of the Canadian Entitlement.

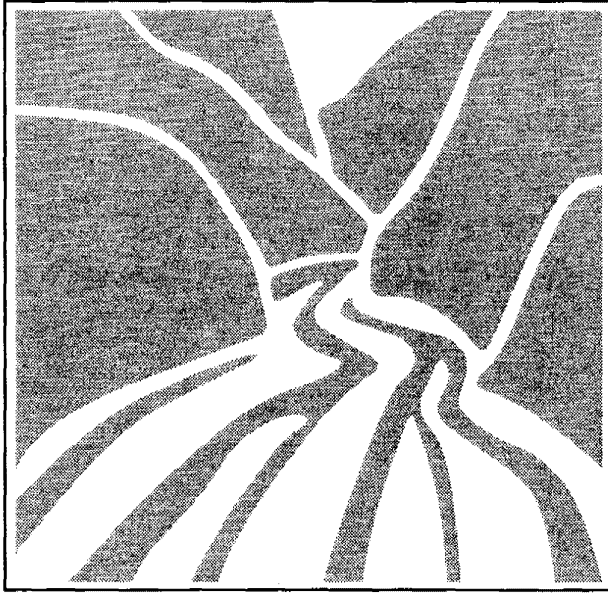
Because the determination of the Canadian Entitlement and the resulting allocation depend on a number of factors, the relative Federal and non-Federal percentage obligations will change during the proposed contract period 1998 through 2024. In addition, the Federal and non-Federal percentages for the capacity and energy allocation will likely be different as these

quantities are computed using different procedures specified by the Treaty.

The expected range of the Federal and non-Federal percentage allocation during the life of the proposed contract will probably be 70 to 75 percent Federal and 25 to 30 percent non-Federal. Factors that cannot be predicted at this time could cause the percentage allocations to be higher or lower than the expected range.

CEAA alternatives 1 and 2, however, effectively span the range of potential Federal and non-Federal percentage obligations for both the capacity and energy Entitlement. As Appendix P and the SOR documents have demonstrated, there would be no significant impacts to the environment from any of the CEAA alternatives.





## Chapter 8

### Making the SOR Decisions

## 8.0 MAKING THE SOR DECISIONS

This chapter provides the reader an overview of the NEPA process; the steps, timing, decision factors, and criteria that the SOR agencies must use for the decisionmaking process after the Final EIS; and the framework for how decisions will be made in the future. Chapter 8 also includes a series of diagrams that represent the decisions the agencies face.

The Final EIS presents preferred alternatives for three of the four of the SOR actions (SOS, PNCA, and CEAA). No preferred alternative is required for the Forum, for which the agencies' preference is expressed as the "proposed interim action." This proposed action is based on an analysis of the existing situation arising from the 1995 NMFS and USFWS Biological Opinions and the public review of the Forum as presented in the Draft EIS.

The PNCA and CEAA, while related to the SOS and Forum decisions, are not dependent upon them, and ongoing activities related to these agreements may force them onto their own schedule. The PNCA and CEAA involve multi-party contracts, and negotiations have been under way concurrently with the SOR. The negotiations may still be in progress when the Final EIS is published. Depending upon the outcome of the negotiations, the SOR decisions on the PNCA and CEAA will occur as needed to meet the various resulting contractual deadlines.

### 8.1 THE NATIONAL ENVIRONMENTAL POLICY ACT PROCESS

NEPA, Section 102 states that "the Congress authorizes and directs that, to the fullest extent possible ... all agencies of the Federal government shall ... include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement ... on: (i) the environmental impact of the proposed action, (ii) any adverse environmental effects which cannot be avoided ..., (iii) alternatives to the

proposed action, (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented."

Regulations subsequently written by the Council on Environmental Quality (CEQ) further guide Federal agencies in the conduct of the NEPA review process. These regulations specify that preparation of an EIS should begin as the proposal is developed, that it should be timed to serve as an important contribution to the decisionmaking process, and that a Draft EIS should be prepared first and subjected to public review and comment prior to completion of the Final EIS. Agencies must wait at least 30 days after the Final EIS before decisions can be made and recorded. Consequently, NEPA is viewed as requiring Federal agencies to "look before they leap." They must consider publicly a range of possible alternatives and compare the impacts prior to taking actions.

Publication of the Draft EIS represented one key step in the process. It officially started the public review and comment period. The agencies evaluated the comments received, completed additional analysis where needed, and prepared the Final EIS. These steps ensured that the decisionmakers will have the appropriate information prior to making the decisions. Reviewers had an opportunity to make their views known on the potential alternatives, the adequacy of the analyses in the Draft EIS, and the decisions they would favor. The comments received have been combined with updated information from the Draft EIS to provide a complete environmental record for decisionmakers.

### 8.2 CRITERIA AND PATH FOR DECISIONS

The following section presents the objectives of the decisions and the criteria upon which the

decisions will be based. These include the SOR purpose statements presented in the May 1991 Scoping Document. Decisions must also be implementable and regionally acceptable.

### 8.2.1 Purposes

As identified in Section 1.1.2, the following purposes will be considered in decisions that are intended to provide balance among system uses.

#### Resource Purposes

- Provide equitable treatment of fish and wildlife
- Protect and preserve threatened, endangered, and sensitive species
- Provide an economic, reliable, and environmentally sound power system
- Provide an adequate supply of irrigation and M&I water
- Provide an economic and dependable flood damage reduction and public safety system
- Provide waterborne transportation capability
- Provide opportunities for recreation on lakes and reservoirs
- Protect and preserve cultural resources
- Protect and enhance socioeconomic well-being
- Protect and enhance environmental quality

#### Institutional Purposes

- Provide direct public access to the decision process and operating strategy governing the Columbia River system
- Create and maintain a technical database for operating decisions

#### Legal/Regulatory Purposes

- Implement recommended near-term actions within existing authority
- Identify areas where new authority is required to implement recommended long-term actions
- Satisfy existing contracts

- Comply with environmental laws and regulations
- Satisfy Native American treaty rights and obligations regarding natural and cultural resources.

There is no single equation or formula that the SOR agencies can use to weigh each of these purposes and decide upon the proper balance in system operations or the best alternative for the other actions. The degree to which each purpose is affected, impacted, or enabled will be considered in the decision. The SOR technical analysis provides that information.

### 8.2.2 Implementability

Implementability of a decision or action will be an important decision criterion. The ability to implement a decision depends upon several factors, including physical feasibility; authority; compatibility with existing contracts; compliance with the ESA, as well as other laws and regulations; and compliance with obligations to Indian tribes.

Physical feasibility refers to whether the agencies have the actual capability to turn a decision into action. For example, in the system operating strategies, some options such as natural river drawdown would require physical modifications to dams and reservoirs. While the SOR could conclude this strategy should be pursued, it could not be physically implemented without structural changes in the projects. This would take years of engineering and construction.

The agencies cannot implement actions for which they do not have authority. The SOR can, however, recommend acquisition of appropriate authority if it is determined to be needed for a particular decision. Similarly, the agencies must recognize any contractual obligations that relate to decisions. Decisions must comply with requirements of the ESA and other pertinent laws and regulations (Chapter 11). The agencies recognize their obligations under treaty rights and statutes, and their responsibilities to work directly with tribes



in government-to-government relationships and to reflect that obligation in the decisions the agencies make.

A preferred system operating strategy for the Columbia River system could have a number of elements or components to be implemented at different times. This could be true for the other SOR actions as well. In other words, both near-term and long-term decisions are involved. Near-term decisions are those which can be made immediately or soon after completion of the SOR. They include those for which the Federal agencies have authority and those which do not require substantial further planning, design, or construction. Some near-term decisions may be interim or temporary measures that precede implementation of long-term, permanent measures.

Long-term decisions are those upon which the agencies may have insufficient authority to act, for which a program and budget must be developed, and for which extensive further planning and analysis are needed. This could require several years to accomplish. In some cases, the separate activities must be performed sequentially, i.e., a design phase followed by construction, which further lengthens implementation time. These decisions would still be subject to review and coordination with other agencies, tribes, and stakeholders.

### **8.2.3 Acceptability**

Acceptability was another important criterion for SOR decisionmaking and identification of preferred alternatives. While the SOR process is not a referendum on courses of action, it clearly sought agency, tribal, public, and other entities' views on acceptability of the alternatives. The Draft EIS was the most significant step in acquiring the views of interested parties on acceptability. The agencies also sought comment on how compatible and consistent each alternative was with other regional programs and activities that relate to issues considered in the SOR. Finally, the extent to which interested parties will be able to participate in future decisions and the actions which occur as a result

of the decisions was a consideration in the identification of preferred alternatives.

## **8.3 THE PATH FOR SELECTING PREFERRED ALTERNATIVES**

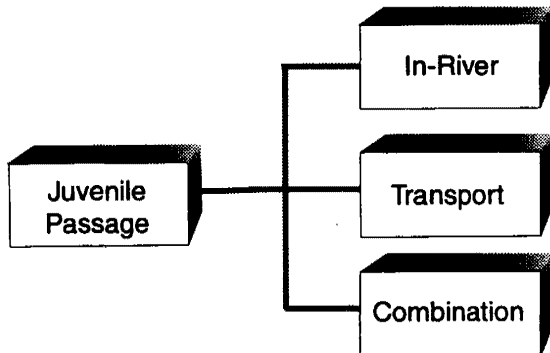
In any complex study, there are uncertainties which can affect decisionmaking. The SOR was no exception. The agencies welcomed comments on the areas of uncertainty in the SOR analysis to help to guide their decisions. All information gathered in the review was considered in selecting the preferred alternatives and is captured in the Final EIS.

### **8.3.1 System Operating Strategy**

The decision to adopt a preferred SOS involved the largest number of variables and uncertainties of any of the four actions. The SOR has not attempted to look at all possible combinations of river operations and variables within the "bookends" that define a broad range of operating alternatives. The analysis has, however, developed substantial data on the major operating elements. These data provided a basis for combining the elements in new ways, consistent with public comment on the Draft EIS, consultation with NMFS and USFWS, and subsequent agency deliberation.

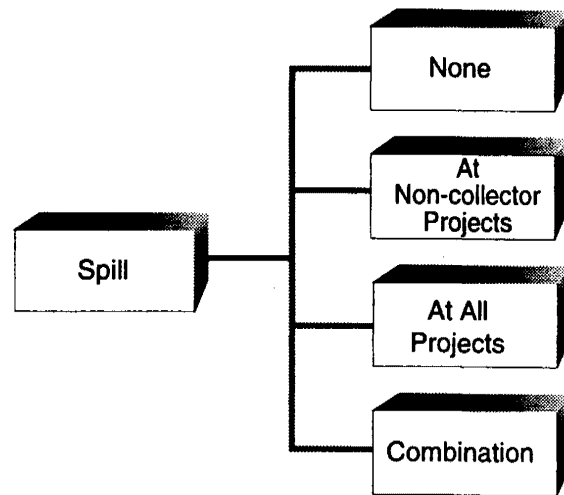
The agencies understand the choices that are entailed in a decision on the SOS. These choices represent a path the SOR decision process will follow. The most vital issue in selecting a preferred SOS was salmon recovery. Events, such as the ESA listings and recent court directives, moved salmon to the top of the list of operating priorities. Many of the system operating strategies and options studied in the SOR were designed specifically to test their potential to aid the migration of juvenile salmon. In considering how to improve juvenile passage, there are three possibilities under consideration: a comprehensive program for fish transportation, complete dependence on in-river migration, or some combination of the two tailored by species and river conditions.

Thus, the first major choice to be made is to pick one of these three approaches to juvenile passage (see box).

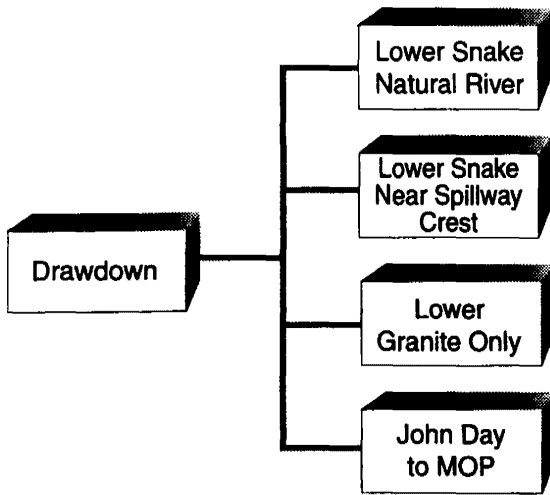


The 1995 NMFS Biological Opinion calls for an 80 percent FPE. This means 80 percent of the smolts must pass the projects through non-turbine routes. Spill has been part of seasonal operations since the 1980s, and can be used to move migrating salmon and steelhead safely past the dams. If water is put over the spillways instead of through the generating turbines, a portion of the smolts will go with it, avoiding a potentially hazardous trip through the turbine blades. While spill helps to accomplish the 80 percent FPE goal, it is not a cure-all, because spill can create gas supersaturation that can be harmful to aquatic life. All four Northwest states have legal limits for gas supersaturation, and gas levels must be monitored and controlled when spill is occurring. Spill also diverts fish away from barge collection areas at the dams. If spill is taking place at a project where fish are amassed for transport, fewer fish will enter the collection system.

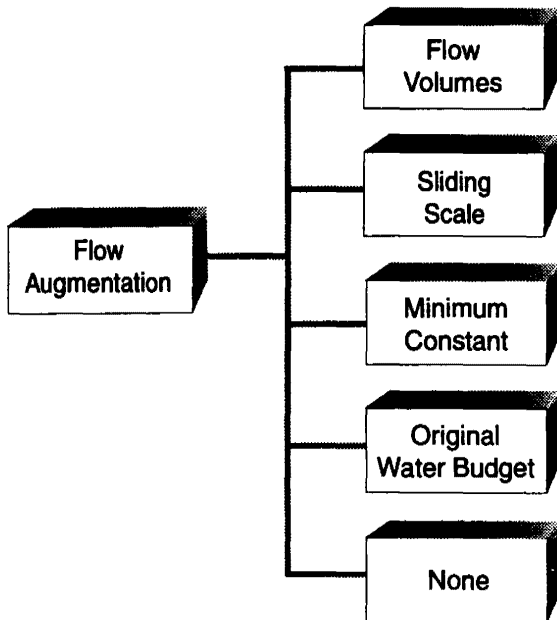
A combination of spill and transport operations can be viewed as a "share-the-risk" strategy. Such a strategy allows for spill at all projects when flows are good to capture the benefits of in-river migration for a larger number of smolts. There is, however, no spill at the collector projects when flow conditions are poor, in order to put more fish into barges, where they would be safe from predators and other adversities.



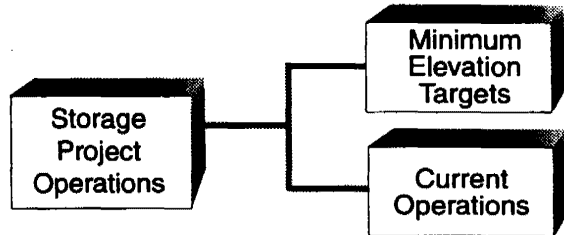
Another choice addresses drawdown. Aside from transportation, certain forms of drawdown proved to be the most promising way to increase juvenile survival. The diagram below depicts the four drawdown options in the SOR from which a decisionmaker can choose. The choice may be narrowed down by the approach to juvenile passage chosen above.



The fourth step in the path leads to a choice on flow augmentation. The SOR has considered five approaches to augmenting flows to move juveniles more quickly through the system, as shown in the following diagram.



Operation of the storage projects on the system has implications for all river uses, including anadromous fish recovery. This is the fifth choice on the path toward a system operating strategy, as shown below.



Not every choice makes sense if combined with every other. And some combinations work together better than others. For example, a decision to depend entirely upon in-river passage for juveniles would be most effectively coupled with natural river drawdown, since the results of the analysis showed this to be the most promising in-river option. John Day drawn down to MOP would, on the other hand, offer little benefit for in-river passage if it were implemented on its own.

A full-scale transportation program, under which most juveniles are moved in barges, would make further increase in flow augmentation unproductive and unnecessary. Increased flow targets would be important if juveniles are to travel largely in-river. Likewise, the drawdown strategies are aimed primarily to aid in-river fish migration. Drawdowns would not be needed if the majority of fish are transported in barges rather than left to migrate in-river.

The decisionmakers will also need to consider the near-term and long-term benefit and cost implications of the alternatives. While a natural river drawdown could provide considerable benefits for in-river juvenile migration, it is also the most costly and time-consuming strategy to implement. If this were

chosen, some near-term, temporary measures would have to be considered as well.

The SOR agencies have identified a preferred SOS alternative (SOS PA) in the Final EIS. This tentative selection, which does not constitute the final SOS decision, was made by the SOR agencies, in coordination with the recommendations of the USFWS and NMFS 1995 Biological Opinions. Following a 30-day no-action period after release of the Final EIS (during which time additional public review comments can be submitted), the agencies will confirm or modify the decision to select a preferred SOS and issue a Record of Decision documenting the selection.

### 8.3.2 The Forum

The Forum is a process the SOR agencies have examined during the SOR to accomplish periodic review and update of the SOS in the future. In this document and the Forum Appendix Q, several alternative designs for the Forum are presented. The analysis concluded that there were no environmental effects associated with the Forum, and implementation of any several of the alternative Forums could occur at any time.

Because the Forum is an administrative process resulting in no environmental effects, the requirement in NEPA for identifying a preferred alternative does not apply. Instead, the agencies described a "proposed interim action" that reflects the approach the agencies are currently taking. The proposed interim action stemmed from an analysis of the existing situation, particularly given the recent events surrounding the 1995 Biological Opinions, a review of the public comments on the Forum and an assessment of the agencies' ability and desire to create such a proposed decisionmaking process.

### 8.3.3 PNCA and CEAA

Federal agencies and contract parties have been negotiating the PNCA and the CEAA. For the PNCA, negotiations on the principles that would guide specific provisions of a new

contract have been completed. The negotiators are drafting specific contract language and plan to have a new agreement available soon for signature. While the SOR agencies cannot formally commit to this agreement prior to a Record of Decision, it represents the preferred alternative identified in the Final EIS. The agencies expect to sign a new agreement after a Record of Decision is completed.

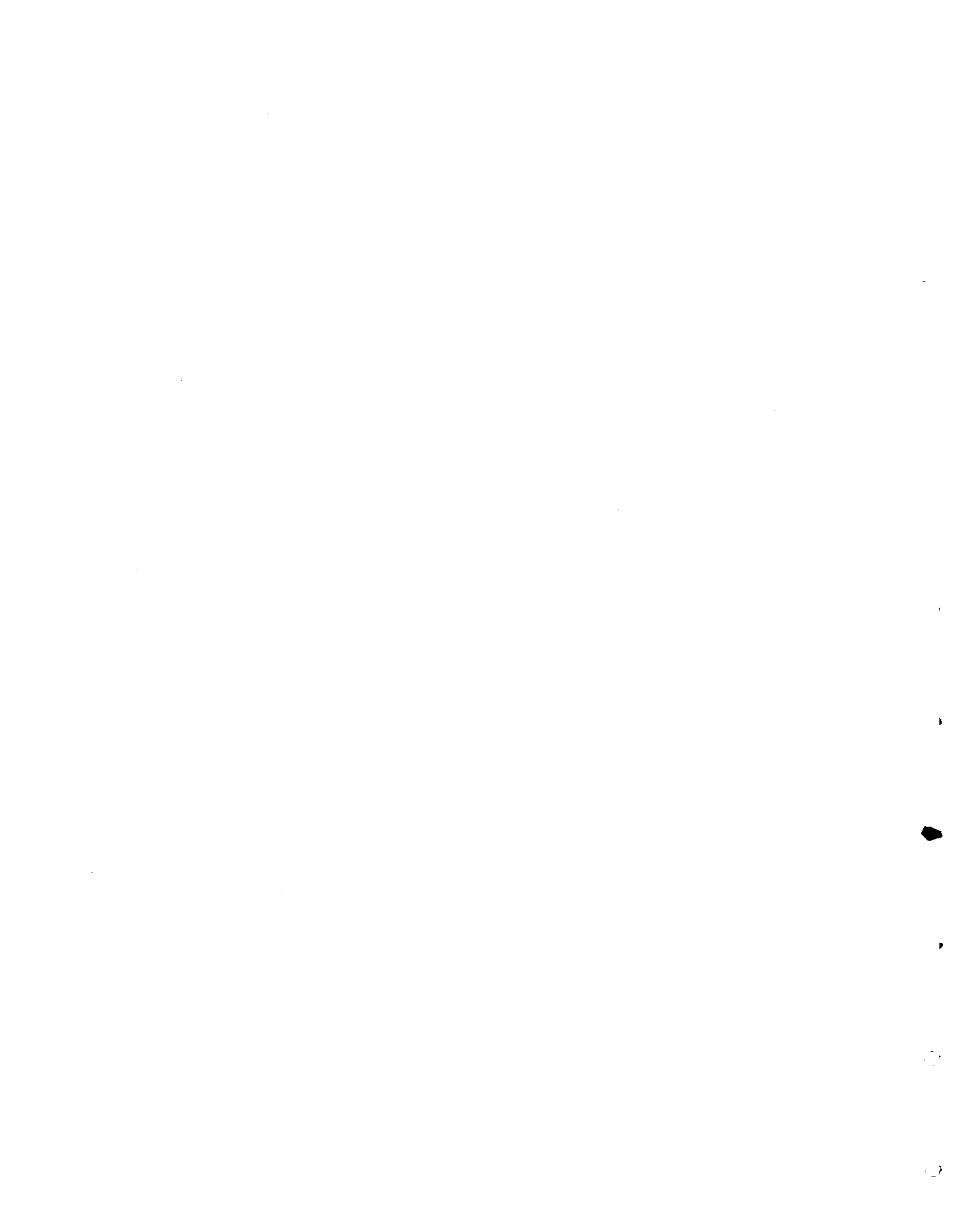
For the CEAA, negotiations have also been occurring, parallel to the PNCA. A similar process has been followed for identification of the preferred alternative, and will continue through the final decision.

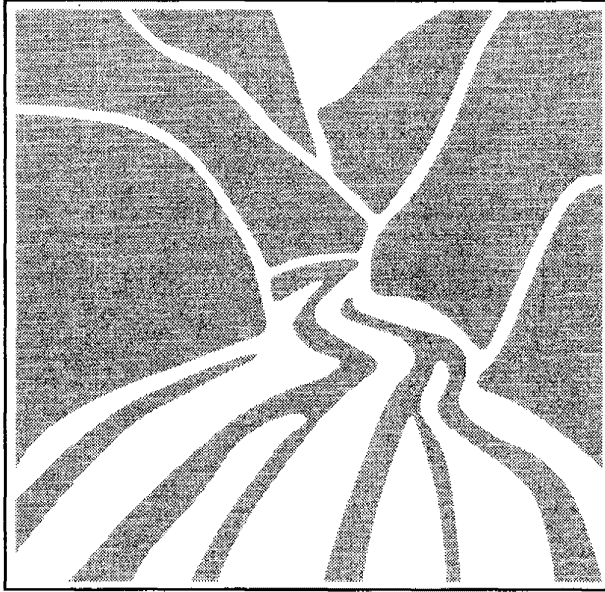
A final decision on the CEAA is dependent, to some extent, on how the Canadian Entitlement is returned to Canada. The provisions in the Columbia River Treaty specify delivery of power at Oliver, British Columbia. However, alternate arrangements are possible with mutual consent by the parties. Late in 1994, a nonbinding agreement was reached with Canada that provided a different delivery arrangement than that in the Treaty. Specifically, the United States would have purchased a portion of the Canadian Entitlement, delivered the remaining amount over existing transmission lines located on the west side of the Cascade Mountains, and provided Canadians access to U.S. transmission to facilitate power sales in the United States. In mid-1995, the prices for power on the West Coast had changed significantly so that the agreement was judged to be uneconomical for the U.S. parties. Canada was informed that the United States did not intend to go forward with the agreement. This decision affected the negotiations on the CEAA, since the allocation for generating the Canadian Entitlement between U.S. Federal and non-Federal parties was connected to the non-binding agreement governing the entitlement return. Thus, negotiations on CEAA will likely continue in tandem with any further discussions with Canada on how to return the Canadian Entitlement.

The preferred alternative for CEAA evaluated in this EIS is based on the original

provisions of the Columbia River Treaty for return of the Canadian Entitlement.

NEPA requires that agencies wait at least 30 days after issuing the Final EIS before preparing a Record of Decision to document the chosen action. Decisions on the SOR actions can therefore be expected beginning this winter.





## Chapter 9

# Coordination and Public Involvement

## 9.0 COORDINATION AND PUBLIC INVOLVEMENT

The Columbia River and its multi-purpose water projects are critical to the Pacific Northwest and its economy. The projects provide water for crops, prevent flooding, power people's homes and businesses, supply outdoor recreation, serve as a trade route, and provide habitat for fish and wildlife. But, as noted in previous chapters, the river is finite and subject to competing demands. Because of the vast sweep of the river's influence, it was essential that the SOR be sensitive to the needs and recommendations of all parties dependent on, affected by, and interested in the river and its uses, including the many agencies responsible for managing the resources of the Columbia River system and the public that has become so dependent on the river's riches.

The three lead agencies—the Corps, BPA, and Reclamation—attempted to engage all interested parties in the SOR process from the outset of the study. This effort included an extensive scoping process, the inclusion of public and agency members on the resource work groups, regional public forums, and the constant exchange of information through regular issues of *Streamline*, the SOR newsletter. This effort met and exceeded all NEPA requirements and ensured that the public and relevant government agencies had ample opportunities to be active participants in SOR decisions. This consultation and public information process is described below. A more comprehensive discussion can be found in the *Scoping Document*, and in issues of *Streamline*.

### 9.1 AGENCY COORDINATION

#### 9.1.1 Lead and Cooperating Agencies

The Corps and Reclamation operate the Federal dams on the Columbia River, and BPA sells the power the dams generate. These three lead agencies undertook the comprehensive review of Columbia River operations that led to this EIS. The SOR was triggered in part by the need to renegotiate agreements that affect system

management—CEAA and PNCA—that expire soon. The SOR also provided an ideal vehicle for the lead agencies to examine ways to coordinate their management of the Columbia River system, which in the past they had pursued somewhat independently.

The lead agencies coordinated their SOR activities through the organizational structure and process described in Section 1.3.2 of the EIS. Each agency designated one senior staff person to be its project manager for the SOR. The project managers were the focal points for managing the flow of SOR information among the agencies, and ensured that the efforts of SOR staff within each agency were coordinated according to overall SOR direction. The work groups, which reported to the project managers, included representatives from all three lead agencies to enhance communication and mutual understanding among the agencies throughout the project.

The three lead agencies consulted frequently with the three cooperating agencies for the SOR—the NMFS, USFWS, and the NPS. The U.S. Department of Agriculture, Forest Service was initially a cooperating agency, but subsequently withdrew from that role. Each of the cooperating agencies has jurisdiction and special expertise with regard to some aspect of the SOR. Representatives of the cooperating agencies sat on work groups and contributed their analytical expertise. Cooperating agency managers were also on the distribution list for all SOR written communications to keep them informed of activities.

The technical work groups that conducted the SOR analysis were guided throughout the screening process by the Analysis Management Group. The Analysis Management Group is composed of the SOR project managers from the three lead agencies; the coordinators of each work group (work group coordinators were staff persons from one of the three lead agencies);



and representatives of the three cooperating agencies. The Analysis Management Group met frequently during the development and screening of the alternatives, and subsequently as needed during full-scale analysis. The Analysis Management Group offered alternatives for analysis and served as the primary forum for developing screening analysis conclusions. During full-scale analysis, Analysis Management Group meetings were used to identify, discuss, and resolve issues encountered by the work groups in carrying out their assignments.

The preliminary draft version of the SOR EIS was prepared in January 1994 and circulated to reviewers from the Corps, BPA, Reclamation, and the cooperating agencies, both within the region and in Washington, D.C. It was also reviewed by regional Indian tribes. Comments and suggestions made by the lead and cooperating agency review team and tribes were then incorporated into the Draft EIS.

The Draft EIS was officially released to the public on July 25, 1994. Approximately, 1,000 copies of the Draft EIS were sent to representatives of Federal, State, local, and tribal agencies; elected officials at Federal, State, and municipal levels; tribal organizations; public libraries; public utility districts; members of the agricultural, forest products, recreation, transportation, and other industry interest groups; environmental conservation organizations; and the general public. Release of the Draft EIS, and publication of the Notice of Availability in the Federal Register, opened a 144-day comment period for public review and comments. The review comment period, originally scheduled to close on October 24, 1994, was extended twice. The comment period was extended initially to November 7 and then again to December 15, 1994. This extension was requested by the Northwest governors, tribes, NPPC, and others. The SOR lead agencies felt that this extension was warranted to allow interested and affected parties a more complete review and more time to submit review comments. All comments postmarked within this period are addressed in the Final EIS. To provide additional opportunities for comment,

the SOR agencies held a series of public meetings held between September 19 and October 4, 1994.

### 9.1.2 Other Agencies

The three lead agencies worked closely with state fish and wildlife agencies (Idaho Fish and Game Department; Montana Department of Fish, Wildlife, and Parks; Oregon Department of Fish and Wildlife; Washington Department of Fisheries; and Washington Department of Wildlife); state departments of parks and transportation; Federal agencies other than the cooperating agencies, including the BLM, Department of Agriculture, EPA, U.S. Geological Survey, and BIA; the NPPC; PUDs; and other government entities. Members of some of these other agencies sat on some of the work groups (see below). All were encouraged to participate in the 14 scoping meetings held throughout the region at the outset of the study. The lead agencies mailed coordination letters to over 50 agencies at various levels of government in the summer of 1991, to encourage their participation and solicit their views. The SOR managers held roundtable meetings in six locations in the region during November 1991 and 14 mid-point meetings in September 1992, after the work groups had completed preliminary screening of alternatives.

## 9.2 COORDINATION WITH TRIBES

There are 14 Federally recognized tribes in the Columbia River Basin that could be affected to a greater or lesser extent by SOR decisions. One of these, the Blackfeet of Idaho, is outside the SOR study area but has interests within the study area.

The lead agencies have encouraged the participation of Indian tribes and have attempted to coordinate with them on issues of concern to their people. The SOR agencies sent a letter to tribal chairpersons on June 20, 1991, informing them about the SOR and upcoming events and project milestones. A letter was also sent to tribal chairpersons on August 14, 1992, offering to present briefings to tribal governments and to

coordinate with them during full-scale analysis. This letter coincided with preparations to conduct a series of mid-point briefings for the general public throughout the region. The letters included information on how the tribes could get involved in the SOR. The tribes are on the general SOR mailing list and receive the same materials, such as the *Streamline* newsletter, as does the general public.

In April 1993, the SOR managers formed the Indian Coordination Group to solicit tribal participation and to improve communications with tribal governments. On July 27, 1993, the heads of the three SOR agencies sent a letter to the chairpersons of the 14 tribes offering to brief them on the current status of the SOR. As a result of this letter and numerous telephone conversations with tribal staffs, a coordination meeting was held in Spokane, Washington on September 29, 1993. It was attended by representatives of the Colville Confederated Tribes, Spokane Tribes, Coeur d'Alene Tribe, Nez Perce Indian Tribe, Kootenai Tribe of Idaho, Confederated Salish and Kootenai Tribes, Shoshone-Paiute Tribes of the Duck Valley Indian Reservation, and the Kalispel Tribe of Indians. Additional meetings were held with the Shoshone-Bannock Tribe, Burns-Paiute Tribe, Umatilla Tribe, Confederated Tribes of the Warm Springs Reservation, and Confederated Tribes and Bands of the Yakama Indian Nation on their reservations in late October, November, and December 1993.

As a direct consequence of the concerns expressed by the tribes regarding what they perceive as the inadequacy of consultation with them, they have repeatedly requested that the SOR process be halted and the study begun over or, at the least, that it be put on hold for a year to allow them time to catch up with the process. The SOR agencies have responded to the tribes' concerns by offering contracting opportunities to enable them to perform studies on issues of concern and reviews of SOR materials so that they could contribute their knowledge and views. To date, 12 tribes have entered into contracts with the SOR agencies, and most of them have provided input to the Final EIS through those

contracts. In addition, at the request of the tribes, the agencies extended the period of comment on the Draft EIS to gain maximum benefit of their technical and/or policy views and concerns.

The SOR agencies have solicited comments from tribes within the region. The agencies attempted to address Native American resources and concerns in the Draft EIS; the Final EIS includes an expanded discussion that provides more emphasis on treaty rights and trust assets, using additional information developed since the Draft EIS was issued.

Subsequent to the close of comment on the Draft EIS, the CTUIR proposed an operating alternative for consideration in the Final EIS. Briefly, this alternative is a variation on or modification of the DFOP evaluated as SOS 9a. The SOR agencies determined that it would not be practicable or necessary to conduct a full-scale analysis of the CTUIR alternative to the same level as the 13 final SOSs. Nevertheless, the agencies agreed that this proposed operation should be investigated and addressed in the Final EIS. Working through the CTUIR contract for SOR participation, the Tribe, the Tribe's contractor, and the CRITFC developed operational specifications as input to hydroregulation modeling. ROSE performed a series of hydroregulation iterations for the CTUIR alternative, which at this point was termed SOS 9d. The SOR agencies then asked the work groups to consider SOS 9d and address its expected effects. The work group contributions are reported in Section 4.1 of the Final EIS.

In addition to these efforts for overall project-level coordination with the tribes, representatives of several of the tribes have participated in some SOR work groups from the beginning because they have special interests in those river uses or functions. The Resident Fish and Wildlife Work Groups have had the most tribal involvement, which dates from 1992. Biologists from the Colville Confederated Tribes, Confederated Salish and Kootenai Tribes, Spokane Tribes, and Shoshone-Bannock

Tribes attended many meetings of the Resident Fish Work Group. Representatives from the Colville Confederated Tribes, Nez Perce Indian Tribe, Spokane Tribes, and Confederated Tribes and Bands of the Yakama Indian Nation participated in Wildlife Work Group meetings.

In January 1993, the Cultural Resources Work Group invited the tribes to a meeting in February to initiate coordination with them on the preparation of the Cultural Resources Appendix to the Draft EIS. In September 1993, the work group solicited help from the tribes in collecting specific information needed to complete its appendix for the Draft EIS. The Burns-Paiute Tribe, the Confederated Tribes and Bands of the Yakama Indian Nation, the Confederated Tribes of the Warm Springs Reservation, the Nez Perce Indian Tribe, and the Colville Confederated Tribes provided statements and cultural resources information.

### 9.3 PUBLIC INVOLVEMENT

People in the Northwest have a great interest in the Columbia River system, and there has been a lot of public participation in the SOR in many different ways.

The SOR public involvement effort aimed at establishing a two-way dialogue between members of the public who are affected by system operations and the Federal agencies that plan and control those operations. Throughout the SOR, the public has been encouraged to make recommendations and comments to the agencies as they formulate and assess alternatives for decisions about the river system.

Members of the public served on SOR work groups and helped prepare technical appendices. Others followed work group activities by mail, without direct involvement. There were also hundreds of people who participated in the SOR on an ad hoc basis. They wrote letters, telephoned, attended meetings, and generally spoke their minds about the Columbia River system, its importance to them, and how they wanted to see it operated in the future.

The three SOR agencies appointed a team of specialists in the spring of 1990 to develop a formal public involvement program. The team came up with a plan designed for an audience with a diversity of interests, and laid the groundwork for a series of publications and activities that would reach all segments of that audience. The plan had two primary purposes:

- To inform and educate the general public throughout the multiyear SOR, and
- To provide the opportunity for members of the public to express their points of view and help shape the SOR outcome.



*More than 2,100 people have attended the four public meetings held to date.*

The public involvement team decided in the initial planning to create an SOR logo unique to the multiagency effort. The logo has been used on all SOR public information materials. The SOR also established a dedicated post office box and a toll-free phone line to give the public direct access to staff members working on the SOR. These arrangements also helped to keep the process from being dominated by any one agency or set of interests. Other methods used to inform and involve the public are: the *Streamline* newsletter; the mid-point review meetings held in September 1992; brochures,

slide-tape programs, public meetings on the Draft EIS, and other public information.

### 9.3.1 Scoping and Other Public Meetings

The Corps, Reclamation, and BPA jointly announced the SOR on July 18, 1990 and invited members of the public to scoping sessions. The following day, July 19, 1990, a Notice of Intent was published in the *Federal Register*. The notice of scoping and an initial public information piece on the SOR were sent on July 18, 1990 to a mailing list of 11,000, which was compiled from existing mailing lists of the three Federal agencies.

The SOR agencies sponsored a series of 14 scoping meetings around the region between August 6 and August 23, 1990. The meetings were scheduled in urban areas and in small communities near Columbia and Snake River reservoirs (see Figure 9-1 for locations of these and subsequent meetings). The locations were: Seattle, Spokane, Kennewick, and Grand Coulee, Washington; Sandpoint, Boise, Idaho Falls, and Orofino, Idaho; Libby, Eureka, Missoula, and Kalispell, Montana; and Pendleton and Portland, Oregon.

Each scoping meeting was led by a panel of representatives from the Federal agencies. Participants saw a slide show on the FCRPS. They also were given an overview of the SOR and an explanation of the decisions that were to be made as a result of the review. After these presentations, the public was given the opportunity to make comments on the scope of the SOR. Over 800 people attended the 14 meetings. The agencies also received about 220 comment letters and 600 coupons from newspaper ads, requesting information and a place on the SOR mailing list.

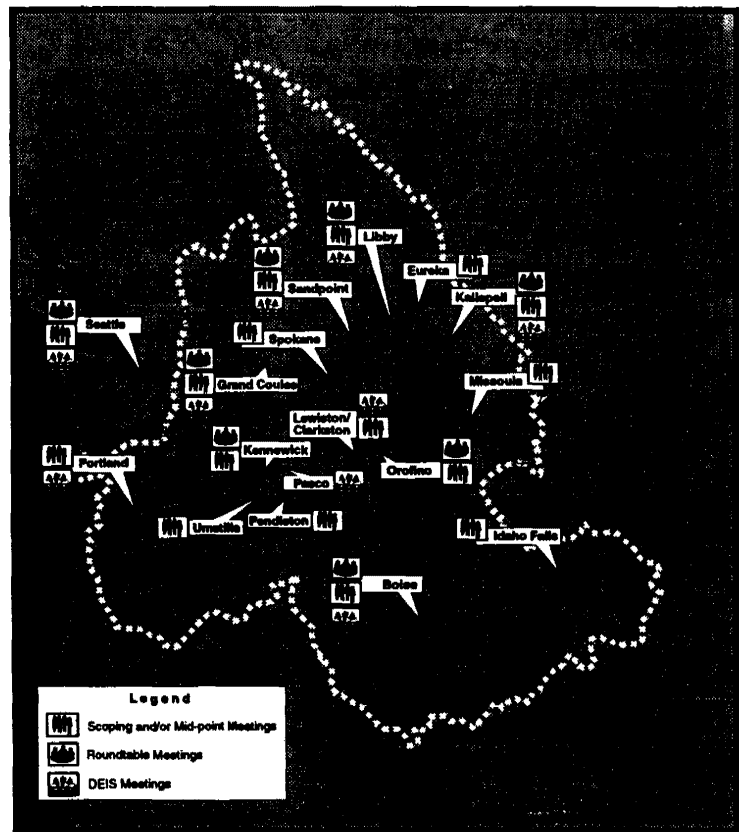


Figure 9-1. Locations of SOR public meetings

The public had three additional opportunities to meet face-to-face with the SOR management team. Roundtable meetings were held in seven locations from November 1991 to January 1992 to allow the public to preview and comment on the preliminary alternatives developed by the SOR work groups. The meetings were held in Sandpoint and Orofino, Idaho; Kalispell and Libby, Montana; and Kennewick, Grand Coulee, and Seattle, Washington. These meetings attracted about 300 people.

In September 1992, the SOR managers held 14 mid-point meetings. The roster of locations for the mid-point meetings was nearly the same as for the scoping meetings. The work groups had completed screening 90 preliminary system operation alternatives, and participants in the mid-point meetings were able to learn about and comment on the 10 candidate strategies being considered for full-scale analysis in the SOR. The purpose of the mid-point meetings was to ask people for their comments on the candidate

### What Did the Public Have to Say During Scoping?

The public involvement team categorized the hundreds of public comments into over a dozen broad subjects, including geographic scope and content of the EIS, fish, wildlife, Endangered Species Act, hydropower, system operations, flood control, irrigation, navigation, and water use. The team prepared a detailed summary of comments, published as a part of the Scoping Document.

A majority of those who commented on the geographic scope said the SOR should consider the entire Columbia River system. Some members of the public urged the Federal agencies to provide more and better information about the river system and the many agreements that govern hydro project operations.

There were many calls for an expanded voice for fish and wildlife in system operations. Members of the public said they favor wildlife habitat restoration, and many want the Columbia River's fish resources to be a high priority in system management.

A number of commenters emphasized the importance of hydropower and its role in the regional economy. Others pointed to a need to increase generating efficiency at Federal projects. Comments on irrigation and recreation pointed up their economic significance to the Northwest economy. And there were many general comments on preserving and developing the Columbia River flood plain and shoreline.

In total, the comments covered a wide variety of topics and interests and confirmed the SOR agencies' belief that the public was very concerned about the future of the Columbia River and the resources the river system supports. The level of interest during the scoping phase of the SOR signaled the need for an ambitious educational and public involvement effort.

strategies, and to determine whether the strategies adequately reflected the scoping concerns that were expressed nearly 2 years earlier. The agencies presented the candidate strategies in a slide show; this was accompanied by a publication that summarized the screening methodologies the work groups had used. Nearly 500 people attended these meetings, which were held from September 8 to September 30.

Following these meetings, the public was given until October 15, 1992 to submit written statements on the candidate strategies. The public involvement team subsequently produced an analysis of all mid-point comments, which was available upon request.

The third series of public meetings following the scoping process occurred in 1994 and provided the opportunity to comment on the Draft EIS. These meetings are discussed in Section 9.3.3.

#### 9.3.2 Involvement of the Public in Work Groups

The public involvement team recognized that the work groups could be an effective avenue for involving key publics in the ongoing technical work of the SOR. This had two advantages. First, it allowed interested members of the public to participate in the detailed work group deliberations and decisions. Second, it enabled the work groups to benefit from the knowledge and expertise of individuals and organizations

outside of the three agencies, resulting in a better technical product.

The work group leaders were given latitude to determine the appropriate degree of public involvement within their group. In some cases, members of the public participated as full-fledged members of a work group, attending meetings to discuss technical topics and participating in other related activities. There were also members of the public who did not attend meetings, but did receive minutes of meetings and were asked to comment on draft work group documents. The rest of the public was kept informed through articles in *Streamline* and other materials prepared by the three agencies to explain SOR topics and issues. A brief summary of the public involvement activities of each work group follows. The number of active members given for each group includes SOR agency staff.

#### **Anadromous Fish**

The Anadromous Fish Work Group met as needed and included a small active membership of five to six agency staff, in addition to work group consultants. Other members included representatives of various Indian tribes, the NMFS, USFS, and the NPPC. The group has a mailing list of 60 people.

#### **Cultural Resources**

Only members of the three SOR agencies attended Cultural Resources Work Group meetings early in the SOR project. During this early phase, attendance averaged around five to seven members. By May 1993, however, the work group began inviting representatives of Indian tribes as well as the BIA, NPS, USFS, and BLM. Attendance at meetings varied markedly, depending on the agenda, from 8 or 9 to as many as 25. The group has a mailing list of 56 people. The relationship of this and other SOR work groups with Indian tribes is discussed more fully in Section 9.2.

#### **Economic Analysis**

This work group met an average of once a month with an attendance of between seven and nine people. It maintains a mailing list of between 35 and 40 people. Included among its active members are representatives from the U.S. Bureau of Mines, the Port of Portland, the NPPC, PNUCC, and Northwest Economic Associates.

#### **Flood Control**

Active membership consists of staff from various utilities, the NPPC, and the PNUCC and totals around 13 people, including those from the three SOR agencies. This group has had relatively little public involvement outside of its active membership because flood control does not tend to be a dominant concern to most people.

#### **Forum Alternatives**

This work group drew on public involvement and decision analysis specialists from outside the SOR agencies and received input from a variety of regional organizations interested in system planning and operations decisions. Two workshops, attended by approximately 15 people each, were key events in the development of Forum alternatives. The work group met about 8 times over the 6 months during which they developed and evaluated alternatives. The average attendance at the work group meetings was 6 to 8 people.

#### **Irrigation**

The average attendance at Irrigation Work Group meetings has been 10 to 14. Active members include the U.S. Department of Agriculture, Natural Resources Defense Council, USFWS, state agencies, and NMFS. The group has a mailing list of over 100 people.

#### **Navigation**

As with the Flood Control Work Group, the Navigation Work Group has a small, well-

defined public, which includes the NPPC, waterways associations, grain grower associations, state departments of transportation, and tugboat operators. The group includes approximately 21 active members but typically draws 7 or 8 to its meetings.

### **Pacific Northwest Coordination Agreement Alternatives Analysis**

Initially, the active membership totaled approximately 40 people representing diverse interests ranging from power coordination to conservation. As the focus of the group gradually narrowed to power coordination issues, the membership dropped to around 20, consisting mostly of people interested in power coordination issues. The group maintains a mailing list of just under 100 people.

#### **Power**

The active membership for this group is about 35; an average of 15 to 20 attend the meetings. Among the active members are the NPPC; Direct Service Industries, Inc.; various utilities; PNUCC; and NMFS. The group has a mailing list of about 60 people.

#### **Recreation**

Active members include staff from the NPS; Idaho, Oregon, and Washington parks and recreation agencies; the Oregon State Marine Board; and Chelan County PUD. The work group has met with various interest groups such as the Lake Roosevelt Forum and the Libby Chamber of Commerce. It maintains a mailing list of 110 agencies, organizations, and people.

#### **Resident Fish**

Meetings have been held on an as-needed basis, with a typical attendance of less than 20 people. The public member roster for this work group includes the USFS; USFWS; state fish and wildlife agencies; the Nez Perce, Spokane, and Colville Indian Tribes; and the Upper Columbia United Tribes. The group maintains a mailing list of approximately 200 people.

### **River Operation Simulation Experts**

Active members of ROSE include the PNUCC and the NPPC. This group is made up of people who have an interest in hydro regulation; the group has a mailing list of 58 people.

### **Water Quality**

This work group's meetings have been held on an as-needed basis with attendance varying between 8 and 14. Among the most active participants in the group are the U.S. Geological Survey, the EPA, the NMFS, the U.S. Soil Conservation Service, the Lake Roosevelt Water Quality Council, and Citizens for a Clean Columbia.

### **Wildlife**

An average of 10 to 15 people have attended this group's meetings, which are monthly or as needed. Representatives from Indian tribes, state agencies, the USFS, and the Audubon Society attended and participated in several meetings. The group has a mailing list of over 60 people.

#### **9.3.3 Draft EIS Meetings**

After the Draft EIS was released, a series of nine public hearings was held between September 19 to October 4, 1994. The majority of meetings was held in the evenings, beginning at 7:00 p.m. However, two meetings (Portland and Seattle) were held in the afternoon. The dates and cities hosting the meetings follow:

- September 19—Sandpoint, Idaho
- September 20—Kalispell, Montana
- September 21—Libby, Montana
- September 22—Grand Coulee, Washington
- September 26—Boise, Idaho
- September 27—Lewiston, Idaho
- September 28—Pasco, Washington
- October 3—Portland, Oregon
- October 4—Seattle, Washington

Each meeting consisted of three parts. The first part was a slide presentation and narrative discussion addressing the purposes, alternatives, issues involved, and anticipated effects of the SOR and the EIS. The second part was a question-and-answer session that allowed the public to ask questions of a technical panel. The panel included key staff from BPA, the Corps, and Reclamation. The meeting concluded with an official hearing to receive the formal public testimony on the Draft EIS. A court reporter transcribed word-for-word to ensure that all comments and panel discussions were documented. Transcripts of the hearing are available for purchase, at the cost of reproduction, from the SOR lead agencies. These hearings are in compliance with the NEPA requirements to provide a 45-day public comment period for EISs.

Approximately 500 people who were not affiliated with the SOR agencies attended the nine public hearings. Attendance ranged from about 18 at Grand Coulee, Washington to over 150 at Lewiston, Idaho. Of the 500 attendees, 101 people offered verbal comment on the Draft EIS. Many meeting attendees were critical of the SOR, including the "Grim Reaper," an environmentalist who attended the Boise, Idaho meeting wearing a skull mask and black hood and carrying a scythe with an SOR sign attached to it.

The SOR agencies received written or verbal comments from over 360 people during the public review process. These comments included testimony from 101 speakers at the public hearings, 253 letters, and seven comments written on comment cards issued at the public meetings. The total number of individuals commenting on the Draft EIS was actually fewer than 360, as many of the public hearing speakers also submitted letters and/or comment cards. The comment letters ranged from one-page handwritten notes, to form letters, to large packages with lengthy reviews supported by multiple attachments. All comments received full consideration, regardless of their style or volume (see Appendix T for a complete discussion of Draft EIS comments).

### 9.3.4 Publications

The public involvement team learned a great deal about the SOR audience during the 1990 scoping meetings. This helped to guide planning for future communications and other public involvement activities. First, the team found there were hundreds of river users around the region with a high level of interest in a specific activity, such as fishing or boating, but little specific knowledge about how uses interrelate or might conflict. Second, the audience included people who have technical knowledge about a specific river use, such as irrigation or fish production, but may not know how the coordinated hydro system operates.

In response to these apparent needs, the SOR team produced a series of publications. The team published 20 editions of a newsletter called *Streamline* between November 1990 and October 1995. The newsletter will continue to be produced until the Final EIS and Record of Decision are released. *Streamline* carries news and feature articles about river uses, the Federal projects, milestones in the SOR process, and related topics, such as the ESA and the Columbia River Treaty. One goal of the newsletter is to increase awareness of the tradeoffs among river uses that must be considered when operating changes are contemplated.

In addition, several larger informational and educational background documents were produced for the public as part of the SOR:

- *The Columbia River: A System Under Stress*—an introduction to the SOR.
- *The Columbia River System: The Inside Story*—a publication that describes the Coordinated Columbia River system and its operation.
- *Screening Analysis: A Summary*—a report on the SOR alternatives screening process.

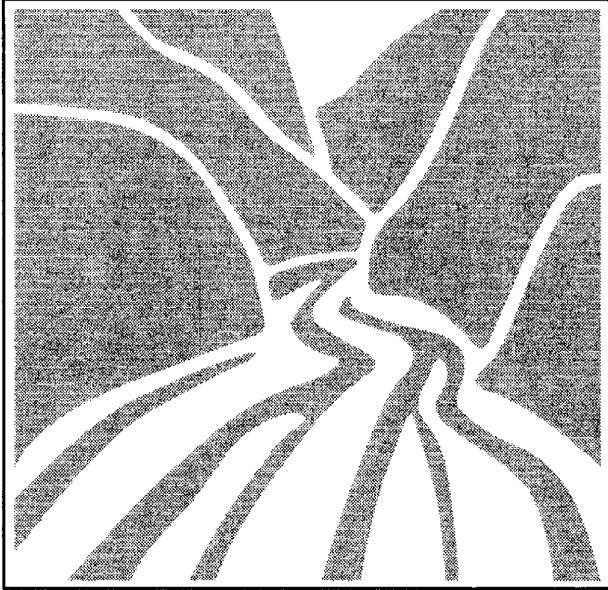


- *Screening Analysis*—a two-volume report on screening the 90 alternatives developed by the SOR work groups.
- *Modeling the System: How Computers Are Used in Columbia River Planning*—a description of the computer models used to plan and regulate hydro operations in the Columbia River Basin. These models have been used in screening and analyzing SOR alternatives.
- *Power System Coordination: A Guide to the Pacific Northwest Coordination Agreement*—an explanation of the role of the PNCA in system operations.
- *Daily/Hourly Hydrosystem Operation: How the Columbia River System Responds to Short-Term Needs*—a review of the process and considerations that determine the day-to-day operation of the river system.

There has been considerable interest in the publications. For example, the initial 7,500 copies of *The Inside Story* were distributed, and the publication is in its second printing. All of the people on the 5,000-plus SOR mailing list receive copies of the *Streamline* newsletter, which has been used to announce the publication and availability of the other documents, including technical reports and information from work groups. All of these materials are provided upon request.

### **9.3.5 Future Public Involvement Efforts**

After the agencies complete the Final EIS, they must wait at least 30 days after publication of the Final EIS before making final decisions. These decisions will be announced in the Records of Decision issued by the respective agencies. The 30-day no-action period will provide a final opportunity for public review and comment before actions are implemented.



## Chapter 10

# Related Regional Processes and Studies

## 10.0 RELATED REGIONAL PROCESSES AND STUDIES

The regional response to the need to aid salmon recovery includes many efforts that encompass a broad scope beyond the operating regime of Columbia-Snake River dams. Because the scope of the SOR is limited to analyzing the effects of long-term river management operations, studies beyond this scope are not considered in the SOR analysis. The purpose, however, of all these studies, short-term and long-term, operational and structural, is essentially the same—to help improve salmon survival while meeting the needs of other river users. In addition, there are several current studies that involve the region's electric power resources but do not directly address salmon issues. Actions taken as a result of any of these other studies may require additional NEPA documentation and consultation with NMFS. The objective of this section is to clarify the related studies and other activities that are outside the scope of the SOR.

### 10.1 RELATED REGION-WIDE FISHERIES AND RIVER SYSTEM STUDIES

At the SOR public meetings, people expressed confusion over the scope and purpose of the many river and fish-related studies under way, and the roles of different government agencies in them. The following is a brief description of the related programs and studies that focus specifically on the coordinated Columbia River system, or that involve the system in a significant way. Table 10-1 is a matrix that attempts to put their respective scopes in perspective.

#### 10.1.1 National Marine Fisheries Service ESA Listing and Recovery Plan

While programs to improve the status of Columbia/Snake River salmon have been ongoing for decades, the filing of formal petitions with NMFS in 1990 for ESA listing of three Snake River stocks as threatened or endangered focused regional attention on the need for more aggressive action to address the

precarious status of specific wild salmon stocks. Outgrowths of the petition filing included the Salmon Summit, the beginning of the NPPC's amendments to rebuild salmon stocks, and several Corps-led studies to improve dam operations. The formal listings in November 1991 and April 1992 triggered the initiation of a NMFS recovery plan and Federal agency consultation on the effects of actions, including operation of the coordinated Columbia River System, on listed salmon.

Under the ESA, the SOR agencies have a responsibility to ensure their actions are not likely to jeopardize the continued existence of the listed species. The agencies have prepared Biological Assessments on their prior short-term action proposals and entered consultation with NMFS under the ESA, Section 7. NMFS issued Biological Opinions as to whether the river operating plans proposed for 1992, 1993, and 1994 to 1998 jeopardized the continued existence of the subject species. The latter Biological Opinion was superseded in March 1995 by a replacement document that addressed system operation in 1995 and future years. This Biological Opinion provided the basis for most of the preferred alternative for the SOS.

Ultimately, a recovery plan will guide all aspects of activities that might affect salmon restoration and recovery. NMFS convened a recovery team, which issued draft recommendations in October 1993. The recovery team's draft report was subjected to peer review, and was followed by a final recommendations report in October 1994. NMFS considered the team's recommendations in developing a draft recovery plan, which was released for public review in March 1995.

The SOR has accommodated the ESA process to date by incorporating guidance from NMFS' Biological Opinions among the system operating strategy alternatives. The preferred SOS alternative in the Final EIS reflects the pertinent draft recovery plan provisions, which

Table 10-1. Scope of related regional study processes

Study Process	Hydro System			Habitat	Harvest	Production	Power System	Status <sup>a/</sup>
	Fish Transportation	Project O&M	Structural Changes					
<b><u>Fisheries and River System Studies</u></b>								
Columbia River System Operation Review (SOR)	X	X	X					1995
NMFS Recovery Plan	X	X	X	X	X	X		1995
USFWS ESA Listings		X		X		X		1994/1995
<b><u>NPPC Fish &amp; Wildlife Program</u></b>								
Phase I				X		X		1992
Phase II	X	X	X	X	X	X		1992
Phase III	X	X	X	X	X	X		1993
Phase IV				X		X		1994
Corps/BPA/Reclamation 1991 Operations Plan	X	X						Completed 1991
1992 Columbia River Salmon Flow Measures OA/EIS		X						Completed 1992
Interim Columbia and Snake River Flow Improvement Measures for Salmon Supplemental EIS (SEIS)		X						Completed 1993
BPA Annual Implementation Work Plan and ESA-Related Programs		X		X		X		Ongoing
System Configuration Study (SCS)	X	X	X					1997 (Phase II)
Lower Snake River Biological Drawdown Test	X	X	X					Uncertain
NMFS Salmon Survival Study	X	X				X		1992-1996
Federal Land Management Policy Review				X				1994
Hatchery Comprehensive Environmental Analysis						X		1996
<b><u>Reclamation Snake River Augmentation Programs</u></b>								
Uncontracted Storage Space		X						
New Storage Appraisal			X					1994
Water Rental Group/Snake R. Anadromous Fish Water Management Committee		X						Ongoing
Snake River Basin Water Committee		X						1996
Water Acquisition		X						Ongoing
Snake River Resource Review		X						1999
<b><u>Other Actions</u></b>								
BPA Resource Programs EIS							X	1993
CEAA Return EIS (BPA)							X	1995
BPA Business Plan EIS							X	1995
Continued Development of the Columbia Basin Project, Washington		X						Uncertain
Hanford Reach Comprehensive River Conservation Study and EIS				X				1994

a/ Status represents best estimate of expected completion date.

were also included in NMFS's March 1995 Biological Opinion.

NMFS also conducted a status review under the ESA of wild mid-Columbia River summer chinook salmon. This review was in response to a petition for listing filed by 11 conservation groups in 1993. NMFS made a determination in September 1994 that these stocks did not warrant listing under the ESA. The SOR anadromous fish analysis has addressed these fish.

### **10.1.2 U.S. Fish and Wildlife Service ESA Listings**

The USFWS recently completed ESA listing processes involving Kootenai River white sturgeon and bull trout. On June 11, 1992, conservation groups headed by the Idaho Conservation League petitioned to list the Kootenai River white sturgeon under the ESA. The USFWS proposed listing the sturgeon as endangered in a July 7, 1993 notice in the Federal Register, stating that the population is in danger of extinction throughout its range. Interested parties suggested various proposals for spring flow enhancement to encourage sturgeon spawning. The USFWS formally listed the white sturgeon as endangered in September 1994, and issued a Biological Opinion concerning system operations in March 1995. The preferred SOS alternative incorporates the flow provisions for the white sturgeon that are specified in the USFWS Biological Opinion.

On October 30, 1992, the USFWS was petitioned to consider bull trout for listing as a threatened or endangered species under the ESA. On May 17, 1993 the USFWS published in the Federal Register a notice that it had determined that the petitions had merit and began the 1-year status review for listing. The species occurs in many Columbia River Basin reservoirs, including Libby (and the Kootenai River), Hungry Horse (and the Flathead River and its South Fork), Lake Pend Oreille (and the Pend Oreille River), Lake Roosevelt, and Dworshak. In June 1994, the USFWS determined that the bull trout warranted protection under ESA, but

the species was precluded from listing because of other priority species.

### **10.1.3 NPPC Fish and Wildlife Program**

The NPPC, made up of appointed representatives of the States of Idaho, Montana, Oregon, and Washington, was entrusted under the Northwest Power Act of 1980 to: (1) develop a conservation and electric power plan to ensure an adequate, efficient, economical, and reliable power supply for the Pacific Northwest; (2) prepare a program to protect, mitigate, and enhance fish and wildlife, including related spawning grounds and habitat, affected by the development and operation of any hydroelectric project on the Columbia River and its tributaries; and (3) involve the public in these activities.

In 1982, the NPPC issued a comprehensive Fish and Wildlife Program that addressed salmon and steelhead production, safe passage, and harvest management. In 1991, responding to the potential NMFS listings, the NPPC began a series of amendments to its Fish and Wildlife Program centering on a salmon rebuilding program. The amendment process was initially undertaken in four phases that focus on different aspects of salmon survival, including production, habitat improvement, harvest, and fish passage improvements at Federal dams, as well as resident fish and wildlife measures (which were subsequently amended in 1995). The role of the NPPC in the salmon issue is in part a natural outgrowth of its Fish and Wildlife Program responsibilities, and in part a response to a direct request from elected representatives within the region.

In 1990, the NPPC contracted with the region's Tribes and fish agencies to prepare an integrated system plan addressing coordinated management goals for all of the salmon and steelhead rearing subbasins within the Columbia River system. Moreover, following the Salmon Summit in 1990 to 1991, the governors of the Northwest states requested the NPPC to take the lead in developing regionally acceptable recovery actions.

The SOR agencies have coordinated closely with the NPPC in developing recent Fish and Wildlife Program amendments and will continue to do so as the amendments are implemented. The SOR agencies have also incorporated actions proposed by the NPPC into existing river operations and one or more alternatives for future operations. While NMFS has the final responsibility for issuing the salmon recovery plans, NMFS has indicated that it favors regionally developed recovery plans and expected to use the Fish and Wildlife Program amendments to help form the foundation for its recovery plans (Harrison, 1992).

#### **10.1.4 Short-Term System Operations**

The 1992 OA/EIS, prepared by the Corps, BPA, and Reclamation in part in response to the Salmon Summit recommendations, was designed to provide NEPA documentation for short-term (1992) river management actions. It examined ways to improve flow conditions during the 1992 juvenile salmon migration period by altering the operation of Federal dams on the lower Columbia and Snake rivers, and to provide test measurements that would be helpful in designing long-term structural actions. The preferred alternative identified in the Final 1992 OA/EIS was designed to incorporate the relevant components of the NPPC's Phase II Fish and Wildlife Program amendments of December 1991.

#### **1992 Operations Plan**

As indicated above, the ESA requires that Federal agencies consult with NMFS in taking actions to conserve the listed salmon species. In compliance with this requirement, the Corps and the cooperating agencies consulted with NMFS on actions that would potentially affect the listed species; the process resulted in a preferred 1992 Operations Plan. NMFS (1992) issued a Biological Opinion concluding that proposed operations "were not likely to jeopardize the continued existence of listed or proposed salmon species." The river management agencies then began implementing the 1992 Operations Plan

described in the Records of Decision, which are consistent with this Biological Opinion.

#### **Interim Columbia and Snake River Flow Improvement Measures for Salmon Supplemental EIS**

The Corps, BPA, and Reclamation prepared this NEPA document as a supplement to the 1992 OA/EIS. The SEIS addressed actions similar to the 1992 operations plan that would be taken in 1993 and subsequent years. The agencies intended for the SEIS to address river operations for the interim period until a long-term plan is adopted through the SOR.

#### **1993 and 1994 Operations Plans**

As with the 1992 OA/EIS, consultation with NMFS on the SEIS resulted in a preferred 1993 Operations Plan. NMFS' Biological Opinion for 1993 identified operations requirements needed to make a no-jeopardy finding. The Corps, BPA, and Reclamation agreed to these requirements and issued Records of Decision for interim operations that were consistent with the Biological Opinion. This Biological Opinion was challenged in court, however, and was subsequently set aside by Federal district court Judge Malcolm Marsh (see Section 1.1 for additional discussion). In March 1994, NMFS released a Biological Opinion on a longer-term plan for river system operations from 1994 through 1998, which identified recommended actions for the 1994 operating year. Following Judge Marsh's ruling on the 1993 Biological Opinion, NMFS and the Federal action agencies (the SOR agencies) reinitiated consultation on the operations plan for 1994 through 1998. This subsequent consultation process resulted in the March 1995 Biological Opinion that is reflected in the SOS Preferred Alternative.

#### **BPA's Annual Implementation Work Plan and ESA-Related Programs**

BPA, in cooperation with fishery agencies and Tribes, produces an Annual Implementation Work Plan (AIWP) to guide the performance of actions called for in the NPPC Fish and Wildlife

Program. The AIWP identifies and prioritizes projects and procurement. Increasingly, the AIWP includes projects related to the listed Snake River stocks.

BPA also funds programs and research aimed at restoring runs of listed Snake River salmon. This work includes Snake River sockeye rearing habitat restoration, captive rearing program, and broodstock rearing research; studies of Snake River fall chinook spawning ground distribution, inter-dam losses of adults, genetic structure, population status, factors influencing juvenile migratory behavior, and characteristics of rearing habitat in mainstem reservoirs; and Snake River spring/summer chinook migrational dynamics.

#### 10.1.5 System Configuration Study

The SCS is a long-term study of structural alternatives to improve salmon migration conditions in the Columbia River Basin. The 1992 OA/EIS referred frequently to the Columbia River Salmon Mitigation Analysis (CRSMA) as the Corps' long-term study to address salmon recovery and potential structural responses. The CRSMA program has been a funding mechanism for a number of Corps actions addressed in the SEIS, including the 1992 OA/EIS, the March 1992 drawdown test, and the SCS. With completion of the initial items, the SCS has become the primary focus of the CRSMA and efforts to develop long-term plans.

A status report on the SCS was submitted to the NPPC in December 1992. A draft Phase I report was released in April 1994. Alternatives examined in Phase I included possible additions of upstream storage sites for flow augmentation and temperature control; annual drawdowns of John Day and the four lower Snake reservoirs; the addition of a new collection facility that would intercept juveniles in the upper reaches of Lower Granite Reservoir; and construction of a migratory canal or conduit that would allow fish to bypass the mainstream dams completely. Following public review and comment, the Corps identified several structural alternatives

for more detailed evaluation in a Phase II study. In May 1995, the Corps issued a notice of intent to prepare an EIS on the Phase II study; the EIS will address structural modification alternatives related to reservoir drawdown, surface-oriented bypass systems, and dam passage improvements. The scoping period for this EIS closed in August 1995, and a draft EIS is scheduled for release in 1997.

The SCS will provide information on the feasibility and effectiveness of some of the long-term measures recommended by the NPPC in its Fish and Wildlife Program amendments. The Corps is also incorporating recommendations for study of structural modifications that NMFS included in its March 1995 Biological Opinion.

The SOR lead agencies are closely coordinating the SOR and SCS efforts. The agencies are sharing information between the two programs and are ensuring that both follow consistent approaches. The SOR impact analysis is also evaluating the operational aspects of structural modifications that might occur through the SCS.

#### 10.1.6 Lower Snake River Biological Drawdown Test

In April 1994, the Corps issued a Draft EIS on a biological test of the reservoir drawdown concept for the lower Snake River. This study is an adjunct of the SCS. The March 1992 physical drawdown test of Lower Granite and Little Goose Reservoirs indicated that modifications could be made to mitigate adverse physical and structural effects of a drawdown (Corps 1992b). The next step for drawdown testing is to determine biological effects on salmon populations. A Final EIS on the test was initially scheduled for late 1994, but has been delayed indefinitely as a result of data collected during 1993 and 1994 juvenile fish survival studies in Lower Granite Reservoir. NMFS is a co-lead agency with the Corps on this study, while BPA is a cooperating agency.

### 10.1.7 Other Key Fishery Studies

Several agencies within the region are conducting studies related to salmon recovery that do not have direct involvement by the SOR lead agencies. One of these studies relates to salmon survival within the river system, while the other two involve habitat and hatcheries.

#### NMFS Salmon Survival Study

NMFS initiated a 4-year study of juvenile salmon survival through the Columbia and Snake River dam and reservoir system in 1992. Juvenile salmon are being marked so that their travel time and survival through the system can be measured. The study is intended to address the effects of flows, water temperature, and spill levels, as well as fish transportation and hatchery programs. It will provide a much-needed update of baseline juvenile salmon survival conditions, which are currently described on the basis of research conducted in the late 1970s. State fishery agencies are cooperating in the study, which is funded by BPA. Initial results from the 1993 and 1994 migration seasons have been widely publicized, debated, and scrutinized in the SOR, SCS, and ESA processes over the past year.

#### Federal Land Management Policy on Habitat

The USFS and BLM manage extensive areas of Federal lands that provide important salmon spawning and rearing habitat. The two agencies have developed a broad-based, interim policy intended to maintain salmon habitat conditions, through a program popularly known as PACFISH. The policy addresses land management actions on USFS and BLM lands in Idaho, Oregon, and Washington, as well as in California and Alaska that are outside the range of the northern spotted owl. The interim PACFISH policy was implemented in 1994, following release of an environmental assessment. It will be superseded by long-term policies being developed through several geographic-specific EISs.

### Hatchery Comprehensive Environmental Analysis

The USFWS is funding a 3-year study to review hatchery practices within the Columbia River Basin. The study is being conducted by the CBFWA, which is made up of Federal, state, and Tribal fish and wildlife agencies. The study will use existing data on genetic diversity to analyze how hatchery and wild stocks have interacted, and is expected to result in recommendations on future hatchery practices.

## 10.2 BUREAU OF RECLAMATION SNAKE RIVER AUGMENTATION PROGRAMS

The NPPC's recent amendments to the Columbia River Basin Fish and Wildlife Program identify Reclamation as having a lead or cooperative role in a number of additional action items intended to assist in the recovery of the Snake River salmon runs. Reclamation is working to implement these items as part of the regional salmon recovery program. Reclamation has agreed to seek and facilitate the securing of flow augmentation water from the Snake River Basin above Lower Granite Dam to improve conditions for salmon migration. Because some of these activities are ongoing or not necessarily scheduled for completion in the time frame covered by the SOR, their inclusion here is intended as a partial status report on Reclamation's water acquisition efforts.

### 10.2.1 Water Acquisition

The regional salmon program for 1991 requested the release of 90 KAF (111 million m<sup>3</sup>) of uncontracted space in Cascade and Deadwood Reservoirs and the purchase of 100 KAF (123 million m<sup>3</sup>) of water from Idaho rental pools.

The NPPC's comprehensive salmon strategy adopted in December 1991, called for the delivery of 427 KAF (527 million m<sup>3</sup>) from Bureau of Reclamation uncontracted storage space and water rentals. This same volume of water has been requested by NMFS in its Biological Opinions for 1992, 1993, 1994, and



1995. Table 10-2 shows the volumes of water that have been provided from Reclamation projects since 1991.

Reclamation has dedicated reservoir space not contracted or formally committed to instream or in-reservoir uses for flow augmentation. It has also actively sought to reacquire storage space in project reservoirs, and has permanently reacquired two blocks of storage space, totaling 22.4 KAF (28 million m<sup>3</sup>).

Reclamation has expressed a firm intention to comply with state law in providing water for flow augmentation. The NPPC's Fish and Wildlife Program and NMFS' 1995 Biological Opinion stipulate that flow augmentation water will be acquired from willing sellers and in accordance with state water law. Reclamation first applied for a change of use in 1992, after which the Idaho Legislature enacted I.C. 42-1763A that provided temporary authority to provide water for flow augmentation through the 1994 season, later extended to the end of the 1995 season. All subsequent releases of stored water have complied with that provision of state law.

Reclamation filed change of use applications with the Idaho Department of Water Resources (IDWR) on May 15, 1995, to add flow augmentation as a beneficial use of storage releases. Some 80 protests and interventions were filed. The parties reached a negotiated settlement that was formalized in a stipulation signed by Reclamation and 100 percent of the protestants and intervenors. The anticipated outcome to the settlement is draft flow augmentation legislation acceptable to the parties to be submitted to the Idaho Legislature for action in the 1996 session.

### **10.2.2 Water Rental Group/Snake River Anadromous Fish Water Management Committee**

An Idaho Water Rental Policy Group was formed in 1991 to conduct a 3-year study of the feasibility of renting water from Idaho rental pools for lower Snake River flow augmentation.

The group consists of representatives from Reclamation, IDWR, IDFG, BPA, Nez Perce and Shoshone-Bannock Tribes, irrigators, and Idaho Power Company. It has been a focal point for key groups to address and coordinate flow augmentation water rentals and releases of water from uncontracted space. The group has been renamed the Snake River Anadromous Fish Water Management Committee. IDFG has assumed the lead role in organizing and coordinating committee activities.

### **10.2.3 Snake River Basin Water Committee**

Reclamation participated with the States of Idaho and Oregon, BPA, the Council, and others to form the Snake River Basin Water Committee, which began work in August 1992. The committee has reviewed ongoing water activities in the Snake River Basin and prepared a work plan that was approved by the NPPC and state water managers in November 1992. One of the committee's assignments from the NPPC has been to consider how an additional 1 MAF (1.2 billion m<sup>3</sup>) might be provided from the Snake River Basin. The Committee has worked with an independent consultant (Bookman-Edmonston Engineering, Inc.) and others on this task, and has provided a report to the NPPC.

### **10.2.4 New Storage Appraisal Study**

This work was initiated in late 1991 with the formation of an advisory group of representatives from water user organizations, fish and wildlife experts, and state and Federal agencies. The objective of this study is to identify promising new reservoir projects that could provide storage supplies for flow augmentation. The group inventoried and mapped over 400 potential storage sites above Lower Granite Reservoir. The advisory group evaluated the master site list in July 1992, and 12 basins were selected to receive further evaluation as to potential water supplies. In January 1993, the advisory group further narrowed the list to 11 specific sites for the development of appraisal-level information on costs, system operation, and geologic and other

Table 10-2. Volumes of flow augmentation water from Reclamation projects in Idaho, 1991-1995.

Year	Volume Provided (KAF) <sup>a/</sup>		Total Volume Provided
	Reclamation Space	Rental Pools	
1991	40	160	200 <sup>b/</sup>
1992	90	0	90
1993	324	100	424
1994	383	45	428
1995	141	286	427

a/ 1 KAF = 1.234 million m<sup>3</sup>

b/ Additional water provided by Idaho Power Company for a total of 427 KAF.

factors. A final report on the study was completed and released to the NPPC and regional interests in January 1994.

NPPC began a rulemaking in August 1994 to consider information included in the damsite report, the Corps' SCS Phase I report, and a report on nonstructural alternatives for securing an additional 1 MAF (1.2 billion m<sup>3</sup>) of water from the Snake River Basin. The purpose of the rulemaking was to select alternatives for feasibility-level analysis. NPPC issued final rules in December 1994 that identified three sites, Galloway, Rosevear Gulch, and Jacobsen Gulch. Detailed studies and reports on the reservoir sites were requested by 2002. The Corps has responsibility for the Galloway Project and Reclamation is responsible for Rosevear Gulch and Jacobsen Gulch. In response to public concerns, Reclamation advised the NPPC that it would substitute the Moores Hollow site for Jacobsen Gulch. The sites are adjacent to each other and Moores Hollow is deemed to be the better site from environmental and public acceptability perspectives. Reclamation will provide NPPC an interim report on Moores Hollow in 1997, at which time a decision can be made as to completing the detailed studies by 2002.

Rosevear Gulch studies are not being undertaken at this time because of funding constraints.

### 10.2.5 Snake River Resource Review

Reclamation is beginning a 4-year study of the Federal reservoir system on the Snake River above Brownlee. The scope of the study extends upstream to Jackson Lake in the headwaters area and includes Reclamation-operated projects on the Snake River mainstem and on the Henrys Fork of the Snake River and the Blackfoot, Owyhee, Malheur, Powder, Little Wood, Boise, Payette, and Weiser Rivers. When completed in 1999, this study will provide in-depth, additional information on operation of those projects and on impacts that might result from additional flow augmentation. Data or results from this study were not available for the Final EIS; however, data from other studies or ongoing work have been incorporated where available.

### 10.3 OTHER ACTIONS

BPA is currently involved in, or has recently completed, three decision processes relating to the regional electric power system. One is a programmatic action addressing the broad scope of BPA's resource acquisition and marketing

activities; another specifically addresses the physical aspects of the return of the Canadian Entitlement power; and the third relates to BPA's efforts to compete effectively in the current utility environment. In addition, for the past several years, Reclamation has been conducting planning and environmental analysis for expansion of the Columbia Basin Project, and the National Park Service has been studying the wild and scenic river potential of the Hanford Reach of the Columbia River. All five of these processes have some relation to the SOR.

### 10.3.1 Resource Programs EIS

In early 1993, BPA released its Final EIS on future acquisition of electric power resources. This document identifies several alternative resource acquisition programs and assesses their environmental impacts. To the extent that any SOR actions trigger the need for any replacement electric power sources, such new sources would be developed under the direction provided by BPA's resource programs. The Resource Programs EIS also provides detailed documentation of the environmental impacts of any replacement power sources, and is therefore incorporated by reference in the SOR.

### 10.3.2 Canadian Entitlement Return EIS

The SOR action involving the CEAA relates only to the allocation of the Canadian Entitlement return obligation among the Federal and non-Federal parties, as described in Chapter 7 of this EIS. The SOR scope with respect to the CEAA is therefore limited to the proportional distribution of power obligations, denominated in megawatt or dollar terms, and does not include the physical or tangible actions of returning the power. BPA is also preparing a separate EIS on the physical aspects of the return of Canadian Entitlement power. This EIS primarily addresses transmission system construction and operational actions needed for the return; it was released in August 1994. The Final EIS on this action is scheduled to be published and distributed in November 1995.

### 10.3.3 Business Plan EIS

In early 1993, BPA began its Competitiveness Project to adapt the agency to rapidly changing utility business conditions. Initial components of this project included a review of BPA's internal administrative and program efficiencies and the development of a marketing plan. The agency then began to develop "strategic action plans" for each major BPA program. These components of the Competitiveness Project formed an overall Business Plan which represents BPA decisions on fundamental agency directions, and as such, requires NEPA compliance. This EIS is an expansion of a previously planned EIS on Commercial Services and Rates. The NEPA process is intended to occur simultaneously with Business Plan development. A Draft EIS was released in summer 1994. The Final EIS was issued in June 1995, and a Record of Decision followed in August 1995.

### 10.3.4 Continued Development of the Columbia Basin Project, Washington

In 1989, Reclamation released a Draft EIS on the proposed continued development of the Columbia Basin Project, a large irrigation project in central Washington served by pumping water from behind Grand Coulee Dam. The Draft EIS addressed two alternatives that would provide irrigation service to an additional 538,600 acres (218,000 ha) or 87,000 acres (35,200 ha). Reclamation issued a Supplement to the Draft EIS in September 1993. The Supplement focused on two options for the smaller-scale expansion, coupled with flow augmentation and other anadromous fish considerations. Reclamation is currently considering public comment on the Supplement.

### **10.3.5 Hanford Reach Comprehensive River Conservation Study and EIS**

The NPS has completed a comprehensive river conservation study on the Hanford Reach of the mid-Columbia River. The Final EIS was issued in June 1994. It recommends that Congress designate the Hanford Reach a national wildlife refuge and a national wild and scenic river. The proposal would protect 49.5 miles (79.6 km) of river and approximately 105,000 adjacent acres, 42,492 ha) both of which would be managed by the USFWS. Congressional action is required to implement this proposal, and none has yet occurred.