



United States  
Department of  
Agriculture



Forest Service



United States  
Department of  
the Interior



Bureau of Land  
Management

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*Interior Columbia Basin Ecosystem Management Project*

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# Report to the Congress on the Interior Columbia Basin Ecosystem Management Project

*April 2000*

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Dear Reader,

The enclosed *Report to the Congress on the Interior Columbia Basin Ecosystem Management Project (Report to the Congress)* was prepared in response to the requirements set forth by the U.S. Congress in Section 323(a) of the 1998 Interior and Related Agencies Appropriations Act, as modified by Section 335 of the 2000 Interior and Related Agencies Appropriations Act.

This *Report to the Congress* is being released for public comment during the public comment period for the Interior Columbia Basin Ecosystem Management Project's Supplemental Draft Environmental Impact Statement (EIS). The 120-day public comment period on the *Report to the Congress* will overlap, but extend beyond the 90-day public comment period on the Supplemental Draft EIS. Much of the information contained in the *Report to the Congress* has already been incorporated into the Supplemental Draft EIS. In fact, for more detailed integrated analysis and the estimation of effects of management alternatives on the social and economic conditions in the project area, please refer to the Supplemental Draft EIS.

The report is organized by the four Congressional requirements which are described in the report. We encourage your review of and comment on the enclosed report in concert with your review of and comment on the Supplemental Draft EIS. We are accepting written comments on the Supplemental Draft EIS until July 6, and on the *Report to the Congress* until mid to late August (120 days after the Notice of Availability is published in the Federal Register). You can mail your comments to SDEIS; P.O. Box 420; Boise, ID 83701-0420, or electronically access the project's web site at <http://www.icbemp.gov/eis>. The response to your comments on both the Supplemental Draft EIS and the *Report to the Congress* will be included in the analysis of public comments on the Final EIS.

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# Report to the Congress on the Interior Columbia Basin Ecosystem Management Project

*Lead Agencies:*

*USDA Forest Service—Intermountain, Northern, and Pacific Northwest Regions  
USDI Bureau of Land Management—Idaho, Montana, Oregon/Washington*

A report on

- ▶ Project implementation decisions;
- ▶ Estimated time and cost to accomplish decisions;
- ▶ Estimated production of goods and services; and
- ▶ Potential for reprogramming to accomplish decisions called for in project direction.

**Prepared by the  
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**April 2000**

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# Executive Summary

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This report is in response to the requirements defined in Section 323(a) of the 1998 Interior and Related Agencies Appropriations Act, as modified by Section 335 of the 2000 Interior and Related Agencies Appropriations Act. The report is organized by, and outlines the response to, the four report requirements.

- A Supplemental Draft Environmental Impact Statement (EIS) has been released by the Interior Columbia Basin Ecosystem Management Project (ICBEMP) to disclose for public review and comment a long-term, comprehensive strategy for managing public lands in the interior Columbia River Basin. The Supplemental Draft EIS addresses the critical, broad-scale forest and rangeland health, aquatic and terrestrial species, and social and economic issues facing the region. A preferred alternative (Alternative S2) has been identified. Following a Final EIS, a Record of Decision (ROD) will provide administrative units within the project area direction to more effectively address and resolve these issues.
- This report describes the nature of the project's ROD and characterizes in a general sense the types of land and resource management policy and planning decisions to be made when 62 land use plans are updated by the ROD. Since the ICBEMP's nature is to provide broad-scale direction to guide federal land management in the project area, there are no local project-level decisions identified in the Supplemental Draft EIS, and none are planned to be included in the project's ROD.
- No new formal decision-making structures will result from the project's ROD. The ROD most likely will include increased analysis processes to help local managers make ecosystem-based decisions that take into account the risk to resources at various scales. The standard Forest Service and BLM organizational structure, field managers' decision-making structure, and methodologies for allocating and establishing priorities will continue to be used.
- Costs and time estimates for decisions are displayed in the Supplemental Draft EIS and summarized in this report. Estimates of costs and analysis requirements were made to guide the evaluation of effects. This is different from what was done in the Draft EISs, where the effects evaluation drove the cost estimates. The timing for the estimates of costs and the implementation of the decisions is an average cost per year for ten years.
- Estimated production of goods and services by Resource Advisory Council (RAC) and Provincial Advisory Committee (PAC) area is provided and discussed. In general, projections indicate the following outputs and activities:
  - ▶ *Timber harvests are projected to increase* at both the basin level and by RAC/PAC area as a consequence of implementation of restoration under Alternatives S2 and S3.
  - ▶ *Domestic livestock use of forage could decline.*
  - ▶ *Forest and woodland restoration activity would increase substantially in the first decade, by up to as much as 40 percent in some cases.*
  - ▶ *Rangeland restoration activity could increase modestly, by approximately nine percent.*
- Funding to implement the decisions in the project's ROD will come through the standard process of obtaining appropriations used by the Forest Service, BLM, and U. S. Fish and Wildlife Service. No reprogramming of fiscal year 2000 appropriations is requested or anticipated as a result of future implementation of the project's ROD.

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# Report to the Congress on the Interior Columbia Basin Ecosystem Management Project

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## Introduction

### Purpose of the Report

This report is in response to the requirements defined in Section 323(a) of the 1998 Interior and Related Agencies Appropriations Act (the 1998 Act), as modified by Section 335 of the 2000 Interior and Related Agencies Appropriations Act. The report is organized by, and outlines the response to, the four report requirements (see sidebar).

Section 335 of the 2000 Interior and Related Agencies Appropriations Act modified and addressed specific portions and timing of Section 323(a) of the 1998 Act, requiring the Secretaries of Agriculture and the Interior to submit to the House and Senate Committees on Appropriations a report that addresses the four major topics.

First, this report describes, by type and responsible official, anticipated land and resource management decisions associated with the Interior Columbia Basin Ecosystem Management Project (ICBEMP). The report also describes the procedures for implementing decisions in the project area.

Second, the report provides an estimate of the time frames for and costs of these decisions. It also includes a statement of the source of funds.

Third, the report contains an estimate of the production of goods and services from the federal lands managed by the Forest Service and the Bureau of Land Management (BLM) for the first five years, beginning with the date of publication of the Final EIS. Much of the information in this report is also included in the Supplemental Draft EIS.

Finally, the report provides a description of the decision-making process to be used to establish priorities in accordance with appropriations, if the requirements cannot be accomplished with current appropriations levels, adjusted for inflation, and without any reprogramming of such appropriations.

### Public Comment on the Report

The *Report to the Congress on the Interior Columbia Basin Ecosystem Management Project* (Report) is being released at approximately the same time as the project's Supplemental Draft EIS. This Report and the Supplemental Draft EIS will be available for public comment in approximately the same time frames as the formal public comment period and public meeting schedule announced and released with the Supplemental Draft EIS. The Supplemental Draft EIS identifies a preferred alternative (Alternative S2). This report does not presuppose the selection of this alternative in the development of the Final EIS and ROD.

The Supplemental Draft EIS is scheduled to have a 90-day public comment period (April 7 - July 6, 2000). Section 335 of the 2000 Appropriations Act requires a 120-day comment period for the Report. The two comment periods are planned to run concurrently to avoid delays in issuing the Final EIS. Comments received from the public during the comment period on this Report and comments received from the public on the Supplemental Draft EIS

will both be analyzed through a content analysis process. Care will be taken in the content analysis process to distinguish between comments made about the Report, the Supplemental Draft EIS, or both. Response to comments on this Report and the Supplemental Draft EIS will be included in the Final EIS for the project.

## **1998 Interior and Related Agencies Appropriations Language**

*The 1998 Interior and Related Agencies Appropriations Act required in Section 323:*

*(a) Prior to the completion of any decision document or the making of any decision related to the final Environmental Impact Statements (hereinafter “final EISs”) associated with the Interior Columbia Basin Ecosystem Project (hereinafter the “Project”), the Secretary of Agriculture and the Secretary of the Interior shall prepare and submit to the Committees on Appropriations of the Senate and the House of Representatives a report that shall include:*

*(1) a detailed description of any and all land and resource management planning and policy or project decisions to be made, by type and by the level of official responsible, and the procedures for such decisions to be undertaken, by the Forest Service, Bureau of Land Management, and Fish and Wildlife Service pursuant to the National Forest Management Act, Federal Land Policy and Management Act, Endangered Species Act, National Environmental Policy Act and any other applicable law in order to authorize and implement actions affecting the environment on Federal lands within the jurisdiction of either Secretary in the Project area that are consistent with the final EISs;*

*(2) a detailed estimation of the time and cost (for all participating Federal agencies) to accomplish each decision described in paragraph (1), from the date of initiation of preparations for, to the date of publication or announcement of, the decision, including a detailed statement of the source of funds for each such decision and any reprogramming in fiscal year 1998;*

*(3) estimated production of goods and services from each unit of the Federal lands for the first 5 years during the course of the decision-making described in paragraph (1) beginning with the date of publication of the applicable final EIS; and*

*(4) if the requirements described in paragraphs (1) through (3) cannot be accomplished within the appropriations provided in this Act, adjusted only for inflation, in subsequent fiscal years and without any reprogramming of such appropriations, provide a detailed description of the decision-making process that will be used to establish priorities in accordance with such appropriations.*

*(b) Using all research information available from the area encompassed by the Project, the Secretaries, to the extent practicable, shall analyze the economic and social conditions, and culture and customs, of the communities at the sub-basin level within the Project area and the impacts the alternatives in the draft EISs will have on those communities. This analysis shall be published on a schedule that will allow a reasonable period of time for public comment thereon prior to the close of the comment periods on the draft EISs. The analysis, together with the response of the Secretaries to the public comment, shall be incorporated in the final EISs and, subject to subsection (a), subsequent decisions related thereto.*

*(c) Nothing in this section shall be construed as altering or affecting in any manner any provision of applicable land or resource management plans, PACFISH, INFISH, Eastside screens, and other policies adopted by the Forest Service or Bureau of Land Management prior to the date of enactment of this Act to protect wildlife, watershed, riparian, and other resources of the Federal lands.*

# Policy, Planning, and Local Project-level Decisions to Implement the Project's Record of Decision

## Overview

### *Decision Space*

**D**ecision space defines which decisions the deciding officials *can* make (including management actions and intensities on lands they administer) and *cannot* make (including actions on lands they do not administer), or decisions assigned to another agency.

The Interior Columbia Basin Ecosystem Management Project's Record of Decision (ROD) applies only to the lands administered by the Forest Service and the Bureau of Land Management (BLM) in the defined project area. These decisions do not apply to federal lands in the project area managed by the U. S. Fish and Wildlife Service or other federal agencies. The project area is shown on Map 1-1.

For this report, the Forest Service and BLM decision-making process is defined to consist primarily of policy, planning, and local-project types of decisions. A description of the general nature of the decisions to be made through the project's ROD is located in Chapter 1 of the Supplemental Draft EIS. In addition, a framework describing the implementation process for the direction and for amending land use plans is found in Appendix 10 of the Supplemental Draft EIS.

#### Requirement #1

*(1) a detailed description of any and all land and resource management planning and policy or project decisions to be made, by type and by the level of official responsible, and the procedures for such decisions to be undertaken, by the Forest Service, Bureau of Land Management, and Fish and Wildlife Service pursuant to the National Forest Management Act, Federal Land Policy and Management Act, Endangered Species Act, National Environmental Policy Act and any other applicable law in order to authorize and implement actions affecting the environment on Federal lands within the jurisdiction of either Secretary in the Project area that are consistent with the final EISs . . .*

## ***2000 Interior and Related Agencies Appropriations Language***

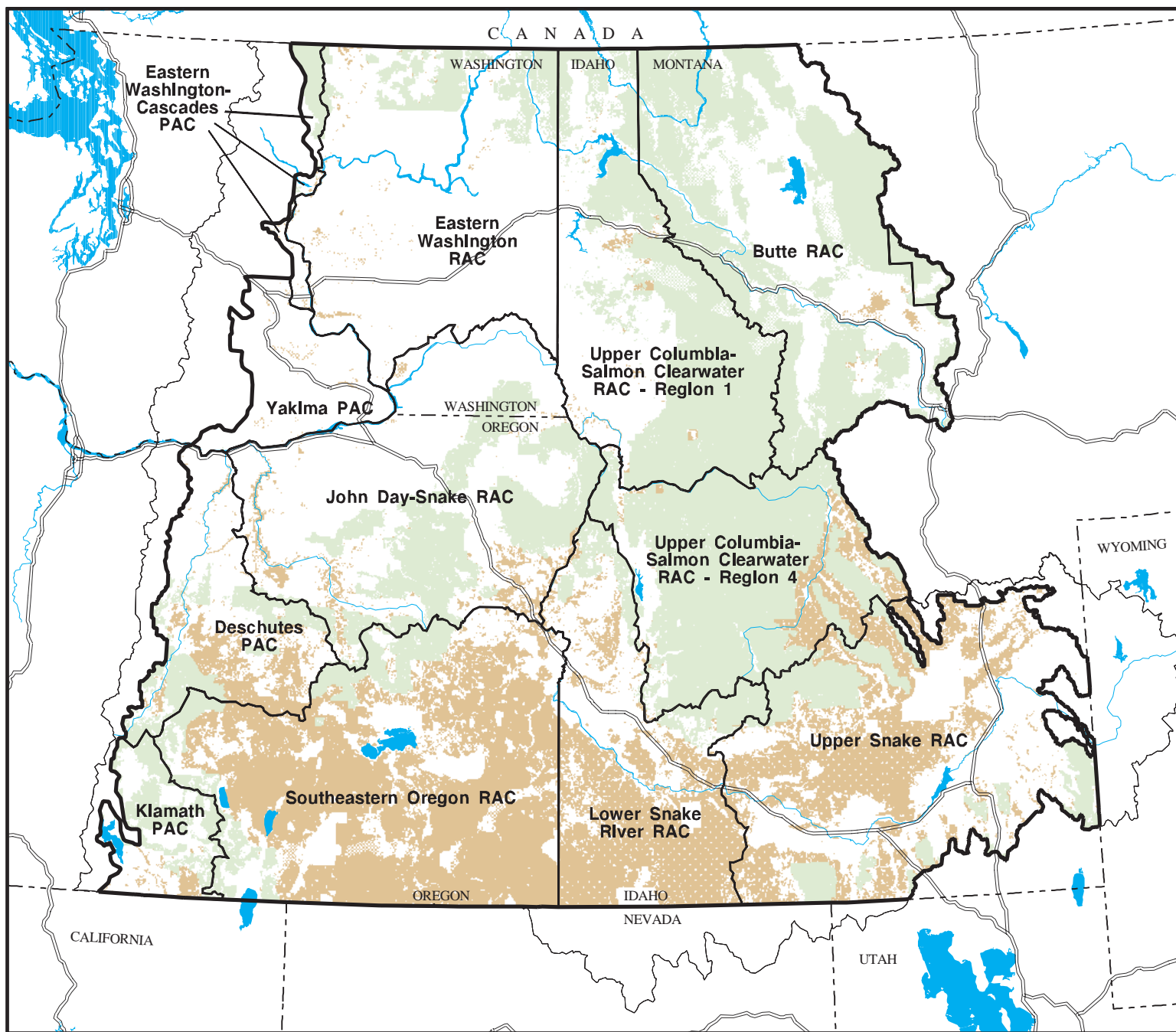
The 2000 Interior and Related Agencies Appropriations Act required in Section 335:

The Secretary of Agriculture and the Secretary of the Interior shall:

(1) prepare the report required of them by section 323(a) discussed above, except that the report describing the estimated production of goods and services for the first five years during the course of the decision may be completed for either each individual unit of Federal lands or for each of the Resource Advisory Council or Provincial Advisory Committee units that fall with the Basin area;

(2) distribute the report and make such report available for public comment for a minimum of 120 days; and

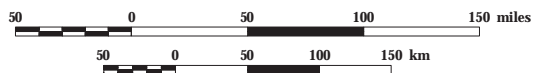
(3) include a detailed response to the public comment in any final environmental impact statement associated with the Interior Columbia Basin Ecosystem Management Project.



**Map 1-1.**  
**BLM- and Forest Service-**  
**Administered Lands**

INTERIOR COLUMBIA  
 BASIN ECOSYSTEM  
 MANAGEMENT PROJECT

Supplemental Draft EIS Area  
 2000



- |   |  |
|---|--|
| <span style="display: inline-block; width: 20px; height: 10px; background-color: #90EE90; border: 1px solid black;"></span> Forest Service-Administered Lands | <span style="display: inline-block; width: 20px; border-bottom: 2px solid blue;"></span> Major Rivers                        |
| <span style="display: inline-block; width: 20px; height: 10px; background-color: #D2B48C; border: 1px solid black;"></span> BLM-Administered Lands            | <span style="display: inline-block; width: 20px; border-bottom: 2px solid gray;"></span> Major Roads                         |
| <span style="display: inline-block; width: 20px; height: 10px; background-color: #00B0F0; border: 1px solid black;"></span> Water                             | <span style="display: inline-block; width: 20px; border-bottom: 2px dashed black;"></span> RAC/PAC Borders                   |
|   | <span style="display: inline-block; width: 20px; border-bottom: 2px solid black;"></span> Supplemental Draft EIS Area Border |



## ***Scale of the Decisions***

The ICBEMP area encompasses 144 million acres, of which 63 million acres are managed by the Forest Service and BLM and will be affected by the Record of Decision. The broad-scale nature of the project presents the need for scaled relationships.

Scale in this context means the time (temporal) and geographic (spatial) dimension of ecological processes and structures. These can be viewed at multiple scales, depending on the feature or process to be observed or the desired outcome. Landscape ecologists use the terms broad-, mid-, and fine-scale, and these terms are used frequently in the project's *Scientific Assessment* (Quigley and Arbelbide 1997; Quigley, Haynes, and Graham 1996) and Draft EISs (USDA Forest Service/USDI Bureau of Land Management 1997a, 1997b).

The project uses three levels of geographic scale for analysis and review:

**Broad-scale** - a large regional area, such as a river basin and typically a multi-state area.

**Mid-scale** - a subregional area, such as a group of contiguous subbasins.

**Fine-scale** - a single landscape, such as a watershed or subwatershed.

In reality, scales are continuous, much like looking through a camera lens while zooming in and out to focus on the desired subject or composition of the photo. As scale moves from broad to fine, the amount of detail increases, but the relationships among larger components become less visible. Broad-scale maps and data help to understand broad-scale relationships. Fine-scale data are difficult and expensive to acquire, and the amount of detail may mask larger relations or trends.

Focusing on only one scale can cause errors in decisions, much like what could happen if a city map is used to find a route across a state. Land managers can assure appropriate and well-founded decisions by considering them in the context of the broader scale of information and using the finer scale information to understand the function of ecosystem components within and affected by the decision.

## ***What the Decision Will Provide***

The ROD will amend 62 existing land use plans of the Forest Service and BLM with decisions that provide the broad-scale ecological context for subsequent local and project-level decisions that tier to these land use plans. In addition, it will help clarify the relationship of agency activities to ecosystem capabilities and help develop realistic expectations for the production of economic and social benefits.

The broad-scale planning decisions that will be incorporated into 62 separate land use plans by the ROD include the following items:

- ▶ Management goals;
- ▶ Management direction, including statements of *management intent*, *objectives* to be used in measuring progress toward attainment of the management goals, and *standards*, which are requirements to be used in designing and implementing future management actions;
- ▶ A set of geographic delineations, known as “aquatic A1 and A2 subwatersheds” and “terrestrial T watersheds” were identified and mapped because of their importance for fish and wildlife and their habitats (see Glossary for definitions);
- ▶ Requirements for a monitoring plan, mitigation measures, and other items documented in the ROD.

Broad-scale management direction will be provided for the Forest Service and the BLM across the project area for the first time in the ROD. Until completion of the ROD, direction has been typically at the fine-scale or mid-scale and largely fragmented among planning units, with neither a common theme nor a common long-term strategy to guide the decisions. Local project-level decisions will be deferred to individual administrative units after appropriately scaled analysis. Those decisions will be made within the context of the broad-scale direction disclosed in the Final EIS and stipulated in the ROD.

## What the Decision Will Not Provide

Other decisions are not appropriately made at the scale, or within the scope, of this decision, and therefore will not be included in the ROD. Examples of these types of decisions include:

- ▶ *Statutory requirements.* The decision would not change the agencies' responsibility to comply with the Clean Air Act, Clean Water Act, Endangered Species Act (ESA), National Environmental Policy Act (NEPA), or any other federal law.
- ▶ *National policy.* The decision would not change the agencies' obligation to conform with national policy. No change, for example, would be made in the requirement for all levels of planning activities to be conducted in close coordination with potentially affected American Indian tribes.
- ▶ *Specific allocations of resource products.* The allocation of allowable harvest for timber, or animal unit months (AUMs) of forage for livestock, are made at the individual land use plan or activity plan level.
- ▶ *Activity plan level decisions.* For example, the amount and restrictions for grazing in a specific allotment authorized through grazing permits will continue to be determined locally in consultation with affected parties.
- ▶ *Funding levels and allocations.* The decision addresses broad-scale management direction, not funding levels. Funding levels and allocations are made through separate administrative processes that are influenced by this decision but are not directed by it.
- ▶ *Local project plan level decisions.* Examples include: the actual types, location, and timing of treatments to eradicate noxious weeds; the location and timing of prescribed fire activities; the location and timing of road and trail maintenance and rehabilitation activities.
- ▶ *Administrative actions for which a land use plan decision is not needed.* For example, a Memorandum of Understanding regarding collaboration among the five federal agencies represented on the project's Regional Executive Steering Committee has been agreed to. Also, the agencies have collaborated on and prototyped a basin-wide protocol for addressing waters listed under section 303(d) of the Clean Water Act.

## Policy Decisions

### Overview

Policy decisions for this report are those that have broad application across the agency, most notably at the national level. Policies take various forms, but national level policies most commonly are regulations found in the *Code of Federal Regulations* (CFR). This report does not consider policy that is generated from regional or state-level organizations. Policy direction may also reside in appropriate Forest Service and BLM manuals, handbooks, and memoranda. Policy decisions usually are made prior to planning and local project-level decisions, guiding the development of those decisions.

### Forest Service Policy

Forest Service Planning Regulations are covered in the *Code of Federal Regulations* (36 CFR 219). Among the regulations are requirements for land use plans to provide for viable populations of native and desired non-native fish and wildlife species. The Forest Service Directive System consists of Forest Service manuals and handbooks, which codify the agency's policies, practices, and procedures. The system serves as the primary basis for the internal management and control of all programs and the primary source of administrative direction to Forest Service employees.

**Forest Service Manual** — Contains legal authorities, objectives, policies, responsibilities, and instructions needed on a continuing basis by Forest Service line officers and primary staff in more than one unit to plan and execute assigned programs and activities. The basic

authority for the chief to issue directives concerning Forest Service operations is found in the *Code of Federal Regulations* (7 CFR 2.60).

**Forest Service Handbook** — The principal source of specialized guidance and instruction for carrying out the direction issued in the Forest Service Manual. Specialists and technicians are the primary audience of handbook direction. However, some handbooks include significant procedural direction needed by line officers and/or primary staff officers; examples include handbooks on land management planning, appeals, litigation, and environmental analysis.

## ***Bureau of Land Management Policy***

The Bureau of Land Management has policy incorporated in the *Code of Federal Regulations* (43 CFR 1600) that guides land use planning and other resource decision-making activities. National and state-level policy direction is provided through the BLM Directives System, which includes both temporary and permanent directives. Directives remain in effect until they are superseded, canceled, or expired.

**Temporary Directives** — Include program or activity instruction memoranda and information bulletins, which are in effect for a specific time only, usually one to two years. An instruction memorandum is used to transmit new guidance, procedures, and direction which must reach BLM employees quickly. They are also used to interpret existing regulations, existing policies, or instructions when there is not enough time to issue a manual release.

**Permanent Directives** — Are included in the BLM Manual System and consist of manuals that provide program instructions. These instructions are in effect until the manual is revised or removed from the BLM Manual System.

The BLM Manual System contains BLM program direction. In most cases, the primary audiences are field and program managers. The BLM Manual System is a permanent record of written policy and procedural instruction for BLM employees. It contains material having continuing application to BLM programs.

## ***U. S. Fish and Wildlife Service Policy***

The director of the U. S. Fish and Wildlife Service (USFWS) has the overall responsibility for policy development for the agency. The regional director is responsible for policy development at the regional level and direction to field offices. Two regions of the USFWS are within the ICBEMP project area (Regions 1 and 6). Primarily, field supervisors of Ecological Services Program field offices and project leaders of Fisheries Program field offices will be involved in working with land managers of the Forest Service and BLM during implementation of the ROD, including four Ecological Services Program and four Fisheries Program field offices. In addition, there may be cases where refuge managers of national wildlife refuges also would be involved.

The U. S. Fish and Wildlife Service uses methods similar to those of the Forest Service and the BLM to distribute policy guidance from national or regional offices.

## ***Effect of the ROD on Policy Decisions***

No policy decisions that would change the *Code of Federal Regulations* have been identified as necessary to implement the project's ROD. The decisions outlined in the ROD are within the national policy direction of the BLM, Forest Service, and U. S. Fish and Wildlife Service.

## Planning Decisions

### Overview

**B**ureau of Land Management and Forest Service management of public lands is guided by programmatic land use plans and local, project-specific plans. For this report, these two are categorically defined as “planning” decisions (this section) and local-level “project” decisions (next section).

Planning decisions for the Forest Service and the BLM are those decisions that formulate and amend national forest land and resource management plans or BLM resource management plans and management framework plans. These land use plans were authorized by the National Forest Management Act of 1976 (NFMA) and its implementing regulations for National Forest System lands, and the Federal Land Policy Management Act of 1976 (FLPMA) and its implementing regulations for BLM- administered lands.

Land use plans, which usually have a 10- to 15-year life, determine management methods, priorities, and goals for individual national forests and BLM field offices. They set the stage for local projects, such as timber sales, grazing strategies, and new campgrounds.

Land use plans establish practices to manage and protect resources; they are used by BLM and Forest Service managers to allocate resources and select appropriate uses for the public lands. They set up systems to monitor and evaluate the status of resources and the effectiveness of management practices over time. Land use plans are designed to be consistent with national level policies and regulations.

The Interior Columbia Basin Ecosystem Management Project’s ROD will amend 62 national forest and BLM land use plans as specified in Chapter 1 of the Supplemental Draft EIS.

### Forest Service Planning

Because the NFMA creates a statutory framework for the management of national forests by providing for forest planning, land use plans play an important role in daily Forest Service management. The Forest Service is required to develop a land and resource management plan (LRMP) and an accompanying environmental impact statement (EIS) for each national forest. In addition, the Forest Service has been required to develop regional guides for each Forest Service Region.

Implementation of the LRMP occurs at the site level. Once the LRMP is in place, local projects are assessed by the Forest Service. Local projects are designed to be consistent with LRMPs. For both the LRMPs and local projects, the National Environmental Policy Act (NEPA) imposes procedural requirements such as the need to prepare an analysis of environmental effects (categorical exclusions, environmental assessment, or environmental impact statement) and the process by which the analysis is prepared and documented.

The Forest Service issued a proposal for revised regulations (*Federal Register*, October 5, 1999) for implementing land use planning requirements contained in the NFMA. This proposed regulation would envision: decision-making occurring at the appropriate scale, increased use of broad-scale assessments, public collaboration, and the integration of science into land use planning and decision-making. The project’s Draft EISs were formulated prior to these proposed regulations. The Supplemental Draft EIS has been developed during the formulation of the proposed regulations, and many of the key elements of planning expressed through the regulations are already reflected in the Supplemental Draft EIS. The final regulation is expected in the near future.

***Bureau of Land  
Management  
Planning***

Land use planning for the BLM is guided by the Federal Land Policy and Management Act (FLPMA) of 1976. This law specified that the Secretary of the Interior, through the Bureau of Land Management, “shall, with public involvement and consistent with the terms and conditions of this Act, develop, maintain and when appropriate, revise land use plans which provide . . . for the use of the public lands.”

The BLM land use planning process, like that of the Forest Service, is also specified in regulation (43 CFR 1600). The primary responsibility to develop and implement resource management plans (RMPs) is at the local field level of BLM. Most RMPs are developed for resource areas or combinations of resources areas.

***U.S. Fish & Wildlife  
Service Planning***

The project’s ROD will not address planning level decisions for any lands managed by the U. S. Fish and Wildlife Service.

***Integration of  
the ROD into  
Existing Planning  
Direction***

The project’s ROD will immediately amend 62 existing land use plans with objectives, standards, and guidelines that provide the broad-scale ecological context for subsequent decisions that tier to Forest Service and BLM land use plans. (In the case of the Forest Service, regional guides may also be amended.) By signing the ROD, the BLM state directors and Forest Service regional foresters will adopt and commit to implement the specified direction as stipulated in the ROD and described and analyzed in the Final EIS. Management direction and land allocations in existing Forest Service and BLM plans not directly superseded by the ROD will remain in effect.

The scale of the project’s scientific assessment and EIS is broad enough that it is neither feasible nor appropriate to make fine-scale decisions; however, it is feasible and appropriate to use the EIS as the foundation for broad-scale amendments to land use plans. The broad-scale context of the decisions conveyed through the ROD will influence where, how, and why certain local project-level decisions will be made by local decision-makers, just as existing land use plans influence those decisions.

In their development or revision of Access and Travel Management Plans, national forests and BLM districts are expected to ensure public involvement including appropriate state, county, and tribal entities. To address risks identified in road analyses, Access and Travel Management Plans are required to be developed or updated within ten years of the ROD. These Access and Travel Management Plans are expected to identify long-term transportation needs and road maintenance practices.

In both agencies, land use planning topics—such as planning criteria, inventory data and information collection, analysis of management situation, and formulation of alternatives—are controlled by the issues identified in scoping. In future land use plan amendments and/or revisions, direction from the ICBEMP ROD that has been incorporated into the plan will, like the rest of that plan direction, form the basis for any subsequent no-action alternative. Other alternatives may present direction that better fits the local scale and/or addresses issues identified in scoping.

***Local  
Project-level  
Decisions***

***Overview***

**L**ocal project-level decisions address on-the-ground activities such as timber harvest, livestock grazing, and special uses of Forest Service- and BLM-administered lands. Any site-level specific decision undertaken by a land manager must demonstrate consistency with the land management plan for the larger area. Since the ROD will amend existing land management plans with new direction and decisions, subsequent site-specific decisions made by land managers (including future permits, contracts, cooperative

agreements, and other instruments) will be required to demonstrate consistency with the land use plans as amended by the ROD and disclosed in the Final EIS. Tiering local project decisions to land use plans is current practice for both the BLM and Forest Service.

Before any local project is initiated, the National Environmental Policy Act (NEPA) also requires managers to obtain public opinion on and analyze the project's effect on the physical, biological, and economic aspects of the human environment prior to making an irreversible commitment of resources.

In general, the BLM and Forest Service have a similar approach to the authorization of activities, the implementation of project plans, and the analysis of a proposal to take an action on federal lands using NEPA. Nothing in the project's ROD is projected to alter either agency's formal decision-making process.

### ***Effect of the ROD on Local Project-level Decisions and Decision Makers***

The project's ROD will not alter the existing delegations of authority that Forest Service and BLM officials have to make land use decisions at their field office levels. Local decision-makers will continue to make project decisions after the appropriate site-specific NEPA analysis and the appropriate scale of ecosystem analysis as prescribed (either at the subbasin or watershed levels) or through a programmatic planning process. Figure 1 outlines major steps in making project-level decisions for the Forest Service. This figure is reprinted from a recent GAO report on Forest Service decision-making. BLM decision-making follows a similar process.

The project's ROD will not make any local project-level decisions. Following are examples of local project-level decisions:

- Thinning and harvest of forested vegetation,
- Young stand density management,
- Prescribed fire,
- Watershed and riparian restoration activities,
- Road treatments,
- Weeds management,
- Grazing and rangeland management activities,
- Fish and wildlife habitat improvements.

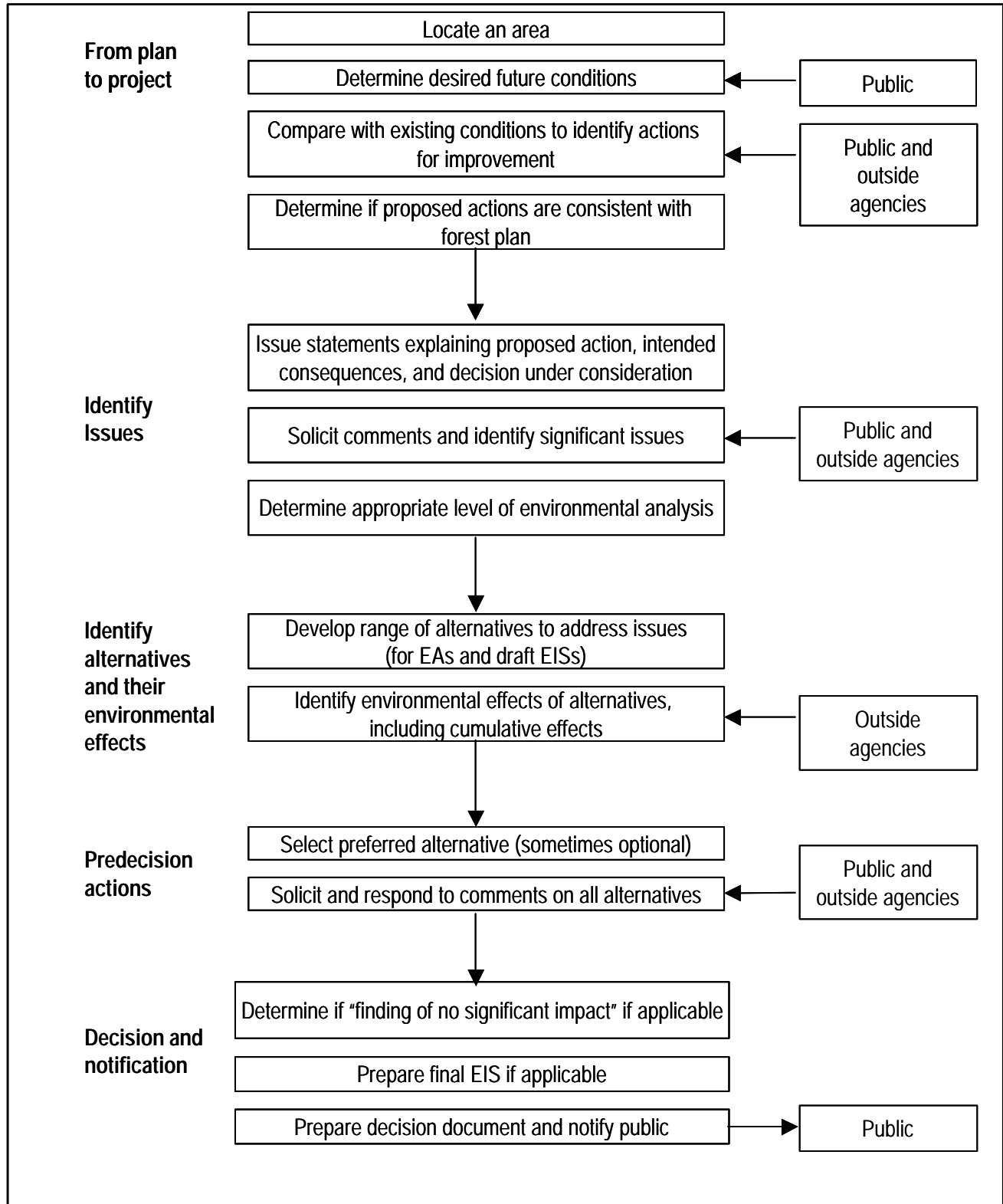
Recent field experience has shown that these types of restoration activities are similar to local projects currently being undertaken by the BLM and Forest Service. These types of activities will continue to require analysis and consultation under the National Environmental Policy Act and Section 7 of the Endangered Species Act. Future decisions will have the benefit of the analysis at various scales called for in the Supplemental Draft EIS, and certain project-level decisions will be influenced in a general sense by the broad-scale direction. The ROD may help to prioritize and determine where (in which subbasins) some of these activities may occur; others will continue to be implemented as part of the current program activity plans.

### **Responsible Officials to Implement the ROD**

#### ***Overview***

**T**he organizational structure for both the BLM and the Forest Service is a line-staff organization. Each level has a line officer as decision maker, with the necessary program staff providing land and resource expertise and administrative and operational support. Each administrative unit has a defined area of land for which the line officer is responsible.

Making Project Decisions. Reproduced from *Forest Service Decision-Making: A Framework for Improving Performance*. U.S. Congress, General Accounting office, GAO/RCED-97-71. Page 110.



***Forest Service  
Decision Makers***

For the Forest Service, decision makers include the chief, who is the primary official responsible for all National Forest System lands. A regional forester is responsible for the subordinate organization of a region. The project area is composed of portions of the Intermountain, Northern, and Pacific Northwest regions. A forest supervisor is the primary line officer responsible for management of each national forest. There are 23 national forests in the project area. The forest supervisor has the responsibility to develop a forest plan and forest plan revisions, although the regional forester is the responsible official who signs plans and their revisions. The forest supervisor is the responsible official for non-significant forest plan amendments and for most major decisions on a national forest. The district ranger is the primary line officer in charge of each ranger district. In the project area, there are 93 ranger districts. The ranger district is the primary office for program delivery of Forest Service program activities; the district ranger is responsible for implementing projects in accordance with the objectives, standards, and guidelines in the land and resource management plan.

***Bureau of Land  
Management  
Decision Makers***

For the BLM, the line management organization is composed, in most cases, of three key decision-makers: the director, state director, and field manager. Some states still have a line manager called a district manager, who oversees field managers (formerly area managers). Within the project area, Oregon, Washington, and Idaho still have district managers, and the local level of resource decision-maker is the field or area manager. The director is the line officer responsible for overall management of all public land managed by the BLM. The director is responsible for strategic direction, policy leadership, legislative and regulatory involvement, and oversight and evaluation of the subordinate organization structure. A state director oversees each state office (the BLM's equivalent of a Forest Service regional office). Within the project area, there are three state offices: Oregon and Washington (combined), Idaho, and Montana. Each state office is responsible for carrying out BLM's missions within a specific geographical jurisdiction. The field offices—whether composed of district managers and field or area managers (in the case of Oregon/Washington and Idaho), or just field managers (in the case of Montana)—are the local levels of resource decision-making. There are 9 BLM districts and 24 BLM field managers in the project area. The BLM field/area manager is the primary official responsible for developing and implementing resource management plans.

***U. S. Fish and  
Wildlife Service  
Decision Makers***

The U. S. Fish and Wildlife Service does not have the authority to make land management decisions on public lands managed by the Forest Service or the BLM. However, various federal environmental laws and treaties (such as the Endangered Species Act, Migratory Bird and Treaty Act, Fish and Wildlife Act, Fish and Wildlife Coordination Act, National Refuge Acts, and National Environmental Policy Act) authorize the U. S. Fish and Wildlife Service to work with federal land managers. The field offices of the U. S. Fish and Wildlife Service will, therefore, participate in interagency collaborative efforts to promote, develop, and implement the direction in the Final EIS and ROD for Forest Service- and BLM-administered lands.

***Interior Columbia  
Basin Ecosystem  
Management  
Project Decision  
Makers***

The project is led by an ICBEMP Executive Steering Committee, which includes Forest Service regional foresters; BLM state directors; Forest Service research station directors; regional administrators for the Environmental Protection Agency and National Marine Fisheries Service; and the regional director for the U. S. Fish and Wildlife Service. Although these officials meet almost monthly to steer the progress of the project, Forest Service and BLM officials are the responsible officials and will sign the ROD. Each of the land management executives has maintained individual decision-making authorities and responsibilities over the lands in his or her respective agency's jurisdiction. Nothing in the project's ROD is projected to change any existing authorities or responsibilities for any of the agencies.



## Decision-making and Analysis Procedures

Planning and project-level decisions generally follow a similar procedure. Decisions that may affect the environment or may invoke irreversible and irretrievable commitment of resources are required to follow the National Environmental Policy Act (NEPA) analysis process to disclose likely environmental effects to the public and the decision maker.

Both the BLM and the Forest Service have internal procedures that establish steps, rules, and protocols to follow when conducting analyses and making decisions that address compliance with laws, regulations, and policies. These procedures are not summarized in this report; however, nothing in the project's ROD is intended to alter or change national level guidance for making decisions. The project's ROD will provide guidance regarding the analyses conducted in support of these decisions.

### Decisions

As described earlier, "policy" decisions for this report are classified as national level decisions, normally involving a formal change in regulation. The adoption or amendment of a land use plan (a "planning" decision) is considered to be an agency action requiring compliance with NEPA and various other environmental laws such as the Endangered Species Act (ESA).

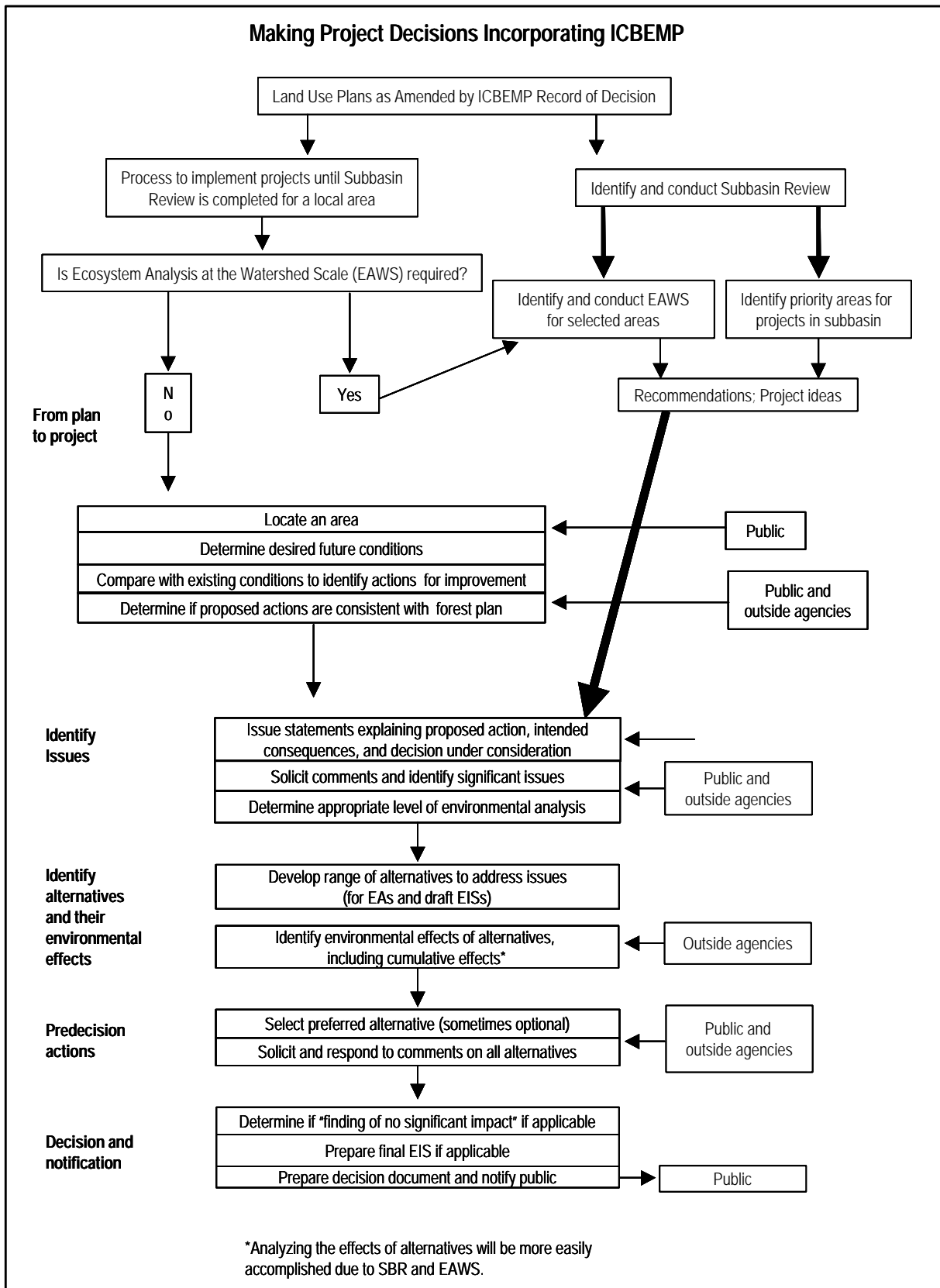
Decisions for individual, on-the-ground, local projects are also subject to NEPA and ESA procedural and substantive requirements. Depending on the scope and significance of environmental impacts of a proposed action, either an environmental assessment or an EIS must be conducted prior to most activities occurring on the ground. NEPA requires that the analysis be based on the best available science and that cumulative effects be addressed. The analyses at various scales, described below, contribute to solid analyses supporting sound decisions. ESA consultation requirements must also be met where species listed as sensitive, threatened, or endangered or their habitats are present.

Figure 1, earlier in this document, illustrates the current general process for making local, project-level decisions. The project's Final EIS and ROD will not change this formal decision-making structure, although as described below, the information and analysis to be used in the process will be expanded to include hierarchical analysis protocols. Also, the interaction that the agencies now undertake with states, tribes, and local governments, as well as with partner federal agencies, will be expanded.

Figure 2 illustrates the procedures for making project decisions incorporating ICBEMP direction. Comparison of Figures 1 and 2 shows that under the ICBEMP strategy (Figure 2) there will exist a more systematic up-front analysis process. Figure 2 shows that projects identified in the step-down process of Subbasin Review and Ecosystem Analysis at the Watershed Scale proceed more quickly to the step of "identifying issues." At the step of "identifying environmental effects," efficiencies will be gained from the up-front analyses.

### Analysis

The project's *Scientific Assessment* (Quigley, Haynes, and Graham 1996; Quigley and Arbelbide 1997) displayed that the analysis of the threats to the stability of an ecosystem at various scales leads to decisions that help reduce the risk to those ecosystems. Analysis at various scales is a systematic way of gathering, organizing, and understanding information within a selected geographic area. The general rule provided by science is that analysis will support better decisions which will decrease the possibility of a mistake, a bad decision, or an unintended effect. The analysis steps are not an additional decision-making process, but rather are to provide the information and context necessary to make well-informed decisions as required by the National Environmental Policy Act (NEPA). The direction shown in the Supplemental Draft EIS, which is expected to be incorporated into the Final EIS and included in the ROD, outlines a hierarchy of analysis steps to support planning and local project-level decisions.



## Definitions

**Subbasin** ~ A drainage area of approximately 800,000 to 1,000,000 acres. Examples: Upper Grande Ronde River, or the South Fork Salmon River.

**Subwatershed** ~ A drainage area of approximately 20,000 acres. Example: Profile Creek.

**Watershed** ~ A drainage area of approximately 50,000 to 100,000 acres. Examples: McIntyre Creek, or South Fork Salmon River.

Hierarchically, subwatersheds are contained within a watershed; watersheds in turn are contained within a subbasin.

## Ecosystem Review at the Subbasin Scale (Subbasin Review)

The first step in the mid-scale analysis process is to complete Ecosystem Review at the Subbasin Scale (Subbasin Review). In this brief process, local managers will use existing information (science assessments, field data, Geographic Information Systems (GIS), etc.) to validate science information at the ground level; identify priorities and opportunities; highlight projects that can contribute to ecosystem health; note data gaps and priorities for future research; and develop strategies for pooling federal, state, and tribal efforts.

Subbasin Review will provide an opportunity for interagency and intergovernmental involvement. The entire process for Subbasin Review is provided in the *Ecosystem Review at the Subbasin Scale (Subbasin Review): A Guide for Midscale Ecosystem Inquiry* (Draft, Version 1.0, August 1999)(ICBEMP 1999).

## Ecosystem Analysis at the Watershed Scale (EAWS)

The second step in the analysis process is Ecosystem Analysis at the Watershed Scale (EAWS). This analysis highlights the capabilities and limitations of a given watershed. Analysis requirements may vary; however, analysis scope and depth are always determined by on-the-ground conditions. This analysis will normally use watershed and subwatershed boundaries; however, using other boundaries that are meaningful and efficient may be appropriate.

This scale of analysis is intended to:

- ▶ Establish a consistent watershed-wide context for water quality conditions and protection of beneficial uses;
- ▶ Provide the hydrologic characterization and identification of pollutant sources;
- ▶ Understand actual conditions at a resolution necessary to make judgements about watershed-scale effects of actions on resources;
- ▶ Evaluate potential actions in the context of an overall understanding of the capabilities, limitations, and risks of a specific watershed;
- ▶ Identify watershed level issues and concerns;
- ▶ Identify synergisms that can be gained through sequencing activities;
- ▶ Refine management standards to fit local conditions and values at risk;
- ▶ Identify monitoring needs for watershed-wide effects.

EAWS will also provide an opportunity for interagency and intergovernmental involvement. It is an issue-driven process, whereby information from inventories, monitoring reports, or additional analyses can be added at any time.

Information derived through Subbasin Review and EAWS would be aggregated up to assist in making programmatic decisions, such as land use plan amendments and revisions, and would be incorporated into site-specific decisions at lower levels.

## Site-specific Analysis

The next scale of analysis below EAWS is the site-specific or activity-level analysis for local projects. This level of analysis usually follows NEPA procedures, including public scoping, and a site-specific decision document. While it may be feasible to analyze the effects of groups of activities at the watershed scale, most proposed activities will be analyzed at the site-specific scale. Under the hierarchy of analysis, this scale of analysis acts as a safety net for those issues overlooked or appropriately excluded at larger scales, and it provides site-specific information for determining effects.

Site-specific analysis has been used extensively since the enactment of the National Environmental Policy Act (NEPA) in 1970, and in accordance with Forest Service NEPA Manual 1950 and Handbook 1909.15, and BLM NEPA Handbook H-1790-1. It has been

proven successful at identifying and addressing local issues and concerns; however, as a stand-alone level of assessment, it is often difficult to fully understand the broader scale issues and cumulative effects of individual actions.

Through the direction in the ICBEMP Final EIS, the site-specific analysis process will be significantly enhanced, predominantly by the context provided by higher scales of analysis when assessing cumulative effects. To the extent possible, projects will be “batched” for Endangered Species Act and tribal consultation at the watershed scale. The context provided by higher scales of analysis will also facilitate this decision-making step. This process should further identify the monitoring necessary to meet those needs identified during EAWS. NEPA implementing regulations require public notification of the availability of all NEPA documents, and various levels of public involvement are provided for in both Forest Service and BLM internal procedures.

As noted earlier, the effect of the Final EIS and ROD on local project-level decisions is best illustrated by adapting the flow diagram from a 1997 GAO report on Forest Service decision-making (Figure 1), and showing where the required analyses will occur under ICBEMP direction (Figure 2).

## Estimated Time and Costs to Accomplish the Decisions

### Costs to Accomplish the Decisions

#### Overview

The assumptions and analysis in the Supplemental Draft EIS for modeling the costs to accomplish the decisions described in the Supplemental Draft EIS are provided below. It is important to note that the actual decisions that will be made as a result of the ICBEMP can be implemented at any funding level. The decisions do not prescribe any particular level of activity or accomplishments. However, for modeling the effects of the direction, levels of funding had to be assumed to finance certain amounts of restoration activities. This section concludes with information on reprogramming funds for fiscal year 1998 and a discussion of the implementation costs and output summary found in the Supplemental Draft EIS.

#### Requirement #2

*(2) a detailed estimation of the time and cost (for all participating Federal agencies) to accomplish each decision described in paragraph (1), from the date of initiation of preparations for, to the date of publication or announcement of, the decision, including a detailed statement of the source of funds for each such decision and any reprogramming in fiscal year 1998 . . .*

#### Estimated Costs

The modeling of the effects of the management direction described in Chapter 3 of the Supplemental Draft EIS required an assumption of certain amounts of restoration activities. The effects are displayed in Chapter 4 of the Supplemental Draft EIS. Accomplishment of restoration actions (such as pre-commercial thinning or prescribed burning) requires funding, either through new budget authority or through reallocation of existing funds. The funding that would be provided would come through the normal process of budget development and justification currently used by the Forest Service and the BLM. To ensure that the funding required to accomplish restoration activities was a reasonable estimate and projection, the decision makers limited the funding that could be considered available by the models.

The models assume that in some cases, more aggressive restoration will be required to implement Alternatives S2 and S3 than currently occurs under existing management plans as they have been amended by PACFISH, INFISH, and Eastside Screens (represented in the Supplemental Draft EIS as the no action alternative S1). To represent current outcomes,

Alternative S1 was modeled with no additional funding for restoration, and Alternatives S2 and S3 were assumed to receive additional funding increases that are realistic in light of the agencies' current budget requests, and legislative proposals.

The total funding appropriated for the Forest Service and the BLM within the project area is estimated to be \$540 million for both agencies—approximately \$70 million for the BLM and \$470 million for the Forest Service. These figures include an estimate of funding from the operating accounts, trust funds and fire preparedness in the project area. Of the combined total, \$135 million will be expended on restoration activities to move existing resource conditions toward a more desirable condition.

This is the amount of funding used in the models to project outputs (such as board feet) and outcomes (such as ecosystem condition) for the effects section of the Supplemental Draft EIS.

Alternative S1, the Supplemental Draft EIS no-action alternative, assumes the availability of estimated current funding for on-the-ground restoration actions and assumes the continuation of direction under PACFISH, INFISH, and the biological opinions (\$135 million per year).

Alternative S2 assumes approximately \$202 million in funds expended on restoration actions each year.

Alternative S3 assumes \$182 million in funds expended on restoration actions each year.

Each alternative also estimates the cost of required step-down analyses (in addition to those already accomplished through programmatic planning processes and/or through compliance with NEPA and project consultation under Section 7 of the Endangered Species Act). These are: \$18 million for Alternative S1, \$13 million for Alternative S2, and \$9.5 million for Alternative S3.

In summary, while the preferred alternative (Alternative S2) can be implemented at any funding level, the estimated costs for accomplishing the activity levels of the preferred alternative as it was modeled is approximately \$202 million for both agencies, which will be a portion of the total budget for the Forest Service and BLM in the project area and about \$67 million more for both agencies than the current level of funds expended on restoration activities.

## Estimated Time

Management direction from the ICBEMP ROD, which becomes part of the amended federal land use plans, will guide activity-level decision-making until replaced through subsequent amendment or revision of these plans. The decisions that would be undertaken as a result of the ICBEMP ROD are estimated to be in effect roughly 10 to 15 years. Ten years is the basis from which the estimated production of goods and services is based. Implementation costs are estimates of annual costs, averaged over the first ten years of implementation.

## Reprogramming of Funds

No Final EIS or Record of Decision was completed in fiscal year 1998 due to the extended public comment period on the Draft EISs. Therefore, there was no need for reprogramming of funds to accomplish any implementation decision.

## Implementation Costs and Outputs Summary

### *Techniques and Assumptions*

In the Supplemental Draft EIS, because implementation of the alternatives could occur at any funding level, some additional cost and output information is provided. A team of budget analysts developed the estimation of costs and outputs summary using standard budget analysis techniques, which are disclosed in Chapter 4 of the Supplemental Draft EIS (refer to the information in Tables 4-57, 4-58, 4-59, and 4-60, pages 4-207 to 4-210 of the Supplemental Draft EIS). The implementation costs and outputs summary represents the assumed costs for implementing the activities based on the direction in the alternatives, along with the resulting outputs from these activities.

The team made assumptions about the amount of overall funding available to undertake the strategies called for in the alternatives. Four levels of funding are assumed in this analysis of implementation costs and outputs. One is the estimated current level of funding, used in the analysis of Alternative S1 and described above. This allows for comparison using a baseline condition. In addition, three increased increments of funding were selected by the budget analysts as reasonable increases when compared to the overall budgets for the Forest Service and the BLM in the project area. The four levels are as follows:

1. \$135.0 million (no new funding) (Table 4-57 in the Supplemental Draft EIS);
2. \$148.5 million (\$13.5 million increase) (Table 4-58 in the Supplemental Draft EIS);
3. \$168.75 million (\$33.75 million increase) (Table 4-59 in the Supplemental Draft EIS);
4. \$202 million (\$67.0 million increase) (Table 4-60 in the Supplemental Draft EIS). Level four is comparable to the budget assumption associated with the effects analysis of Alternative S2, conducted by the Science Advisory Group (SAG) (Quigley 1999).

The team identified representative management activities (selected outputs) for display. Through deliberations with policy specialists, the set of variables was determined that represents specific types of restoration activities and their associated outputs. These categories of management activities do not directly correlate to the outcomes identified in other portions of Chapter 4, because they represent a budget analyst's approach to development of future funding proposals and were not generated from the variables modeled by the SAG.

The team identified average total costs for the selected categories of activities across the entire project area, and they used these average costs to estimate activity costs and associated levels of outputs. Costs were estimated using historical budget information on file at Forest Service and BLM offices at the national, regional, state, and national forest/BLM district levels. These estimates will be refined in future budget formulation processes.

The team of budget analysts calibrated the associated levels of outputs to the four selected levels of funding, working from the information available for Alternative S1 (assumed to be funded at the level identified in Table 4-57, no new funding) and Alternative S2 (assumed to be funded at the level identified in Table 4-60, \$67 million increased funding). Thus, the alternatives are contrasted at comparable funding levels using the selected management activity variables.

### *Interpretation of Cost Estimates Analysis*

To avoid misinterpretation of this cost estimates analysis the following information is offered:

1. The "employment estimated" figure estimates employment that would result from only 4 of the 12 categories of activities: thinning and harvest, young stand density management, animal unit months (AUMs), and prescribed fire fuel treatments. This category did not estimate jobs that may result from other activities such as those associated with fish habitat improvements or wildlife habitat improvements.
2. The acreage figures for the management activity of prescribed fire/fuel treatments include burning and mechanical fuel reduction. The total treatment area does not always correlate with acres actually burned. For example, an area of 10,000 acres can be treated by prescribed fire restoration activities, but because the management prescription calls for

a desired fire intensity that is light or moderate, 500 acres may have been treated mechanically before burning and then only 5,000 acres may actually burn. The resulting mosaic pattern of burned and unburned landscape is generally what is desired.

3. The management activities reflect broad categories of funding for both the Forest Service and the BLM, and do not directly correlate to the existing budget line items for these agencies.
4. The levels of output for management activities assume ten-year (short-term) averages.
5. None of the management activities have spatial identity; that is, they cannot be spatially located at this point in the analysis and cannot be correlated with specific projects, administrative units, RAC/PAC areas, states, or counties. They are summarized at the project-area-scale only.
6. Implementation of these management activities is guided by the direction of the alternatives and thus by the step-down analysis procedures called for in the alternatives.
7. Consultation and collaboration requirements have costs, but these are difficult to estimate. The costs shown here are the costs of collaboration and consultation with states, tribes, and regulatory agencies, in addition to public participation, collaboration, and consultation processes already in place for the land management agencies.
8. The output of AUMs is an indirect, not direct, result of management direction. Management direction in Alternatives S2 and S3 is not designed to prescribe the levels of AUMs permitted by the Forest Service and BLM in the project area. Rather, it is designed to address desired outcomes for landscape health (rangelands, riparian areas, and so on); these desired outcomes mean that there will likely be adjustments in intensity, location, timing, and pattern of domestic livestock grazing. These adjustments could affect total AUMs, but the changes that may result are difficult to predict.
9. Management direction in Alternatives S2 and S3 is not designed to prescribe production levels of volume of timber (board feet) from Forest Service- and BLM-administered lands. Rather, the volume is an output that results from the activities that occur as a result of management direction.

## Estimated Production of Goods and Services

### Relation to the Supplemental Draft EIS

This section of the Report to the Congress is excerpted directly from the Supplemental Draft Environmental Impact Statement published in March 2000. Information in this section is displayed for all three alternatives as shown in the Supplemental Draft EIS. It includes only those portions of the Social–Economic–Tribal component of the Supplemental Draft EIS related to the estimated production of goods and services by RAC/PAC areas within the project area. Information about other aspects of the social and economic conditions across the project area are not included in this Report but can be found in the Supplemental Draft EIS.

#### ***Requirement #3***

*(3): Estimated production of goods and services from each unit of the Federal lands for the first 5 years during the course of the decision-making described in paragraph (1) beginning with the date of publication of the applicable final EIS . . .*

For information about employment related to the production of goods and services, see Chapter 4 of the Supplemental Draft EIS. A table listing counties and communities by RAC/PAC area is located in Appendix 7 of the Supplemental Draft EIS.

## Social and Economic Considerations

The project area includes 92 counties in parts of four states, with more than 540 communities and involving the homelands of 22 American Indian tribes. The relationship of social and economic systems to Forest Service- and BLM-administered lands in the project area is described in the Supplemental Draft EIS. The economic and social setting of the project area establishes a context for making land use decisions, while considering human needs and expectations of these lands.

The Supplemental Draft EIS uses Resource Advisory Council/Provincial Advisory Committee (RAC/PAC) areas as the base level for displaying estimated biophysical and socio-economic effects. These 12 RAC/PACs encompass all 540 communities in the project area. The effects in this section of the Report are displayed by RAC/PAC area and are an estimated annual average over the first ten years after the Record of Decision is signed. Section 323(a) of the 1998 Interior Appropriations Act requires an estimated production of goods and services over the first five years. Therefore in each of the tables in this section, the annual average multiplied by five will provide the requirement of the law.

The no-action alternative assumes that the level of production that would occur under existing land use plans has been modified by a variety of factors such as implementation of rangeland health standards and guides, consultation under ESA, PACFISH, INFISH, and reasonable and prudent measures or terms and conditions of the Biological Opinions on Land and Resource Management plans.

## How Social and Economic Effects Were Estimated

The main sources of information for evaluation of the effects of the alternatives in this Supplemental Draft EIS include: *Socioeconomic Evaluation of the EIS Alternatives* (Crone and Haynes 1999), the *Economic and Social Conditions of Communities* (Reyna 1998), and *Developing Measures of Socioeconomic Resiliency in the Interior Columbia Basin* (Horne and Haynes 1999). This section of Chapter 4 blends the findings of the economics and social science staffs of the Science Advisory Group with additional analysis and interpretation provided by the EIS Team.

### Science Advisory Group Economics Effects Analysis

The Science Advisory Group's (SAG) landscape and modeling scientists estimated 10-year and 100-year outputs that are expected to be produced from the Supplemental Draft EIS alternatives. Outputs included forage produced for livestock grazing, measured as animal unit months (AUMs); timber volume harvested; acres of forest/woodland and rangelands restoration; and acres of prescribed fire and fuels management treatments. The SAG's economics staff (Crone and Haynes 1999) analyzed and presented economic activity and estimated outputs related to implementation of the Supplemental Draft EIS alternatives, and they calculated employment that would be associated with those output and activity levels.

### Additional EIS Team Effects Analysis

Factors used by both the SAG and the EIS Team to estimate effects included existing conditions, objectives and standards, and modeled management prescriptions. Effects are estimated by the level of goods and services that may result from the management direction.

The EIS Team economics staff used the evaluation from the SAG, along with the ICBEMP (1998) and Horne and Haynes (1999) reports to assess, in general terms, potential effects of the alternatives on local communities. Of particular interest were rural and tribal communities that are isolated and economically specialized in economic sectors that rely on resources from, or management of, federal lands.

The broad scale of the modeling and analysis means that management prescriptions in the model are not tied to specific locations within the basin. It is not appropriate, given the coarseness of the data base to estimate effects directly by administrative unit, subbasin, or a smaller unit. As such, the discussion of effects is of necessity relatively broad, and not site- or area-specific.

The EIS Team used diverse information relating RAC/PAC areas to counties, subbasins, and communities. The effects discussions at those levels provide general trends and likely potential consequences based on community types or groups. However, specific estimates of



changes in outputs or activity levels for a particular county, administrative unit, or community will have to come during mid-scale analyses done during the step-down process (such as Subbasin Review) and revision of Forest Service and BLM land use plans.

## Effects of the Alternatives on Annual Level of Goods and Services

### Levels of Outputs and Management Activities Expected from the Alternatives

Outputs and activities were analyzed for the next ten years (the short term). For the economic and social analyses, the output and activity levels projected from the Science Team's CRBSUM model in the tenth decade were not carried forward into the environmental consequences chapter. It was felt that for economic and social conditions, any attempt to assess effects 100 years into the future would be misleading because of the many changes that occur to economies and societies over a century.

The effects on specific communities or counties from changing supplies of timber and forage for livestock grazing, as well as potential employment through restoration work, could not be predicted for reasons that have been previously described. However, as noted above, the SAG and the EIS Team used information that related RAC/PAC areas to counties, subbasins, and communities to provide general trends and potential consequences at the local level for groups or types of communities.

While goods and services provided from Forest Service- and BLM-administered lands potentially represent a large array of benefits, five major outputs and activities are quantified here, including two commercially marketable outputs and three types of ecological restoration activity:

- ▶ Livestock animal unit months (AUMs), representing the number of domestic livestock that graze on Forest Service- and BLM-administered rangelands;
- ▶ Wood volume produced from timber harvest and vegetation management actions measured in millions of board feet (mmbf);
- ▶ Acres of forest/woodland restoration activity, including planting (reforestation) and pre-commercial thinning;
- ▶ Acres of rangeland restoration activity; and
- ▶ Acres of prescribed fire and fuels management treatments to restore vegetation conditions that more closely reflect historical ranges, and to reduce risk of uncharacteristically severe wildfires.

Table 1 displays the average annual amount of outputs and activities for each alternative for the first decade. Next, tables with outputs and activities by RAC/PAC are shown with discussions of each output or activity. Discussions address how output and activity levels were determined, the uncertainty associated with their production, and other factors relevant to interpreting effects of these expected numbers.

**Table 1. Estimated Average Annual Output/Activity Levels, by Alternative for Federal Lands in the Interior Columbia Basin Project Area.<sup>1</sup>**

Output or Activity (units)	Alternative S1	Alternative S2	Alternative S3
Animal Unit Months (AUMs)	3,111,000	2,799,000	2,765,000
Timber Harvest Volume (mmbf)	810	990	980
Forest/Woodland Restoration (acres)	142,000	199,000	192,000
Rangeland Restoration (acres)	3,074,000	3,339,000	3,183,000
Prescribed Fire/Fuels Management (acres)	181,000	1,456,000	1,110,000

<sup>1</sup>AUMs and acres rounded to nearest thousand; mmbf rounded to nearest ten.

Abbreviations used in this table:  
mmbf = million board feet

Source: Crone and Haynes 1999.

The first priority of Alternatives S2 and S3 is restoration of ecosystems and watersheds. Production of market and non-market (priced and non-priced) goods and services for human use (timber, domestic livestock grazing, recreation, minerals, etc.) is also an important consideration, but only within the capabilities and limits of healthy ecosystems.

In addition to the timber and livestock grazing benefits quantified above, other benefits would be provided through restoration activities designed to move current ecosystem conditions to the desired condition. The expected ecological outcomes from restoration activities are not easily quantified, either biophysically, culturally, or economically; however, if they were successfully quantified they would show that valuable direct and indirect benefits (such as healthier plant and wildlife populations, cleaner water, cleaner air, lower soil productivity loss) would be provided. Along with ecological benefits, restoration activities also make an important human contribution through generating employment and economic activity.

## **Livestock AUMs**

### ***AUM Production Levels***

Table 2 also shows estimated domestic livestock use on Forest Service- and BLM-administered lands, measured in animal unit months (AUMs), by RAC/PAC for each alternative. Percentage changes in AUMs from Alternative S1 to Alternatives S2 and S3 are also shown.

Figures in the table represent estimated annual average use for the first decade after plan implementation. AUMs were calculated as part of the CRBSUM modeling process, discussed in the landscape section of Chapter 4 of the Supplemental Draft EIS. Prescriptions designed to reflect objectives, standards, and management priorities were applied to areas as defined by each alternative, with resulting effects on the quality, or health, of rangelands estimated by the model. Investments in rangeland improvements and changes in rangeland management practices are expected to improve quantity of forage, as well as the quality of the rangelands, although only the latter was modeled.

While these modeling estimates do not state the total forage that could be produced in the basin, the AUMs shown in Table 2 are an estimate of the sustainable grazing that could be allowed as a consequence of management direction implemented for watershed and ecosystem protection and restoration. Management direction does not require certain levels of permitted livestock grazing. Rather, it describes desired rangeland conditions. Therefore, changes in AUMs are indirect consequences, rather than prescribed outcomes, of this direction. Estimated grazing is reported and discussed only for the first decade of plan implementation.

**Table 2. Projected Animal Unit Months (AUMs), by RAC/PAC and Alternative, Annual Average First Decade,<sup>1</sup> Project Area and All Lands.**

	Change from S1				Change from S1		
	Alt. S1	Alt. S2	AUMs	%	Alt. S3	AUMs	%
<b>Project Area (FS/BLM Lands)</b>							
<b>RAC/PACs</b>							
Butte	38,000	34,700	-3,300	-9	34,300	-3,700	-10
Klamath	42,800	39,300	-3,500	-8	39,700	-3,100	-7
Deschutes	113,600	95,300	-18,300	-16	91,300	-22,300	-20
John Day-Snake	347,400	324,100	-23,300	-7	311,500	-35,900	-10
Southeastern Oregon	765,500	697,800	-67,700	-9	681,100	-84,400	-11
Lower Snake River	581,000	546,500	-34,500	-6	545,300	-35,700	-6
Upper Snake River	741,100	609,800	-131,300	-18	616,200	-124,900	-17
Upper Columbia-Salm.Clearw-R4	365,800	337,200	-28,600	-8	334,400	-31,400	-9
Eastern Washington	65,100	63,900	-1,200	-2	61,800	-3,300	-5
Yakima	3,900	3,700	-200	-5	3,800	-100	-3
Eastern Washington Cascades	12,400	12,300	-100	-1	12,300	-100	-1
Upper Columbia-Salm.Clearw-R1	34,000	33,700	-300	-1	33,700	-300	-1
<b>Total - FS/BLM Lands</b>	<b>3,110,600</b>	<b>2,798,300</b>	<b>-312,300</b>	<b>-10</b>	<b>2,765,300</b>	<b>-345,300</b>	<b>-11</b>
<b>All Lands</b>							
<b>Total - All Lands</b>	<b>45,752,000</b>	<b>45,439,600</b>	<b>-312,400</b>	<b>-1</b>	<b>45,406,700</b>	<b>-345,300</b>	<b>-1</b>

Abbreviations used in this table:

RAC = Resource Advisory Council	FS = Forest Service
PAC = Provincial Advisory Committee	BLM = Bureau of Land Management
R1 = Forest Service Northern Region	R4 = Forest Service Intermountain Region

<sup>1</sup> Sums of columns may not equal totals because of rounding.

Project Area = Forest Service- and BLM-administered lands.

Source: Crone and Haynes 1999.

*Management direction does not require certain levels of permitted livestock grazing. Rather, it describes desired rangeland conditions.*

The projected decline in AUMs does not reflect any possible future changes in the structural nature of the livestock industry, such as shifts in the share of range feeding compared to stockyard feeding for cattle, shifts in the culture and economics of ranching, or the withdrawal and conversion of lands from ranching to other types of development (such as resorts, housing developments, and the like). Some or all of these types of changes may occur, with associated effects on the livestock grazing industry in the basin. However, they are outside the control of the agencies and were not modeled.

Livestock grazing use projected for Forest Service- and BLM-administered lands under Alternatives S2 and S3, compared to continuation of current management in Alternative S1, would be expected to decrease 10 percent and 11 percent, respectively. The effect compared to total grazing use on all ownerships would be much smaller—less than one percent decrease for either alternative. The projected decline in grazing from implementation of Alternative S2 or Alternative S3 confirms the USDI/USDA (1994) projection of reductions in grazing use over the next two decades to protect rangelands from further degradation and to provide protection for habitats of listed species (see Chapter 2 of the Supplemental Draft EIS). That process started with the implementation of PACFISH, INFISH, and Healthy Rangelands direction, and it would continue with implementation of either of the action alternatives.

With Alternatives S2 and S3, all RAC/PACS would see a decline in AUMs on Forest Service- and BLM-administered lands. The changes in grazing levels from Alternative S1 are not consistent among the RAC/PACS in magnitude.

While the overall decrease in grazing levels for the project area is somewhat larger for Alternative S3 than for Alternative S2, only 7 of the 12 RAC/PACS would actually

experience greater declines in Alternative S3. Three RAC/PACS would show smaller declines in Alternative S3 compared to Alternative S2; the other 2 RAC/PACS would see no difference in grazing levels. These variations between the two alternatives reflect the differences among RAC/PACS in geographic extent of A1/A2 subwatersheds, T watersheds, and riparian conservation areas in conjunction with the difference in focus, amount, and location of restoration activities.

While the total effect on basin-wide grazing use from either Alternative S2 or Alternative S3 would be very small, there could still be impacts at the local level in some areas. Those ranching operations that are most dependent on grazing Forest Service- and BLM-administered range allotments would be likely to feel a more substantial effect from changes in AUMs from these lands.

### ***Predictability and Sustainability of Livestock Production***

Although projected grazing use was drawn in part from livestock-oriented management direction, this direction was assigned to improve ecosystem conditions, not to achieve a particular livestock production objective. Improving ecological conditions on rangelands depends on application of grazing systems, managing season of use, and investing in range improvements, as well as on control of the number of livestock grazed. While Alternative S1 would continue current livestock and grazing management practices under PACFISH, INFISH, and other existing management direction from land use plans, Alternatives S2 and S3 would implement more comprehensive, landscape-scale livestock and grazing management practices. This may introduce additional uncertainty in forage and livestock production compared to continuation of current practices. As shown in Table 2, changes in amounts of grazing use could be expected from implementing Alternatives S2 and S3.

Both private livestock operators and the agencies would face some additional costs for management of rangeland and livestock grazing if either Alternative S2 or S3 were selected, above those cost increases that have already been incurred with the implementation of PACFISH, INFISH, and Healthy Rangelands management direction. At this broad scale, it was not possible to estimate costs for implementing new, potentially more intensive management practices for livestock operators; however, costs were estimated for the rangeland restoration and maintenance work associated with each alternative. Those costs currently average \$0.10 per acre; under the action alternatives they are estimated to be \$0.40 per acre for high restoration priority subbasins and \$0.15 per acre for other subbasins (Crone and Haynes 1999). Additional mid-scale analysis should provide information on the expected magnitude of additional costs of rangeland management, livestock grazing, and rangeland restoration, as well as their distribution between the livestock operators and agencies.

If short-term uncertainty for livestock operators is assumed to increase with the implementation of new management direction, then the most to least predictable alternative in the short term would be Alternative S1, followed by Alternative S2, and then Alternative S3. There would be little difference between Alternatives S2 and S3. The major source of additional uncertainty in Alternative S3 would be potentially more stringent consultation requirements and mitigation measures at the individual project and allotment levels, because Alternative S3 requires less Ecosystem Analysis at the Watershed Scale (EAWS) than Alternative S2.

Over time, predictability for Alternatives S2 and S3 should improve as new allotment management plans are completed, rangeland conditions improve, and operators adjust to new direction. Short-term effects on the ranching industry that could result from proposed changes include: financially marginal operators departing, financially stable operators becoming marginal, and larger or more efficient operators buying out smaller or less efficient ones.

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*Over time, predictability should improve as new allotment management plans are completed, rangeland conditions improve, and operators adjust to new direction.*

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## Timber Volume

### *Timber Production Calculations*

Estimated average annual timber production for the first decade from Forest Service- and BLM-administered lands, measured in millions of board feet (mmbf), is shown in Table 3 by RAC/PAC for each alternative. Percentage changes in timber harvest levels from Alternative S1 to Alternatives S2 and S3 are also shown.

Timber production was calculated as part of the CRBSUM modeling process, discussed in the landscape section earlier in this document. Prescriptions reflecting objectives, standards, and priorities were assigned in the CRBSUM model. Timber production levels were projected based on acres to be treated by timber harvesting (commercial thinning and final harvest) to achieve the objectives of the alternatives. Timber production is not prescribed by the management direction. It results from the restoration activities conducted to achieve the desired outcomes expressed in the management direction. Because of the broad-scale basis of the CRBSUM model and its underlying data, timber harvest levels were projected for the project area as a whole and for each RAC/PAC area.

**Table 3. Projected Timber Harvest (mmbf), by RAC/PAC and Alternative, Annual Average First Decade,<sup>1</sup> Project Area and All Lands.**

	Alt. S1	Alt. S2	Change from S1		Alt. S3	Change from S1	
			mmbf	%		mmbf	%
<b>Project Area (FS/BLM lands)</b>							
<b>RAC/PACS</b>							
Butte	161	174	13	8	172	11	7
Klamath	41	51	10	24	51	10	24
Deschutes	56	57	1	2	59	3	5
John Day-Snake	122	190	68	56	179	57	47
Southeastern Oregon	73	99	26	36	90	17	23
Lower Snake River	42	59	17	40	64	22	52
Upper Snake River	12	14	2	17	14	2	17
Upper Columbia-Salm.-Clearw.-R-4	116	145	29	25	140	24	21
Eastern Washington	49	48	-1	-2	52	3	6
Yakima	0	1	1	nc	1	1	nc
Eastern Washington Cascades	3	4	1	33	5	2	67
Upper Columbia-Salm.-Clearw.-R-1	138	144	6	4	155	17	12
<b>Total FS/BLM Lands</b>	<b>814</b>	<b>986</b>	<b>172</b>	<b>21</b>	<b>981</b>	<b>167</b>	<b>21</b>
<b>All Lands</b>							
<b>Total All Lands</b>	<b>3,355</b>	<b>3,528</b>	<b>173</b>	<b>5</b>	<b>3,522</b>	<b>167</b>	<b>5</b>

Abbreviations used in this table:

RAC = Resource Advisory Council      FS = Forest Service  
PAC = Provincial Advisory Committee      BLM = Bureau of Land Management  
mmbf = million board feet      nc = not calculable

<sup>1</sup>Sums of columns may not equal totals because of rounding.

Project area = Forest Service- and BLM-administered lands.

Source: Crone and Haynes 1999.

Timber production estimates are based on simulations of natural disturbance and succession processes (including natural fire and vegetation growth) as well as human management of fuels and vegetation. This method is different from traditional timber scheduling models (see Table 4). Refined estimates of timber supply and sustainability need to be completed by individual national forests and BLM districts as they adjust their land use plans. Until then, these initial projections provide estimates of the relative differences among the alternatives at the broad scale.

As a result of the restoration and maintenance of sustainable ecosystems, most of the commercially saleable volume in the first decade is expected to come from the large amounts of forest and woodland restoration work proposed, particularly in Alternatives S2 and S3. These trees generally will be smaller and of poorer quality than what typically has been harvested commercially in the past.

### *Timber Production Levels*

Timber production estimated for Forest Service- and BLM-administered lands under Alternatives S2 and S3 compared to Alternative S1, would change by almost the same

amounts, rising by about 172 mmbf and 167 mmbf (approximately 21 percent), respectively. The effect compared to total timber production from all ownerships would be much smaller—an increase of about five percent for either alternative.

With Alternative S2, all RAC/PACS except the Eastern Washington RAC would see an increase in timber harvest levels compared to Alternative S1. In Alternative S3, all RAC/PACS would see an increase in timber harvest levels from Forest Service- and BLM-administered lands, compared to Alternative S1.

**Table 4. Comparison of Modeling Methods with Regard to Sustainability and Predictability of Timber Harvest Levels.**

<b>Projecting Timber Outputs in Conventional Modeling</b>	<b>Projecting Timber Outputs in ICBEMP Broad-scale Landscape Disturbance Modeling</b>
Management intensity and timber harvest rates are based on a formal system designed to provide predictable timber outputs	System is adapted to accommodate new management approaches designed to provide more predictable landscape disturbance outcomes.
Sustained yield of wood fiber is used as a formal measure of sustainability based on the premise that sustained timber yield, properly constrained and mitigated, would sustain the underlying forest processes.	Sustained yield of wood fiber is still important, but not as a formal measure of sustainability. Sustainability is more broadly defined to account for ecosystem functions, processes, and landscape disturbance.
Assumes static ecosystems.	Assumes dynamic ecosystems.
Pattern, timing, and type of disturbance are designed to support sustained yield of wood in perpetuity by managing the age, size, species, and development of forest growing stock.	Pattern, timing, and type of disturbance are designed to support desired disturbance patterns and ecosystem processes and conditions by managing cover types and structural stages across the landscape.

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*Most of the commercially saleable volume in the first decade is expected to come from the large amounts of forest and woodland restoration work proposed.*

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Among the RAC/PACS, the changes in harvest levels from Alternative S1 are not consistent in magnitude. While the overall increase for the ICBEMP project area would be similar for Alternatives S2 and S3, four of the RAC/PACS would experience larger increases in Alternative S2, compared to Alternative S3. Three RAC/PACS would not change between the two alternatives, while the others would show smaller increases in Alternative S2 compared to Alternative S3. These variations between the two alternatives reflect the differences among RAC/PACS in locations and sizes of A1/A2 subwatersheds, T watersheds, and riparian conservation areas (RCAs) in conjunction with the difference in focus, amount, and location of restoration activity using timber harvest as a management tool and the size of the timber resource base.

While the total effect on basin-wide production of timber from Forest Service- and BLM-administered lands from Alternative S2 or S3 would be relatively small (about a five percent increase), there would be larger or smaller impacts in some localized areas. Those timber harvest and milling operations that are most dependent on wood from Forest Service- and BLM-administered lands would likely feel a more substantial effect from changes in timber harvest from agency lands.

### ***Predictability and Sustainability of Timber Harvest Volume Levels***

The projected timber harvest volumes displayed in Table 3 are not based on more traditional timber harvest modeling methods. Rather, they are based on the broad-scale landscape disturbance and succession approach, which expands the meaning of sustainability to include all components and processes of ecosystems and to account for the role of disturbance regimes in shaping how ecosystems change over time. Some key differences between conventional timber modeling and the landscape approach used in the Supplemental Draft EIS are displayed in Table 4. Refined estimates of timber supply will be determined when the selected alternative is incorporated into local Forest Service and BLM land use plans.

Shifting management objectives and silvicultural prescriptions from a timber production emphasis to a restoration emphasis would change both the nature of the timber product removed from the forest and the cost of removing it. Log size, log quality, and volume per acre removed are critical to the profitability of harvest operations and lumber manufacturing. Average diameter of trees removed has been shown especially important to the financial feasibility of a timber sale (Crone and Haynes 1999).

Achieving the projected levels of timber harvest (as shown in Table 3) assumes that all the estimated available volume will be sold. However, an emphasis on the restoration work prescribed to produce desirable stand structures and other ecosystem characteristics would generally result in harvesting smaller diameter trees and producing less volume per acre. Restrictions on the removal of large trees will have similar results. As noted earlier, both log size and volume per acre removed are critical to the profitability of harvest operations and lumber manufacturing. These factors, along with the use of higher cost logging systems, would have a higher risk of not being sold than would the prescriptions in Alternative S1. An unsold timber sale either delays the accomplishment of restoration objectives or shifts the restoration work from a timber sale to a service contract, which is generally a higher cost option.

These factors raise uncertainty about the timber harvest projections under Alternatives S2 and S3. However, the amount of timber that is offered for sale and how it is marketed are also key determinants of how much timber is ultimately sold. Differences in marketing practices among national forests have shown major differences in timber sale success. Therefore, different marketing approaches can mitigate the uncertainty associated with timber harvest projections. There is little uncertainty associated with the volume projected for Alternative S1; it is based on actual timber harvests and is the result of current marketing practices.

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*While the total effect on basin-wide production of timber from FS/BLM lands would be relatively small, there would be larger or smaller impacts in some localized areas.*

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## Forest and Rangeland Restoration Activity Levels

Maintenance and restoration of watersheds and terrestrial habitats constitute a major focus of Alternatives S2 and S3. Restoration work is expected to provide both biophysical and socio-economic benefits. Ecosystem structure, function, and process would be anchored and maintained where already in good shape, and will be strengthened and restored where degradation has occurred. At the same time, restoration project expenditures would provide additional employment in local areas.

On-the-ground restoration activities that were not modeled will be identified during the step-down process through national forest/BLM land use planning, Subbasin Review, EAWS, and site-specific NEPA analyses. These types of restoration activities include road treatments (decommissioning, closures, storm proofing, and upgrading), and in-stream and stream channel improvements.

### Forest/Woodland Restoration Activity Levels

Forest and woodland restoration activities that were modeled include planting after timber harvest and pre-commercial thinning. Expected acres of restoration activity to be carried out each year over the first decade are displayed for the project area and by RAC/PAC in Table 5. Percentage changes in acres from Alternative S1 to Alternatives S2 and S3 are also shown. The total amount of forest/woodland restoration activity, including both harvest and pre-commercial thinning, would increase substantially compared to Alternative S1: about 40 percent for Alternative S2 and almost 35 percent for Alternative S3.

**Table 5. Acres of Projected Forest/Woodland Restoration Activity <sup>1</sup> by RAC/PAC and Alternative, Average Annual First Decade, <sup>2</sup> Project Area.**

	Alt. S1	Alt. S2	% Change from S1	Alt. S3	% Change from S1
<b>Project Area (FS/BLM Lands)</b>					
<b>RAC/PAC</b>					
Butte	26,300	33,700	28	33,400	27
Klamath	11,300	14,400	27	14,300	26
Deschutes	12,600	15,400	22	15,000	19
John Day-Snake	21,400	38,500	80	35,300	65
Southeastern Oregon	17,600	26,300	49	23,100	31
Lower Snake River	6,100	10,200	67	10,200	67
Upper Snake River	2,100	3,700	76	3,500	67
Upper Columbia-Salm.Clearw.-R4	19,000	24,200	27	23,700	25
Eastern Washington	7,300	8,600	18	9,200	26
Yakima	100	100	0	100	0
Eastern Washington Cascades	600	1,100	83	1,200	100
Upper Columbia-Salm.Clearw.-R1	17,300	22,500	30	23,000	33
<b>Total FS/BLM Lands</b>	<b>141,700</b>	<b>198,600</b>	<b>40</b>	<b>192,000</b>	<b>35</b>

Abbreviations used in this table:

RAC = Resource Advisory Council

FS= Forest Service

PAC = Provincial Advisory Committee

BLM= Bureau of Land Management

<sup>1</sup>Includes post-harvest reforestation and pre-commercial thinning.

<sup>2</sup>Sum of columns may not be equal totals because of rounding.

Project Area = Forest Service- and BLM-administered lands.

Source: Crone and Haynes 1999



With Alternatives S2 and S3, all RAC/PACS would see an increase in acres of forest/woodland restoration activity compared to Alternative S1.

Among the RAC/PACS, the changes in harvest or restoration levels from Alternative S1 to Alternatives S2 and S3 are not consistent in magnitude. Most of the RAC/PACS would follow the basin-wide pattern of more restoration acres under Alternative S2 than Alternative S3. However, three of the RAC/PACS have fewer projected restoration acres in Alternative S2 than Alternative S3. The differences by RAC/PAC between the two action alternatives can be attributed to differences in locations and sizes of A1/A2 subwatershed areas and riparian conservation areas by alternative, in conjunction with the difference in focus, amount, and location of restoration activity. In addition, restoration is distributed across 11 more high restoration priority subbasins in Alternative S3 than in Alternative S2.

Table 6 shows the planting portion of the total forest/woodland restoration activity for the project area and by RAC/PAC. Acres to be planted are based on the harvest acres requiring reforestation, as modeled in CRBSUM. At the basin scale, changes in planting from Alternative S1 to Alternatives S2 and S3 follow the pattern of the total forest/woodland restoration activity levels, as well as the pattern of timber harvest volume: both alternatives would show increases from Alternative S1, but Alternative S2 would show a slightly greater increase than Alternative S3.

Table 7 shows the pre-commercial thinning portion of the total forest/woodland restoration activity for the project area and by RAC/PAC. At the basin scale, changes in pre-commercial thinning from Alternative S1 to Alternatives S2 and S3 would follow the pattern of the total forest/woodland restoration activity levels: both alternatives would show increases from Alternative S1. In this case, Alternative S2 would have a significantly larger percentage increase than Alternative S3, although the numeric difference of just under 4,000 acres basin-wide is not as large as the percentage difference might suggest.

In summary, Alternatives S2 and S3, respectively, would increase planting and pre-commercial thinning acres similarly. Planting would increase just under 28,000 acres for Alternative S2 and just over 25,000 acres for Alternative S3. Pre-commercial thinning acres would increase 29,000 acres in Alternative S2 and just over 25,000 acres for Alternative S3. (Note that the percentage changes in pre-commercial thinning acres, as shown in Table 7, are much larger than for planting acres because they begin with a substantially lower base.)

### ***Rangeland Maintenance and Restoration Activity Levels***

Rangeland maintenance and restoration activities are currently occurring (Alternative S1). However, under the two action alternatives, acres treated each year in the first decade would increase, by about nine percent in Alternative S2 and four percent in Alternative S3. Rangeland restoration activities may include prescribed burning, weed control, mechanical treatments, thinning, and seeding. Expected acres of restoration activity to be carried out each year over the first decade are displayed for the project area and by RAC/PAC in Table 8.

For the basin as a whole, rangeland restoration activity would increase from the no-action alternative for both Alternatives S2 and S3, with Alternative S2 resulting in about 156,000 acres (or about five percent) more restoration than Alternative S3.

In general, the changes by RAC/PAC between Alternatives S2 and S3 would follow the same pattern as the project area as a whole. There is a smaller increase, or larger decrease, for Alternative S3 than for Alternative S2. The exceptions, both relatively minor, would be the Klamath and the Upper Snake River RACs.

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*Maintenance and restoration of watersheds and terrestrial habitats constitute a major focus of Alternatives S2 and S3. Restoration work is expected to provide both biophysical and socio-economic benefits.*

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**Table 6. Acres of Projected Post-Harvest Planting Activity <sup>1</sup> by RAC/PAC and Alternative, Average Annual First Decade, Project Area. <sup>2</sup>**

	Alt. S1	Alt. S2	% Change from S1	Alt. S3	% Change from S1
<b>Project Area (FS/BLM Lands)</b>					
<b>RAC/PAC</b>					
Butte	17,500	19,400	11	19,100	9
Klamath	10,000	12,400	24	12,400	24
Deschutes	10,800	12,600	17	12,600	17
John Day-Snake	19,600	29,600	51	27,800	42
Southeastern Oregon	15,300	21,300	39	19,100	25
Lower Snake River	5,400	7,600	41	8,300	54
Upper Snake River	1,300	1,400	8	1,400	8
Upper Columbia-Salm.Clearw.-R4	15,300	18,200	19	17,900	17
Eastern Washington	5,000	5,000	0	5,400	8
Yakima	0	100	nc	100	nc
Eastern Washington Cascades	500	600	20	700	40
Upper Columbia-Salm.Clearw.-R1	11,300	11,700	4	12,500	11
<b>Total BLM/FS Lands</b>	<b>112,000</b>	<b>139,900</b>	<b>25</b>	<b>137,200</b>	<b>23</b>

Abbreviations used in this table:

RAC = Resource Advisory Council

FS= Forest Service

PAC = Provincial Advisory Committee

BLM= Bureau of Land Management

nc = not calculable

<sup>1</sup>Portion of total forest/woodland restoration activity.

<sup>2</sup>Sum of columns may not be equal totals because of rounding.

Project Area = Forest Service- and BLM-administered lands.

Source: Crone and Haynes 1999.

**Table 7. Acres of Projected Pre-commercial Thinning Activity <sup>1</sup> by RAC/PAC and Alternative, Average Annual First Decade, <sup>2</sup> Project Area**

	Alt. S1	Alt. S2	% Change from S1	Alt. S3	% Change from S1
<b>Project Area (FS/BLM Lands)</b>					
<b>RAC/PAC</b>					
Butte	8,800	14,300	62	14,200	61
Klamath	1,300	2,000	54	1,900	46
Deschutes	1,700	2,700	59	2,400	41
John Day-Snake	1,900	8,900	368	7,600	300
Southeastern Oregon	2,300	5,000	117	4,000	74
Lower Snake River	800	2,600	225	2,000	150
Upper Snake River	800	2,200	175	2,100	163
Upper Columbia-Salm.Clearw.-R4	3,700	6,100	65	5,900	59
Eastern Washington	2,300	3,600	57	3,800	65
Yakima	0	0	nc	0	0
Eastern Washington Cascades	100	500	400	500	400
Upper Columbia-Salm.Clearw.-R1	6,000	10,800	80	10,500	75
<b>Total FS/BLM Lands</b>	<b>29,800</b>	<b>58,800</b>	<b>97</b>	<b>54,900</b>	<b>84</b>

Abbreviations used in this table:

RAC = Resource Advisory Council

FS= Forest Service

PAC = Provincial Advisory Committee

BLM= Bureau of Land Management

<sup>1</sup>Portion of total forest/woodland restoration activity.

<sup>2</sup>Sums of columns may not equal because of rounding.

Project Area = Forest Service- and BLM-administered lands.

Source: Crone and Haynes 1999.

**Table 8. Acres of Projected Rangeland Maintenance and Restoration Activity by RAC/PAC and Alternative, Average Annual First Decade,<sup>1</sup> Project Area .**

	Alt. S1	Alt. S2	% Change from S1	Alt. S3	% Change from S1
<b>Project Area (FS/BLM Lands)</b>					
<b>RAC/PAC</b>					
Butte	85,300	115,100	35	97,600	14
Klamath	84,400	66,200	-22	66,500	-21
Deschutes	167,100	144,700	-13	135,900	-19
John Day-Snake	305,000	377,400	24	349,600	15
Southeastern Oregon	1,115,200	1,144,200	3	1,092,900	-2
Lower Snake River	445,600	507,800	14	484,600	9
Upper Snake River	516,900	539,900	4	550,400	6
Upper Columbia-Salm.Clearw.-R4	278,600	315,600	13	299,600	8
Eastern Washington	33,000	54,200	64	47,900	45
Yakima	900	1,000	11	1,000	11
Eastern Washington Cascades	9,200	11,500	25	9,700	6
Upper Columbia-Salm.Clearw.-R1	32,700	61,500	88	47,500	45
<b>Total FS/BLM Lands</b>	<b>3,074,100</b>	<b>3,339,200</b>	<b>9</b>	<b>3,183,300</b>	<b>4</b>

<sup>1</sup>Sums of columns may not equal totals because of rounding.  
Project Area = Forest Service- and BLM-administered lands.

Abbreviations used in this table:

RAC = Resource Advisory Council  
PAC = Provincial Advisory Committee

FS= Forest Service  
BLM= Bureau of Land Management

Source: Crone and Haynes 1999.

### ***Prescribed Fire and Fuels Management***

The current ecological condition of many forested areas in the project area and their increased susceptibility to uncharacteristic wildfire are significant issues being examined through this EIS. Both action alternatives propose fuels management, prescribed fire, and wildland fire management direction to begin to move the condition of these forests toward their historical conditions. This would provide benefits in terms of reducing the risk of uncharacteristic wildfire and would promote recovery of terrestrial habitat that has been degraded or lost over the past century or more.

Expected acres of prescribed fire and fuels management activity each year over the first decade are displayed for the project area and by RAC/PAC in Table 9. Percentage changes in acres from Alternative S1 to Alternatives S2 and S3 are also shown.

As can be seen from Table 9, substantial increases are proposed in prescribed fire and fuels management activities for both action alternatives compared to no-action levels. For the basin as a whole, Alternative S2 would have about 350,000 acres of treatment per year more than Alternative S3. The increases would also be substantial on a percentage basis.

**Table 9. Projected Acres of Prescribed Fire and Fuels Management, by RAC/PAC and Alternative, Annual Average First Decade,<sup>1</sup> Project Area.**

	Change from S1		Change from S1		Change from S1		Change from S1	
	Alt. S1	Alt. S2	Acres	%	Alt. S3	Acres	%	
<b>Project Area (FS/BLM Lands)</b>								
<b>RAC/PAC</b>								
Butte	24,400	211,800	187,400	768	200,900	176,500	723	
Klamath	13,100	43,300	30,200	231	37,200	24,200	184	
Deschutes	24,300	79,400	55,100	227	80,200	55,900	230	
John Day-Snake	46,400	484,800	438,400	945	366,500	320,100	690	
Southeastern Oregon	33,900	313,000	279,100	823	182,100	148,100	437	
Lower Snake River	2,600	26,100	23,500	904	10,700	8,200	312	
Upper Snake River	3,500	17,300	13,800	394	18,600	15,100	431	
Upper Columbia-Salm.Clearw.-R4	17,700	98,700	81,000	458	84,800	67,100	379	
Eastern Washington	2,600	33,500	30,900	1,188	26,500	23,900	919	
Yakima	0	100	100	nc	0	0	nc	
Eastern Washington Cascades	800	14,300	13,500	1,688	10,800	10,100	1,250	
Upper Columbia-Salm.Clearw.-R1	11,700	134,200	122,500	1,047	91,400	79,700	681	
<b>Total FS/BLM Lands</b>	<b>181,100</b>	<b>1,456,400</b>	<b>1,275,300</b>	<b>704</b>	<b>1,109,900</b>	<b>928,900</b>	<b>513</b>	

<sup>1</sup>Sums of columns may not equal totals because of rounding.  
Project Area = Forest Service- and BLM-administered lands.

Abbreviations used in this table:

RAC = Resource Advisory Council  
PAC = Provincial Advisory Committee

FS= Forest Service  
BLM= Bureau of Land Management

Source: Crone and Haynes 1999.

## Special Forest Products

The effects of the alternatives on various special forest products—such as mushrooms, berries, ferns, and boughs—were not estimated. As mentioned in Chapter 2, ‘special forest products’ represents a small but growing industry, estimated already to be producing several hundred million dollars annually in sales. The demand for these products has been growing rapidly, from both within and outside the project area.

Several national forests and BLM districts have some management controls on harvesting some types of special forest products. The same type of varying management direction would continue under Alternative S1. Alternatives S2 and S3 would apply landscape-scale ecosystem maintenance and restoration objectives to agency lands throughout the basin.

Because knowledge of special forest products depends on site-specific information, the effects of management activities on special forest products will be analyzed at a finer scale during the step-down process (including land use plan adjustments, Subbasin Review and EAWS, and project-level NEPA analysis).

## Permitted Mineral and Energy Operations

Broad-scale effects on mineral and energy exploration and development were not estimated for the EIS and can only be inferred from management direction that could hinder potential operations.

Standards and guidelines to protect aquatic and riparian areas already in place on most Forest Service- and BLM-administered lands through PACFISH and INFISH, as well as additional aquatic and riparian protection under Alternatives S2 and S3, may increase the cost of mining and energy developments by limiting the location (or requiring relocation) of mining operations and facilities (such as mill buildings, settling ponds, sanitary and solid waste

structures, and overburden piles). Alternatives S2 and S3 may require relocating access roads or changing mine design and operation to avoid impacts on riparian areas.

## Recreation

The prediction in the Draft EISs of future recreation use on Forest Service- and BLM-administered lands was based on the interaction of supply (the number of acres in each Recreation Opportunity Spectrum [ROS] class) and demand (human population growth and demographic change). Little change in distribution of acres among ROS classes was projected in the short term, and change thereafter was predicted to be modest. Population growth would be the dominant factor affecting the type and amount of recreation uses during the next 10 years. In the longer term, demographic changes (especially an aging population) would become increasingly important.

For the Supplemental Draft EIS, the CRBSUM model predicted almost no change in distribution of ROS acres across the landscape in the short term. Also, changes in road conditions, locations, and accessibility—critical to the assessment of recreation supply and use patterns—were not modeled at this broad scale. Potential effects of objectives and standards to protect and restore aquatic and riparian habitats, such as those for riparian conservation areas, could not be modeled at the broad scale because they rely on more site- and condition-specific information.

Therefore, changes in recreation use were not predicted. Changes in recreation supply and expected use will be estimated and effects evaluated at the mid scale during the step-down process (Subbasin Review, EAWS, and land use planning), where more specific information will be available.

## Summary of Output and Activity Levels

- ▶ Model projections indicate that domestic livestock use of forage, as measured by animal unit months (AUMs), could decline, both basin-wide and by all RAC/PACS (with one minor exception), in the first decade under either Alternative S2 or Alternative S3, compared to Alternative S1. The estimated decreases could be 10 percent for Alternative S2 and 11 percent for Alternative S3. Reductions in AUMs could result indirectly from objectives and standards to be implemented for watershed and rangeland protection and restoration, as well as directly from the continued historical trend of contraction of the livestock industry in the basin from other social, cultural, and economic factors
- ▶ Timber harvest levels in the first decade are projected to increase at both the basin level and by all RAC/PACS as the consequence of implementation of either Alternative S2 or Alternative S3, compared to Alternative S1. Estimated increases would be just over 21 percent for Alternative S2 and just under 21 percent for Alternative S3. Harvest level increases would come primarily from commercial thinning and other harvest activity designed to promote ecosystem and forest stand restoration (stewardship harvest). While harvest levels would increase in Alternatives S2 and S3, the size and quality of logs produced would decrease because of the stand restoration objectives guiding the thinning and harvest activities. Thus, there is uncertainty about the actual commercial marketability of the total volume of wood that is projected for harvest.
- ▶ Forest/woodland restoration activity (pre-commercial thinning and planting), measured in acres treated, would increase substantially in the first decade, by 40 percent for Alternative S2 and 36 percent for Alternative S3, compared to Alternative S1. There would be a modest increase in rangeland restoration and maintenance: nine percent for Alternative S2 and four percent for Alternative S3. With the focus on reducing forest and range susceptibility to uncharacteristic wildfire and threats to the urban–rural–wildland interface, there would be large increases in acres treated by prescribed fire and fuels management in the first decade compared to Alternative S1: seven-fold for Alternative S2 and five-fold for Alternative S3.

*Each of the three alternatives has a certain degree of uncertainty and unpredictability associated with it.*

- Each of the three alternatives has a certain degree of uncertainty and unpredictability associated with it. The non-traditional broad-scale outcome-based objectives and standards in Alternatives S2 and S3—designed to achieve restoration and maintenance of sustainable ecosystems—have not been operationally tested at this scale before. Therefore, there is uncertainty about the levels of goods and services (timber harvest and grazing) that are projected, as well as the effectiveness of the proposed restoration activities in achieving the desired results. On the other hand, Alternative S1, with its continuation of varying management direction across the basin, and no systematic requirements for hierarchical ecosystem analysis (Subbasin Review or EAWS), also faces uncertainty in implementation. There would continue to be project-by-project and area-by-area consultation and mitigation requirements for protection of species listed under the Endangered Species Act (ESA), without broader scale context. Thus, for Alternative S1, the individual mitigation requirements may be more varied, and more restrictive in total, than the management direction, A1/A2/T habitat designations, and restoration focus of Alternatives S2 and S3.

## Potential Needs for Reprogramming Funds

### Reprogramming Issues

No reprogramming of funds is proposed in fiscal year 2000 to implement any of the decisions anticipated to be in the project's Record of Decision (ROD). Since there will be no local project-level actions taken as a result of the project's ROD in fiscal year 2000, no reprogramming of funds is needed.

The management direction in the Supplemental Draft EIS outlines an approach to the broad-scale identification of priorities to accomplish an efficient allocation of financial resources at a relatively modest increase of funding. Implementation of the Record of Decision will be financed through the normal process of federal appropriations from the Congress. As the federal agencies begin to implement the decisions, they will request changes in emphasis and funding through the normal appropriations process. They may also work to accomplish work through strategies such as partnerships and volunteers.

The alternatives in the Supplemental Draft EIS were developed under the following budget estimation principles:

- The cost of the alternatives must be realistic relative to current funding levels for the land management agencies. The alternatives were designed to accommodate a range of funding levels so that the Congress can annually assess the costs and benefits of resource management activities and set an appropriate level of restoration and management.
- The alternatives in the Supplemental Draft EIS provide direction for prioritizing restoration and identifying where to address significant issues within the project area with limited funding.

#### Requirement #4

*(4): If the requirements described in paragraphs (1) through (3) cannot be accomplished with the appropriations provided in this Act, adjusted only for inflation, in subsequent fiscal years and without any reprogramming of such appropriations, provide a detailed description of the decision-making process that will be used to establish priorities in accordance with such appropriations.*

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*The Supplemental Draft EIS was developed to provide a long-term, comprehensive strategy for managing public lands in the interior Columbia River Basin by addressing the critical, broad-scale forest and rangeland health, aquatic and terrestrial species, and social and economic issues facing the region.*

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- ▶ The pace of implementation will vary with the amount of funding. However, the emphasis and strategies of each alternative will remain the same regardless of funding level.
- ▶ The selection of the preferred alternative will be based on its emphasis and strategies and not on funding levels.
- ▶ Funding to address restoration issues will be allocated toward the highest priority restoration subbasins within the project area. If appropriated by the Congress, this will occur through the course of administrative decision-making and prioritizing of the land management agencies.
- ▶ The decision-making process to be used to establish priorities in accordance with such appropriations is consistent with the internal administrative procedures of the Forest Service and the BLM.

## Summary Conclusions

The Supplemental Draft EIS was developed to provide a long-term, comprehensive strategy for managing public lands in the interior Columbia River Basin by addressing the critical, broad-scale forest and rangeland health, aquatic and terrestrial species, and social and economic issues facing the region. These issues are difficult to address effectively on an individual national forest or BLM district level. The direction in the project's Record of Decision will provide these administrative units with policy and plans to more effectively address and resolve these issues.

The nature of the project's Record of Decision (ROD) is described in this report, along with a general characterization of the types of land and resource management policy and planning decisions to be made when 62 land use plans are updated by the ROD. Since the project's purpose and need is to provide broad-scale direction to guide federal land management in the project area, there are no local, project-level decisions identified in the Supplemental Draft EIS, and none are planned to be made in the Project's ROD. Direction from the ROD will influence and inform the types of decisions made at the local level.

No new formal decision-making structure will result from the project's Record of Decision. The project's ROD will most likely include increased analysis processes to assist local managers in making ecosystem-based decisions that take into account the risk to resources at various scales. The standard Forest Service and BLM organizational structure, field managers' decision-making structure, and administrative methodologies for allocating funds and establishing priorities will continue to be used, although all may be influenced by additional information provided by the broad-scale information and analysis of the final EIS.

Implementation cost estimates were made in the Supplemental Draft EIS. Assumptions were made to guide the analysis of effects in Chapter 4 of the Supplemental Draft EIS. Since no project-level decisions are planned to be made in the ROD, the estimates of costs for these types of decisions are not known at this time. Estimates of the costs of activities, analysis, and other implementation actions will be developed over time by the Forest Service and the BLM through the normal processes of budget development and budget justification.

The estimated production of goods and services by RAC and PAC in the project area is provided and discussed. In general, timber harvests are projected to increase at both the basin level and by RAC/PAC area as a consequence of implementation of restoration activities in Alternatives S2 and S3. Model projections indicate that domestic livestock use of forage could decline. Forest and woodland restoration activity would increase substantially in the first decade, up to as much as 40 percent in some cases. Rangeland restoration activity could increase modestly, up to approximately 9 percent.

No reprogramming of funds would be called for in the ROD. Implementation budget appropriations will be requested from the Congress through the normal processes of budget development and budget justification for the Forest Service and the BLM.

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# Glossary

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<b>A1/A2 subwatershed</b>	Refers to one of the components of the ICBEMP aquatic–riparian–hydrologic strategy. These areas provide a system of core subwatersheds that are the anchor for recovery and viability of widely distributed native fishes. Both A1 and A2 subwatersheds include important fish populations of one or more of the following: known strong populations for the seven key salmonids; important anadromous fish populations in the Snake River Basin; genetically pure populations of anadromous fish outside the Snake River Basin; and fringe populations for four of the key salmonids. A1 and A2 subwatersheds differ in their definition and their management direction, as described in Chapter 3 of the Supplemental Draft EIS.
<b>Allotment (grazing)</b>	Area designated for the use of a certain number and kind of livestock for a prescribed period of time.
<b>Animal Unit Month (AUM)</b>	The amount of feed or forage required by one animal unit (one mature cow of approximately 1,000 pounds, either dry or with calf up to 6 months of age, or their equivalent [one horse, five domestic sheep]) grazing on a pasture for one month.
<b>Basin</b>	(1) In general, the area of land that drains water, sediment, and dissolved materials to a common point along a stream channel. River basins are composed of large river systems. (2) In this report, the term refers to the equivalent of a 3rd-field hydrologic unit code, an area of about nine million acres, such as the Salmon River Basin. It also is used to refer to the interior Columbia River Basin assessment area (both Forest Service- and BLM-administered lands and other ownerships) as defined in the <i>Scientific Assessment</i> (Quigley and Arbelbide 1997).
<b>Consultation</b>	(1) An active, affirmative process that (a) identifies issues and seeks input from appropriate American Indian governments, community groups, and individuals; and (b) considers their interests as a necessary and integral part of the BLM's and Forest Service's decision-making process. (2) The federal government has a legal obligation to consult with American Indian tribes. This legal obligation is based in such laws as Native American Graves Protection and Repatriation Act (NAGPRA), American Indian Religious Freedom Act (AIRFA), and numerous other executive orders and statutes. This legal responsibility is, through consultation, to consider Indian interests and account for those interests in the decision. (3) The term also refers to a requirement under Section 7 of the Endangered Species Act for federal agencies to consult with the U. S. Fish and Wildlife Service and/or National Marine Fisheries Service with regard to federal actions that may affect listed threatened and endangered species or critical habitat.
<b>CRBSUM</b>	Columbia River Basin Successional Model, developed by the ICBEMP Science Integration Team to simulate landscape conditions and trends in the project area.
<b>Disturbance</b>	Refers to events that alter the structure, composition, or function of terrestrial or aquatic habitats. Natural disturbances include, among others, drought, floods, wind, fires, wildlife grazing, and insects and diseases. Human-caused disturbances include, among others, actions such as timber harvest, livestock grazing, roads, and the introduction of exotic species.
<b>Economically specialized community</b>	A community whose employment in one or more industry groups (for example, agriculture, mining, construction, or manufacturing), as a percentage of total community employment, is greater than the same percentage for the economic subregion in which the community is located. For instance, if the jobs in a particular industry group in the economic subregion make up 5 percent of total employment, but the jobs in the local community in that industry

account for 10 percent of total community employment, the community would be considered economically specialized in that industry. (See Reyna 1998 for more detail on determining economic specialization.)

<b>Ecosystem</b>	A complete, interacting system of living organisms and the land and water that make up their environment; the home places of all living things, including humans.
<b>Ecosystem health</b>	A condition where the parts and functions of an ecosystem are sustained over time and where the system's capacity for self-repair is maintained, such that goals for uses, values, and services of the ecosystem are met.
<b>Hydrologic</b>	Refers to the properties, distribution, and effects of water. Hydrology refers to the broad science of the waters of the earth—their occurrence, circulation, distribution, chemical and physical properties, and their reaction with the environment.
<b>INFISH</b>	Interim Inland Native Fish Strategy for the Forest Service's Intermountain, Northern, and Pacific Northwest Regions
<b>Irretrievable commitment</b>	A term that applies to losses of production or commitment of renewable natural resources. For example, while an area is used as a ski area, some or all of the timber production there is irretrievably lost. If the ski area closes, timber production could resume; therefore, the loss of timber production during the time the area is devoted to skiing is irretrievable but not irreversible, because it is possible for timber production to resume if the area is no longer used as a ski area.
<b>Irreversible commitment</b>	A term that applies to non-renewable resources, such as minerals and archaeological sites. Losses of these resources cannot be reversed. Irreversible effects can also refer to effects of actions on resources that can be renewed only after a very long period of time, such as the loss of soil productivity.
<b>Isolated community</b>	A community located more than 35 to 50 miles from any town with a population greater than 9,000. Communities with populations between about 1,900 and 9,000 are referred to as "isolated trade centers." (See Reyna 1998 for additional details on how isolated communities were specified.)
<b>Monitoring</b>	A process of collecting information to evaluate whether or not objectives of a project and its mitigation plan are being realized. Monitoring allows detection of undesirable and desirable changes so that management actions can be modified or designed to achieve desired goals and objectives while avoiding adverse effects on ecosystems.
<b>Noxious weed</b>	A plant species designated by federal or state law as generally possessing one or more of the following characteristics: aggressive and difficult to manage; parasitic; a carrier or host of serious insects or disease; or non-native, new, or not common to the United States. According to the Federal Noxious Weed Act (PL 93-639), a noxious weed is one that causes disease or has other adverse effects on man or his environment and therefore is detrimental to the agriculture and commerce of the United States and to the public health.
<b>Objective (management)</b>	In this report and the Supplemental Draft EIS, indicates short-term (10 years or less) and/or long-term (longer than 10 years) outcome(s) that is (are) expected or desired. Objectives are more specific than goals, and they focus primarily on conditions or processes we are trying to achieve or prevent rather than on specific actions or restrictions. Whenever possible, time periods expected to attain the outcome are specified.
<b>PACFISH</b>	Interim Strategies for Managing Pacific Anadromous Fish-producing Watersheds in Eastern Oregon and Washington, Idaho, and Portions of California.
<b>Prescribed fire</b>	Intentional use of fire under specified conditions to achieve specific management objectives.

<b>Project area</b>	In this report and the Supplemental Draft EIS, refers to Forest Service- and BLM-administered lands to which decisions in the ICBEMP Record of Decision will apply. It encompasses both the Eastside and UCRB planning areas as described in the Draft EISs, minus the areas excluded from the decision space (see the Project Area section in Chapter 1 of the Supplemental Draft EIS).
<b>RAC/PAC</b>	Resource Advisory Council/Provincial Advisory Committee. Resource advisory councils (RACs) were established by the BLM to provide a forum for non-federal partners to engage in discussion with agency managers regarding management of federal lands. Provincial advisory committees (PACs) were established by the Forest Service, under the Northwest Forest Plan, to provide a forum for non-federal groups and individuals to advise and make recommendations to agency land managers regarding management of federal lands.
<b>Rangeland health</b>	The degree to which the integrity of the soil and the ecological processes of rangeland ecosystems are sustained.
<b>Restoration</b>	Holistic actions taken to modify an ecosystem to achieve desired, healthy, and functioning conditions and processes. Generally refers to the process of enabling the system to resume acting or continue to act following disturbance as if the disturbances were absent. Restoration management activities can be either active (such as control of noxious weeds, thinning of over-dense stands of trees, or redistributing roads) or more passive (more restrictive, hands-off management direction that is primarily conservation oriented).
<b>Riparian conservation area (RCA)</b>	Delineated areas that encompass riparian ecosystems (transition areas between terrestrial and aquatic ecosystems). Management activities in RCAs will be governed by ICBEMP objectives, standards, and guidelines when the Record of Decision is signed.
<b>Soil productivity</b>	The capacity of a soil to produce plant growth, due to the soil's chemical, physical, and biological properties (such as depth, temperature, water-holding capacity, and mineral, nutrient, and organic matter content).
<b>Standard (management)</b>	In this report and the Supplemental Draft EIS, refers to required action, priority, process, or prescription that addresses how to achieve one or more objective(s). Standards can include restrictions on or prohibitions from taking an action in certain situations. Compliance with standards is mandatory.
<b>Step-down</b>	In this report and the Supplemental Draft EIS, refers to the process of applying broad-scale science findings and land use decisions to site-specific areas using a hierarchical approach of understanding current resource conditions, risks, and opportunities.
<b>Subbasin</b>	A drainage area of approximately 800,000 to 1,000,000 acres, equivalent to a 4th-field hydrologic unit code (HUC). Hierarchically, subwatersheds (6th-field HUC) are contained within a watershed (5th-field HUC); watersheds in turn are contained within a subbasin (4th-field HUC). This concept is shown graphically in Chapter 2 in the Supplemental Draft EIS.
<b>Subwatershed</b>	A drainage area of approximately 20,000 acres, equivalent to a 6th-field Hydrologic Unit Code (HUC). Hierarchically, subwatersheds (6th-field HUC) are contained within a watershed (5th-field HUC); watersheds in turn are contained within a subbasin (4th-field HUC). This concept is shown graphically in Chapter 2 of the Supplemental Draft EIS.
<b>Succession</b>	A predictable process of changes in structure and composition of plant and animal communities over time. Conditions of the prior plant community or successional stage create conditions that are favorable for the establishment of the next stage. The different stages in succession are often referred to as seral stages.
<b>Synergism (synergistic)</b>	Cooperative actions such that the total effect is greater than the sum of the effects taken independently.

<b>Tier</b>	Refers to the procedure of incorporating by reference the analyses of an environmental impact statement (EIS) of broader scope. For example, a Forest Service project-level EIS could tier to the analysis in a forest plan EIS; a forest plan EIS could tier to a regional guide EIS.
<b>T watershed</b>	Terrestrial T watersheds (5th-field HUCs) identified by the EIS Team based on whether they contained source habitat for one or more of five “Families” of terrestrial species. These five Families represent groups of species associated with habitats that have declined substantially in the project area since the historical period. In addition, the pattern of source habitats within these watersheds is most similar to that found historically. T watersheds alone do not constitute a network of habitats for terrestrial species; however, they represent one piece of the overall strategy to maintain and restore networks of habitat for terrestrial species.
<b>Watershed</b>	(1) The region draining into a river, river system, or body of water. (2) In this report and the Supplemental Draft EIS, a watershed also refers specifically to a drainage area of approximately 50,000 to 100,000 acres, which is equivalent to a 5th-field Hydrologic Unit Code (HUC). Hierarchically, subwatersheds (6th-field HUC) are contained within a watershed (5th-field HUC); watersheds in turn are contained within a subbasin (4th-field HUC). This concept is shown graphically in Chapter 2 in the Supplemental Draft EIS.

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