Pacific Northwest Rivers Study

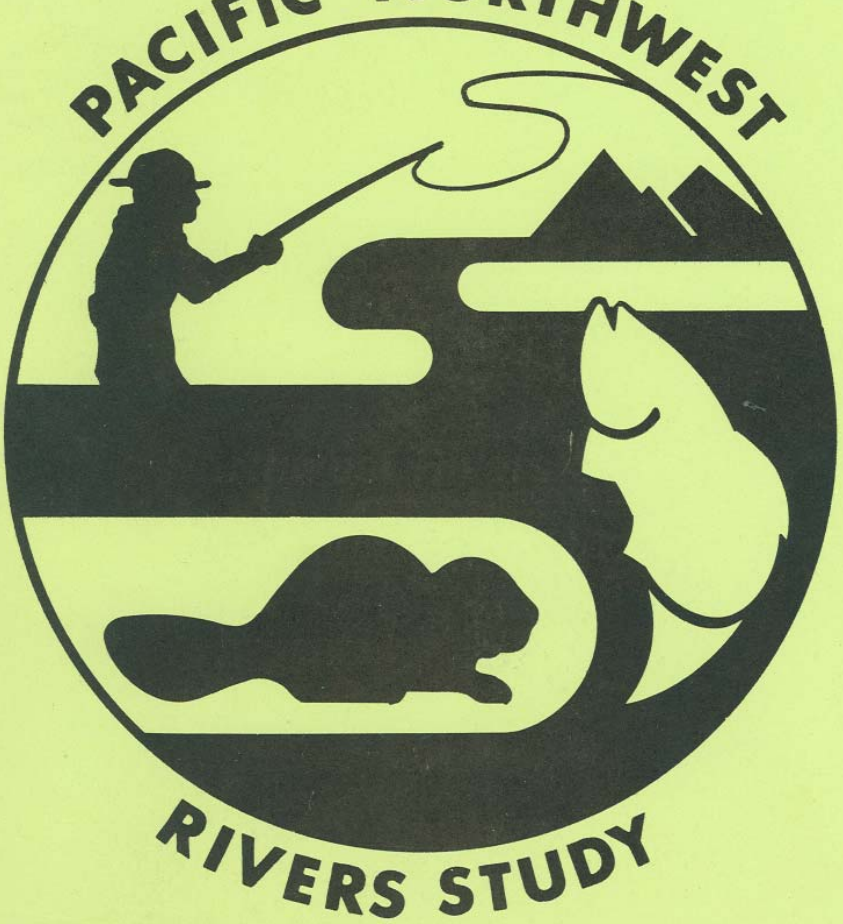
Assessment Guidelines: Idaho

State of Idaho
State of Montana
State of Oregon
State of Washington

NW Indian Tribes

USDA Forest Service
USDI Bureau of Land Management
USDI Fish and Wildlife Service
USDI National Park Service
NW Power Planning Council
Bonneville Power Administration

June 1985



JUNE 1985

PACIFIC NORTHWEST RIVERS STUDY ASSESSMENT GUIDELINES

IDAHO

Carl Nellis, Idaho State Coordinator
600 South Walnut
Boise, Idaho 83707
(208) 334-3180

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The Rivers Study staff extends special thanks to Mr. Drew Parkin and Mr. J. Glenn Eugster of the National Park Service's Mid-Atlantic Region for their help and professional guidance. It has been the key to the success of the Pacific Northwest Rivers Study.

PACIFIC NORTHWEST RIVERS STUDY ASSESSMENT GUIDELINES
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CHAPTER 1

OVERVIEW

Introduction

This document presents the process that the state, Federal agencies, and Indian tribes will follow to complete the Pacific Northwest Rivers Study (Rivers Study). It identifies assessment guidelines for each river resource category, provides reporting formats for data collection and presentation, and describes expected results and applications.

Agency Considerations

In order to effectively respond to existing policies and programs as well as to reflect differences in river character, data availability, and public concerns, the study has been organized into four state level studies. State, Federal, Tribal, and interest group participants will conduct the assessment using state boundaries as the geographical framework.

It is not the intent of the study to circumvent the management responsibilities of any state, Federal agency, or Indian tribe. The study is a cooperative planning effort which will benefit all participants. Results do not constitute official policy and by themselves imply no specific action by any participant.

Time Schedule and Products

The Rivers Study is an 18-24 month effort by the 4 northwest states, Federal agencies, and the Tribes. Funding of approximately 1.0 million dollars is being provided by the Bonneville Power Administration (BPA). Concurrently, the Northwest Power Planning Council (NPPC or Council) will provide $540,000 to evaluate anadromous fish resources and Indian cultural/archeological values. Rivers Study activities and goals, budgets, and time schedules are listed in the September 1984 Pacific Northwest Rivers Study Plan available from BPA.

Applications

The Rivers Study will produce a consistent and verifiable river resource data base. While this information may have utility for a variety of applications, the specific purpose of the project is to identify resource considerations which might have a bearing on hydropower development. The ultimate objective is to use this information to identify areas where minimal impact can be anticipated and thus where development might be appropriate. The study responds to the expressed need for resource information for the following:

1. Energy Supply Forecasting - NPPC and BPA
2. Protected Areas - NPPC: 1984 Columbia River Basin Fish and Wildlife Program §1204(c)(1).
3. Site Ranking - NPPC: Northwest Conservation and Electric Power Plan §14.2.

CHAPTER 2

RIVER ASSESSMENT PROCESS

Process

The major objective of the process is to identify the significance of river segments and systems for natural, cultural, and recreational resource categories. Comparative assessment is a major feature of this process. The process does not, however, result in rivers being ranked in numerical order. Rather, it clusters stream reaches into groups according to their relative resource significance.

The study is not an inventory or data collection exercise. The focus is on evaluation by recognized resource experts. The effort will rely on existing information and expertise with field survey kept to a minimum. Study conclusions will ultimately be the responsibility of these resource specialists. The states, Tribes, and Federal agencies will be represented in the evaluation process commensurate with their legal authorities and management responsibilities.

The following is a detailed description of the assessment process.

Step 1: Identification of fish, wildlife, natural, recreational, cultural, and institutional river resource categories.

Categories were chosen to: 1) accurately reflect the overall value of rivers and streams as natural resources; 2) reflect the interests of various public agencies and private interest groups; 3) acknowledge the resource responsibilities of the Tribes, states, and Federal agencies; and 4) reflect the priorities of the Pacific Northwest Electric Power Planning and Conservation Act [(Regional Act) P.L. 96-501]. Tribal cultural and archeological values will be included through a NPPC contract, as will regional anadromous fish values. Tribal participation in determining other river values will be through state level studies.

A "senior resource expert" and cooperating experts have been designated in each state to oversee activities related to each specific resource category. Cooperating experts will provide input into the assessment through the senior resource expert. This manual in Chapters 4-9 describes the methods to be used in the state level effort.

Step 2: Inventory of Existing Information and Identification of Experts

Each state task force has inventoried the availability of expertise and information in each of the six resource categories. Agencies, groups, individuals, or other sources possessing useful data or with the capacity to produce useful data within the study period were identified, including key contact person(s). A list of resource experts is included as Appendix A.

Step 3: Evaluation Criteria and Standards Development

For each river *resource* category, regional staff and senior resource experts have identified minimum standards and criteria by which data will be evaluated. These were subsequently adapted to meet the needs of each

individual state. Both quantitative and qualitative criteria are employed. In the development of standards and criteria, resource "potential" was taken into account.

This document is an effort to standardize criteria for each state level study and to ensure studywide consistency. The regional and state level project management staff, with input from relevant Federal, Tribal, and private interest group experts, have developed the criteria shown in this guide. A separate, yet similar, guide has been developed for each of the four northwest states. The actual assessment method may vary by resource category and by state. Evaluation forms have been developed for each resource category to promote efficiency and coordination.

Step 4: Individual Resource Category Evaluation

An independent inventory of river resources will be undertaken for each resource value category. Under the direction of designated senior resource experts, rivers and streams meeting minimum threshold standards will be assessed by field level specialists using the identified criteria and assessment procedures. Resource experts will assign a value class to each river segment on maps and data forms. River segment descriptions and rules governing treatment of tributaries will be determined by the state level project management staff. The number of river segments to be included in each value class will be determined by resource experts. No regionwide guidelines will be given.

Results will be compared for consistency, and river segments will be preliminarily grouped according to overall significance. As appropriate, similar assessments may be conducted by user groups to verify results. The resource evaluation findings will be reviewed by designated senior resource experts and agency and Tribal participants. Results will be revised as appropriate by the senior resource experts in consultation with regional project management. An opportunity to review results and provide comments will be given to private groups and citizens who have given input or expressed interest.

The final result of the category assessment will be the identification of all river areas which should be recognized as possessing a particular fish, wildlife, natural, recreational, cultural or institutional value and an identification of the relative significance of each area. The terms outstanding significance, substantial significance, moderate significance, limited significance, and unclassified or unknown are used to denote relative value. Areas with no resource value will be noted.

Step 5: Display of Category Results

Results will be displayed in tabular data forms and also recorded on base maps at an appropriate scale for each resource value. Where available and applicable, a scale of 1:100,000 will be used. The basis for expert judgments will be recorded in narrative form on data sheets for each river segment or segments. Maps of a scale suitable for public presentation (1:500,000) will also be developed. Public meetings to present the findings of Step 4 and the graphic displays of Step 5 may be held. Preliminary statewide results are projected to be available in November 1985.

Step 6: Information Synthesis (1986)

Information obtained for all resource categories will be combined. All significant values associated with a given river or stream will be identified and all tributaries which contribute to these values will be noted. A matrix

format will likely be used as the mechanism for displaying this information. The matrix will identify the total number of resource values associated with each river segment and system and will indicate significance ratings. Ultimately, this information will be incorporated into a computerized data management system. The specific format of this system is to be determined. For purposes of information synthesis, river segments will likely be defined using the following guidelines:

1. Where a river possesses a combination of overlapping values, the outer boundaries of the overlapping values determines the boundary of the segment.
2. A tributary stream which flows into, and is connected to, a larger river area generally is included in the larger river segment description if the tributary stream: a) possesses natural, cultural, or recreational values consistent with those of the main river area, and b) significantly enhances the overall value of the larger river segment's resources. The specific mechanism for entering data on tributary streams is to be determined.
3. A tributary stream with natural, cultural, or recreational values greater than those of a connecting main river area is listed separately.
4. Larger connecting rivers may be listed as tributaries to a river system in certain unique situations, e.g., where: a) the rivers are free flowing and within an undeveloped watershed, and b) the rivers in the watershed exhibit a high degree of hydrological and ecological interdependence.

Step 7: Composite Resource Value Evaluation (Optional)

Using information obtained through this process, it is possible to conduct a composite resource value evaluation. The objective would be to determine overall resource significance of segments and systems and to achieve a sense of agreement between interests as to these findings. This step is optional following completion of the Rivers Study and will not be funded by BPA as part of the current effort.

Composite value findings can give an indication of multiple public values and can thus guide the Council, the states, the Tribes, and Federal agencies in setting priorities. If such an effort is undertaken, it should be structured so as to not diminish the individual category findings derived in Step 4 as they relate to programs directed at specific resource categories.

Step 8: Documentation and Presentation

The study's findings will be documented and graphic presentations of data prepared. Detailed state by state reports and a summary regionwide report will be prepared. A special effort will be made to document the significance of reaches and systems found to possess high and/or unique resource values, as well as those reaches reflecting the priorities of the Regional Act. Statutory recognition (Wild and Scenic Rivers, National Parks, inclusion in Wilderness Areas, etc.) will be included. The final report prepared by regional staff with state, Tribal, and agency assistance will include identification of potential protected areas, narrative descriptions, tabular information, and maps which depict and document the comparative significance of resources for each value category,

CHAPTER 3

METHODOLOGY GUIDELINES

Criteria and Standards

The following chapters identify the assessment guidelines to be followed in conducting the Rivers Study. They were originally derived from the Maine Rivers Study, the Idaho Rivers Inventory, the Montana Fish and Wildlife Valuation Procedures, and the New Hampshire River Protection and Energy Development Project and have been modified to suit unique state, agency, and Tribal requirements. While specific methods will vary by state and resource category, an attempt has been made to ensure an acceptable level of consistency throughout the region.

For each river resource category listed below, regional staff and senior resource experts have identified standards and criteria by which data will be evaluated. "Standards" refer to the evaluation measures used to determine "minimum thresholds of significance." "Criteria" refers to those attributes used to critically evaluate specific rivers or river systems meeting the minimum threshold of significance for a given resource category. Minimum thresholds will be set by each state level staff in consultation with regional level project management and participating agency and Tribal resource experts. As a general rule, thresholds will be set to ensure the valuation of all rivers where documented resource data exists. Both quantitative and qualitative criteria will be employed. In the development of standards and criteria, documented or planned resource "potential" will be taken into account.

Resource experts will assign each river segment to a value class based on best available information and judgment. The assessment guidelines shown in Chapters 4-9 were designed to help determine the appropriate class. Guidelines were developed in order to promote objectivity and consistency.

Resource Categories

Fish and wildlife, natural, recreational, cultural, and institutional river resource categories were chosen to:

1. Accurately reflect the overall value of rivers and streams as natural resources;
2. Reflect the interests of various public agencies and private interest groups;
3. Acknowledge the resource responsibilities of the Tribes, states, and Federal agencies;
4. Reflect the priorities of the Regional Act.

Fish and wildlife categories based on qualitative measures of habitat value have been included to ensure that the study meets the needs of the Council's Fish and Wildlife Program. Tribal cultural and archeological values will be included through a Council contract as well as Tribal participation in the state level studies. Regional anadromous fish values will be developed by the Council. A senior resource expert in each state will be designated to coordinate activities related to each specific resource category. Public and private experts will provide input into the assessment. The resource categories will include, at a minimum, the following:

- o Resident Fish (Chapter 4)
  - cold water
  - warm water
  - spawning, rearing, and migration areas
  - sport fisheries
  - Indian subsistence fishery

- o Wildlife (Chapter 5)
  - migratory birds
  - resident birds
  - big game
  - fur bearers
  - small mammals
  - endangered and threatened species (Federal and state)
  - non-game and species of special concern including Indian subsistence species

- o Natural Features (Chapter 6)
  - endangered and threatened plants
  - unique plant communities and other recognized natural areas
  - undeveloped and free flowing segments
  - sensitive riparian wetlands
  - gorges, waterfalls, rapids, miscellaneous geologic features

- o Cultural Features (Chapter 7)
  - archeological sites
  - river related architectural sites
  - historic trails and sites
  - current Indian cultural use sites (Council responsibility)

- o Recreation (Chapter 8)
  - white water boating
  - flat water boating
  - river camping
  - river related shoreline activities
  - current public use sites

- o Institutional Constraints (Chapter 9)
  Federal, including:
  - wild and scenic rivers
  - wilderness areas
  - research natural areas
  - national parks
  - roadless areas
  - national fish hatcheries
  - national wildlife refuges

  State
  Local (as applicable)

Each river resource category will be evaluated separately. Assessments will be conducted independently without reference to other resource values. For example, river reaches will be evaluated for recreational boating without reference to their value for wildlife or cultural features. Senior resource experts working with state, Federal, Tribal, and user group experts will conduct the assessment. All judgments by resource experts will be available

for review by user groups, river interests, and citizens to assure the proper application of the criteria and standards. There is no requirement that total consensus be achieved. Differences will be noted as such.

Scope of Effort

Initially, any river segment with a significant resource value known to a resource expert should be included in the Rivers Study. Perennial streams which appear on 1:100,000 scale maps will be included. Generally, values within 1,000 feet of a stream will be included. If streams must be excluded, the following can be used to determine stream exclusion:

1. Intermittent streams;
2. Small tributaries;
3. Federal institutional constraints (e.g., National Parks, etc.).

Other exclusion criteria may be identified by state study staff and used following approval by the regional staff. Connected streams may be clustered where resource values are of consistent quality.

River Reach Determination

River segments may be any reasonable length greater than one mile. Normally, segments will be 10 miles or more. Each study coordinator should identify appropriate reach lengths for his state for each resource category consistent with the budget, time available, and map scales to be used.

Value Classes

Value classes are the resource significance levels that are assigned to river segments to denote their value. Participants will assign one of 4 value classes to each river reach to denote its relative significance to a given resource category. As applicable, an "Unknown or Unclassified" or "Resource Not Present" designation may be given in lieu of a rating.

Value Class Definition

1 Unique or Outstanding Resources
2 Substantial Resources
3 Moderate Resources
4 Limited Resources
5 Unknown or Unclassified
6 Resource Not Present

Data Presentation

° Data Entry Forms

Senior resource experts have prepared river resource rating forms for each state level effort. These forms will be used to present pertinent background information and to document evaluation decisions. Individual cells on each data form will reflect the scores for each criteria. The form briefly notes features of the segment which giveit value, sums values, and assigns value class. The form provides space for additional descriptive information regarding individual segments. As applicable, segment descriptions will be included on the data forms. State coordinators have identified a comprehensive coded list of rivers for each state. Lists will be made

available to resource experts. Use of these lists will help to promote the consideration of all reaches and will ensure consistency between resource categories. As appropriate, river segments will be identified using physical landmarks, coordinates, or other locational information and will be presented in a downstream boundary to upstream boundary fashion. The terms "mouth" and "to headwaters" or "source" signify the extremes of this segment description system and may be used as appropriate. If no segment description is given, the entire stream length will be assumed to have consistent resource value.

Sample data forms are included for each resource value. In addition to segment description, forms will include a notation of map name to enable input of attributes into the proposed Geographic Information System (GIS). As appropriate, preparers will develop a coding system in consultation with state level and regional project management to denote the relative certainty of resource characterizations. Stream segment numbers will be written on the maps to enable easy cross referencing to the tabular data.

Where resource value is consistent in all upstream tributaries, each tributary need not be evaluated separately. In such situations, the values attributed to the larger segment will be assumed for all tributaries. An asterisk (*) placed after the name of the larger segment will denote this situation. If the river list being used is hierarchical, a diagonal slash drawn through upstream segments could clearly indicate that the segments are being clustered.

If no notations are made on the data form, it will be assumed that the segment is unclassified or resource value is unknown. A horizontal line across the form signifies resource not present.

° Maps

Maps will be used to display river values. Sets of 1:100,000 scale maps and a supply of 1:500,000 scale hydrologic unit maps have been provided to each state coordinator by BPA. Labels have been supplied for each map to be used as legends. Colored pens have also been supplied.

One set of 1:100,000 scale maps will be used to depict the significance of each of the following resource values.

- Resident Fish
- Wildlife
- Natural Features
- Cultural Features
- Recreation
- Institutional Constraints

In addition, 1:500,000 scale maps will be prepared for purposes of presentation and review.

In Oregon, Washington, and Idaho, 50-60 maps will be required per category for each state. Montana will require approximately 100 maps per resource category. Significance will be recorded in colored pen using the following color scheme. Exact names and printing numbers have been included for the standard pens chosen for the study: Berol Prismacalor Art Markers.

- Outstanding or Unique Significance - Red (Crimson Lake: PM-3)
- Substantial Significance - Orange (Bittersweet: PM-16)
- Moderate Significance - Gray (Warm Gray 60%: PM-104)
- Limited Significance - Green (Malachite: PM-32)
- Unclassified or Unknown - No mark
- Resource Not Present - Brown (Burnt Ochre; PM-66)

It is anticipated that the "Unknown or Unclassified" designation will predominate on any one map. For purposes of efficiency, participants will not be required to color stream segments in this category. Uncolored segments will be assumed to be either unknown or unclassified. To decrease production time, an arrow at the upstream terminus of a colored section will signify that all segments above that point are of consistent value. Upstream exceptions may be noted in the appropriate color.

BPA plans to digitize mapped values as presented on study maps and as referenced on data forms. State, agency, and Tribal coordinators will consolidate all value designations on the map for that resource category and return the maps with a copy of data sheets to BPA.

° Study Reports

Each quarter (3 months) the study participants under BPA contract will provide a letter summarizing study progress during the past quarter and briefly outlining future events. Annually, each participant will prepare as a fourth quarter report a brief summary of the past years' activities. By November 1985, each state level coordinator will complete and provide one set of maps, rating forms, and supportive material for river values to the regional level staff for review and printing.

Resident Fish

PACIFIC NORTHWEST RIVERS STUDY

Method for Assessing the Significance of River Segments and Systems for Resident Fish Resources in Idaho

LEAD AGENCY

Idaho Department of Fish and Game

SENIOR RESOURCE EXPERT AND STAFF

Virgil Moore, Senior Resource Expert
Dan Schill, Project Biologist

COOPERATING RESOURCE AGENCIES

U.S. Fish and Wildlife Service
Bureau of Land Management
U.S. Forest Service
Nez Perce Tribe
Coeur d'Alene Tribe
Shoshone-Bannock Tribes
Kootenai Tribe
Shoshone-Paiute Tribe

INTRODUCTION

The Pacific Northwest Rivers Study was initiated to assess the significance of river segments and systems for a variety of fish, wildlife, natural, recreational and cultural resource values. The Idaho Department of Fish and Game has been designated to take the lead in assessing the value of rivers for resident fish resources in the State of Idaho.

This report summarizes the method which will be used to complete this assessment. It identifies the value classes to which river segments will be assigned, the criteria which will be used to determine the value of river segments, thestapdards used to apply these criteria and the process by which decisions will be made.

CATEGORY DESCRIPTION

The following components will be included in the resident fish resource assessments: habitat quality, species present and their current status, migration corridors, research sites, abundance of catchable sport fish, angler effort, quality of angling experience and potential fishery and habitat value.

VALUE CLASSES

One of five value classes will be assigned to each river reach to denote its relative significance to resident fish:

Value Class	
1	Outstanding resident fish resources
2	Substantial ~~High~~ value resident fish resources
3	Moderate resident fish resources
4	Limited resident fish resources
U	Unclassified or unknown resident fish resources

CRITERIA

The following two criteria will be used to determine the value class of an individual river segment:

1. Habitat and species value of stream reach, and
2. Sport fishery value of stream reach.

Specifically, a value class will be determined for each criterion: the higher value class of Criterion 1 or 2 will be assigned to the river segment as the overall value of the reach. If both criteria cannot be evaluated due to insufficient data, a value class of U will be assigned to the reach. If one criteria cannot be evaluated the reach may be assigned a value class of U unless the other criteria is assigned a value class of 1.

STANDARDS

Criterion 1: Habitat and Species Value

The value class for Criterion 1 will be based on habitat quality and the relative significance of resident fish species present in the reach (Table 1). A preliminary value class is assigned to a given river segment for each species present. For example, if cutthroat trout in reach "X" are identified as a species of high concern (due to their classification as an Idaho gamefish species of regional importance), and reach "X" contains intermediate quality cutthroat trout habitat, a value class of 2 would be assigned to the reach. The same procedure is repeated for all resident fish species present in reach "X"; the highest value class obtained is taken as the "habitat and species value" of the reach. If appropriate, a value class of U may be assigned to a river section.

Six exceptions to the methodology for Criterion 1 are noteworthy:

1. Migration Corridors: If a river segment serves as a migration corridor for a particular resident fish species and that species must migrate through the corridor to satisfy a particular life history requirement (e.g. to spawn), the river section should be classified as high quality habitat when the value class for that species is determined from Table 1.

2. Rare Species: If a river section provides low or intermediate quality habitat for an endangered, threatened or special concern species, but the distribution or occurrence of that species in the state is extremely limited, the "habitat and species value" will be considered 1.

3. Research Sites: If a stream reach is presently the site of resident fish research, particularly long-term research, a value class of 1 should be assigned to the reach. In addition, if a stream is one of a few or the only one in the immediate area that is important to a local community for science or nature study the value of the reach will be adjusted one class upward.

4. Spawning Habitat: A tributary stream with especially valuable spawning habitat for a receiving stream that has a class 1 or 2 sport fish value is upgraded respectively to class 1 or 2 habitat and species value.

5. Potential Value: If the stream reach has documented potential for habitat improvement within 15 years, potential habitat quality should be used in Table 1.

6. Multiple Species Habitat: If a stream reach contains more than one gamefish species of intermediate concern and the habitat quality for the respective species is rated intermediate, the value class of the reach will be adjusted one class upward.

Criterion 2: Sport Fishery Value

The value class for Criterion 2 will be based on angler use and the relative abundance of resident gamefish species (Appendix B) present in the reach. For example, if gamefish occur at intermediate abundance in reach "X" and anglers expend considerable effort in reach "X" (i.e., high angler use), a value class of 2 would be assigned to the reach (Table 2). We will not attempt to establish rigid statewide standards for rating angler use and sportfish abundance. Instead we will establish a series of guideline values to be used by resource experts during the assessment process. If appropriate, a value class of U may be assigned to a river section.

Three exceptions to the methodology for Criterion 2 deserve mention:

1. Quality of Angling Experience: If exceptional aesthetic qualities, low fishing pressure, or the occurrence of large fish significantly enhance the angling experience in the stream reach, the sport fishery value should be adjusted one class upward.

2. Angling Opportunity: If a particular resident fish resource in a river segment is unique in the immediate area (e.g. the only such fishery within a 75 mile radius), the "sport fishery value" should be adjusted one class upward.

3. Potential Value: If the sport fishery in a stream section is expected to improve within 15 years (through habitat improvement measures, species introductions, regulation changes, etc.), "Potential" abundance of catchable fish or "potential" angler use should be used in Table 2.

EVALUATION PROCESS

The initial portion of the study will involve the review of existing data files. Resource experts from all agencies involved will summarize pertinent available data from their files concerning individual stream reaches within eight Idaho Department of Fish and Game regional or subregional boundaries. Using these data summaries and the criteria described in the study outline, field level resource experts will conduct the assessment process during meetings held at Idaho Department of Fish and Game Regional Offices. Assessment values for individual study reaches will be determined by group concensus at these meetings. If meeting participants are unable to reach a concensus after a reasonable length of time, more than one assessment value will be reported in study results and reasons for the discrepancy documented. The rating of individual stream reaches will be performed by resource experts from those agencies with management responsibilities or interests pertaining to that reach. Results of these meetings will be summarized for comments by cooperating agencies and by private user groups who have expressed interest in the proceedings. The final product presented to the regional assessment staff will be summarized in both tabular form and on 1:100,000 scale base raps. A general time schedule follows.

Data review and preparation	March-May 1985
Evaluate and summarize resource data	March-Sept 1985
Resource expert meetings	May-August 1985
Complete assessment and display results	Sept-Nov 1985

DATA FORM ENTRIES

The following data categories should be included in the data forms: river, location, reach, map code, habitat quality, level of concern, value class, abundance of catchable fish, angler use, value class, overall value class, judgement narrative, and remarks.

Table 1. "Habitat and species" value classes of river segments, as determined by habitat quality and the relative significance of resident fish species present.

HABITAT QUALITY 1/	SPECIES OF... HIGH CONCERN 2/	INT CONCERN 3/	LOW CONCERN 4/
HIGH	1	2	4
INTERMEDIATE	1	3	4
LOW	3	4	4

1/ High, intermediate and low quality habitats are defined as those which provide optimum, satisfactory and poor environmental conditions, respectively, for the species in question. Environmental factors to be considered in evaluating habitat quality include (but are not limited to) temperature and other appropriate water quality parameters, instream flow, substrate composition, availability of instream cover, food abundance and quality of riparian habitat.

2/ Species of high concern include: 1) endangered, threatened or special concern species as defined in the Idaho Department of Fish and Game Fisheries Management Plan (Appendix A), and 2) wild, native gamefish species (Appendix B) of regional importance (based on angler preference and ecological significance).

3/ Species of intermediate concern include: 1) all Idaho gamefish species (Appendix B), except as noted above under species of high concern; and 2) all native nongame species in natural, unimpounded environments; and 3) exotic nongame populations that serve as a forage base for a species of high concern.

4/ Species of low concern include: 1) all exotic nongame species not included above; and 2) native nongame populations in altered habitats.

Table 2. Sport fishery value classes of river segments, as determined by angler use and the relative abundance of resident gamefish species present.

ABUNDANCE OF CATCHABLE FISH 1/	ANGLER USE 2/ HIGH	INTERMEDIATE	LOW
HIGH	1	2	2
INTERMEDIATE	2	3	3
LOW	3	4	4

1/ Levels of abundance (high, intermediate and low) will be defined pending further investigation, but will likely be correlated with catch per unit effort, or actual population size estimates based on field sampling data.

2/ Levels of angler use {high, intermediate and low) will be defined pending further study, but will likely be expressed as fisherman-days per unit area.

Appendix A. A list of resident fish species that are endangered, threatened, or of special concern in Idaho.

LEGEND

Status

E ..... Endangered
T ..... Threatened
SC..... Of Special Concern

Threats

1. The present or threatened destruction, modification, or curtailment of its habitat or range.

2. Overutilization for commercial, sporting, scientific, or educational purposes.

3. Disease or predation.

4. The inadequacy of existing regulatory mechanisms.

5. Other natural or manmade factors affecting its continued existence.

6. Other (peripheral, restricted range, etc.)

Definitions

1. Species includes any species, subspecies, race or form of fish which share a common spatial arrangement and interbreed when mature.

2. Endangered Species means any species which is in danger of extinction throughout all or a significant portion of its range.

3. Threatened Species means any species which is likely to become an endangered species within the foreseeable future in all or a significant portion of its range within Idaho.

4. Species of Special Concern are those whose restricted range, specific habitat requirements and/or low population numbers makes them vulnerable to elimination from the state if adverse impacts on habitat or populaions occur.

A LIST OF RESIDENT FISH SPECIES THAT ARE ENDANGERED, THREATENED, OR OF SPECIAL CONCERN IN IDAHO

Common Name	Scientific Name	Status	Threats	Comments
STURGEONS [family Acipenseridee)				
White sturgeon	Acipensertransmontanus	**SC**	1,6	Additional impountment of present range could change status to "threatened."
CODFISHES (family Gadidae)				
Burbot	Lots iota	SC	1,6	Restricted range–Kootenai River.
TROUTS (family Salmonidee)	Salmo) sp.	SC	B	Restricted range; status unknown.
Redband trout				
Sunapee trout	Salvelinus alpinus sureolis Been	SC	6	Restricted range–alpine lakes in Sew tooth Range.
Westslope cutthroat	Selma cterki lewisi	SC	1,2	Sensitive to ha modification and fishing.
Bonneville cutthroat	Selma clarki Utah	SC	1,2	Restricted range–Preuss C Giraffe Creek, Dry Creek.
Bear Lake cutthroat	Selma clarki ssp.	SC	6	Restricted range—Bear Lake.
Snake River (fine spot) cutthroat)	Salmo clarki ssp.	SC	6	Restricted range–South Fork Snake River.
Bear Lake whitefish	Prosopium abyssicola	SC	6	Restricted range–Bear Lake.
Bull trout (Dolly Varden)	Salvelinus confluentus	SC	6	Only native of this genus. Present in Idaho only as wild, native stocks.
Bonneville cisco	Propsopium gemmiferum	SC	6	Restricted range–Bear Lake.
Bonneville whitefish	Prosopium splionotus	SC	6	Restricted range–Bear Lake.
MINNOWS (family Cyprinidae)				
Leatherside chub	Snyderichthyscopei	SC	6	Restricted range–Wood River; status unknown.

A LIST OF RESIDENT FISH SPECIES THAT ARE ENDANGERED, THREATENED, OR OF SPECIAL CONCERN IN IDAHO

Common Name	Scientific Name	Status	Threats	Comments
SCULPINS (family Cottidae)				
Bear Lake sculpin	Cottus extensus	SC	6	Restricted range—Bear Lake.
Shoshone sculpin	Cottus greenei	SC	6	Restricted range—Snake aquifer springs; status unknown.
Wood River sculpin	Cottus Leiopomus	SC	6	Restricted range; River; status unknown.
TROUT—PERCHES (family Percopsidae)				
Send roller	Percopsistransmontana	SC	6	Restricted Range—Clearwater River near Lewiston.

Appendix B. A list of Idaho resident fishes and their distribution by drainage.

FAMILY		SPECIES			DRAINAGE**							
Common Name	Scientific Name	Common Name	Scientific Name	Origin*	K	P	S	Pa	Sb	Sa	B	I
Sturgeon	Acipenseeridae	White sturgeon	Acipenser transmontanus	N	x				x			
Trout	Salmonidae	Lake whitefish	Coregonus clupeaformes	I		x						
		Kokanee	Oncorhynchus nerka	N	x	x	x		x	x		
		Bear Lake whitefish	Prosopium abyssicola	N								x
		Pygmy whitefish	Prosopium coulteri	N		x						
		Bonneville cisco	Prosopium gemmiferum	N								x
		Bonneville whitefish	Prosopium spilonotus	N								x
		Mountain whitefish	Prosopium williamsoni	N	x	x	x		x	x	x	x
		Golden trout	Salmo aguabonita	I		x	x		x	x		x
		Cutthroat trout	Salmo clarki	N	x	x	x		x	x	x	x
		Rainbow trout	Salmo gairdneri	N		x	x	x	x	x	x	x
		Brown trout	Salmo trutta	I		x			x	x	x	
		Redband trout	Salmo sp.	N					x			
		Sunapee trout	Salvelinus alpinus	I					x	x		
		Brook trout	Salvelinus fontinalis	I	x	x	x	x	x	x	x	x
		Bull trout	Salvelinus confluentus	N	x	x	x		x			x
		Lake trout	Salvelinus namaychush	I		x			x	x	x	
		Arctic grayling	Thymallus arcticus	I			x		x	x		x
Pike	Esocidae	Northern pike	Esox lucius	I		x	x					
Minnow	Cyprinidae	Chiselmouth	Acrocheilus alutaceus	N					x			
		Goldfish	Carassius auratus	I					x			x
		Lake chub	Couesius plumbeus	N	x							
		Carp	Cyprinus carpio	I				x	x	x	x	
		Utah chub	Gila atraria	N					x	x	x	x
		Tui chub	Gila bicolor	I					x			
		Leatherside chub	Gila copei	N					x	x	x	
		Peamouth	Mylocheilus caurinus	N	x	x	x		x			
		Flathead minnow	Pimephales promelas	I						x		
		Northern squawfish	Ptychocheilus oregonensis	N	x	x	x	x	x			
		Longnose dace	Rhinichthys cataractae	N	x	x	x	x	x	x	x	x
		Leopard dace	Rhinichthys falcatus	N					x			
		Speckled dace	Rhinichthys osculus	N			x	x	x	x	x	x

FAMILY		SPECIES		DRAINAGE**								
Common Name	Scientific Name	Common Name	Scientific Name	Origin*	K	P	S	Pe	Sb	Sa	B	I
		Redside shiner	Richardsonius balteatus	N	x	x	x	x	x	x	x	x
		Tench	Tinca tinca	I		x	x					
Sucker	Catostomidae	Utah sucker	Catostomus ardens	N						x	x	x
		Longnose sucker	Catostomus catostomus	N	x	x	x					
		Bridgelip sucker	Catostomus columbianus	N			x	x	x			
		Bluehead sucker	Catostomus discobolus	N						x	x	
		Largescale sucker	Catostomus macrocheilus	N	x	x	x	x	x			
		Mountain sucker	Catostomus platyrhynchus	N					x	x	x	
Catfish	Ictaluridae	Black bullhead	Ictalurus melas	I			x		x			
		Brown bullhead	Ictalurus nebulosus	I	x	x	x	x	x	x	x	x
		Channel catfish	Ictalurus punctatus	I					x			
		Tadpole madtom	Noturus gyrinus	I					x			
		Flathead catfish	Pylodictis olivaris	I					x			
Trout/Perch	Percopsidae	Sand roller	Percopsis transmontana	N					x			
Cod	Gadidae	Burbot	Lota lota	N	x							
Livebearer	Poeciliidae	Mosquitofish	Gambusia affinis	I					x			
		Guppy	Poecilia reticulata	I								x
Sunfish	Centrarchidae	Green sunfish	Lepomis cyanellus	I							x	
		Pumpkinseed	Lepomis gibbosus	I	x	x	x	x	x			
		Warmouth	Lepomis gulosus	I					x			
		Bluegill	Lepomis macrochirus	I					x	x	x	
		Smallmouth bass	Micropterus dolomieui	I					x			
		Largemouth bass	Micropterus salmoides	I	x	x	x	x	x	x	x	
		Black crappie	Pomoxis nigromaculatus	I	x	x	x	x	x	x	x	x
Perch	Percidae	Yellow perch	Perca flavescens	I	x	x	x		x	x	x	x
		Walleye	Stizostedion vitreum	I					x			
Sculpin	Cottidae	Mottled sculpin	Cottus bairdi	N					x	x	x	

FAMILY		SPECIES		DRAINAGE**								
Common Name	Scientific Name	Common Name	Scientific Name	Origin*	K	P	S	Pa	Sb	Sa	B	I
		Piute sculpin	Cottus beldingi	N					x	x	x	x
		Slimy sculpin	Cottus cognatus	N	x	x			x			
		Shorthead sculpin	Cottus confusus	N			x		x			x
		Bear Lake sculpin	Cottus extensus	N							x	
		Shoshone sculpin	Cottus greenei	N					x			
		Wood River sculpin	Cottus leiopomus	N					x			
		Torrent sculpin	Cottus rhotheus	N	x	x	x	x	x			

* N = native, I = introduced
** K = Kootenai drainage
P = Pend Oreille drainage
S = Spokane drainage
Pa = Palouse drainage
Sn = Snake River below Shoshone Falls
Sa = Snake River above Shoshone Falls
B = Bear River drainages
I = Independent drainages

Wildlife

PACIFIC NORTHWEST RIVERS STUDY

Criteria and standards for assessing the wildlife resources and wildlife associated recreation relating to stream habitats.

Lead Agency

Idaho Department of Fish and Game (Bureau of Wildlife)
600 South Walnut
Boise, Idaho 83707
208-334-2920

Senior Resource Expert

Marty Morache

Cooperating Resource Experts

Dean Martins, USFS, Region 4
Don Bartschi, USFS, Region 1
Craig Berry, BLM
Bob Parents, USFWS

Introduction

The Pacific Northwest Rivers Study was initiated to assess the significance of river and stream segments for a variety of fish, wildlife, natural, recreational, and cultural resource values. The Idaho Department of Fish and Game has been designated to take the lead in assessing the value of wildlife and wildlife associated recreation.

This chapter identifies the process which will be used to complete this assessment. It describes the value classes to which river segments will be assigned the criteria which will be used to determine the value class for a river segment, and the standards used to apply the criteria.

Wildlife Criteria and Standards

A. Value Classes

The following five value classes w i l l be used for wildlife:

Value Class	Description
1	Highest value or unique wildlife resource
2	Substantial wildlife resource
3	Moderate wildlife resource
4	Limited wildlife resource
5	Unclassified or unknown wildlife resources

Each stream is to be placed i n a value class for wildlife for each of the following three criteria--habitat values, species values, and recreational values.

The final classification of the wildlife resource value is the higher value class given for criterion 1, 2, or 3. Resource experts can assign stream reaches to a value class based on existing data or best Judgement.

For wildlife, six key habitat components have been identified that will automatically result in Class 1 assignment. These are 1) bald eagle roost sites, winter feeding areas, or nesting sites, 2) wolf denning, rendevous, or hunting areas, 3) peregrine falcon nesting or hunting areas, 4) grizzly bear habitat, 5) mountain caribou habitat, and 6) whooping crane habitat. No lower than Class 2 assignment will be given stream habitats containing species of special concern. These are species having restricted range, specific habitat requirements, and/or low numbers which may make them vulnerable to elimination from the state. Subjective ratings (high, medium, low) will be used to rank streams under each criteria.

It is felt that habitat should have proportionately higher values assigned to each component than the other two criteria. There may be a bonus allowed for certain components such as good land use, special features, and endangered and other special species. This is intentional; it will assure protection of key habitats and species. An explanation will accompany bonus recognition.

B. Criteria (wildlife evaluation)

1. Habitat Values of a Stream Reach for Wildlife

The class of each reach is based on a subjective ranking system. High value will be used for important habitats with highly unique or special features or components; medium to habitats with extensive riparian zone, outstanding riparian quality or type of habitat, habitat with older age structure or dominant vegetation, and for areas with islands; low to areas of widespread habitat type occurence considered of least value to wildlife species. Recognition is also given for habitats with vertical structure, horizontal diveristy of vegetation types, and absence of significant man-caused land form changes.

2. Species Values of a Stream Reach

The class of each reach is based on the same subjective ranking system in which high is used for species of special concern and rare, threatened, or endangered species; medium for habitat richness and species abundance for large mammals, up-

land gamebirds, waterfowl, furbearers, and raptors; low for small mammals and other birds based on their diversity and abundance. Recognition can also be given for selected species values.

3. Recreation Component of a Stream Reach

The class of each reach is based on the same subjective ranking system In which the highest value is given for public access; medium for hunting potential, and floating/wildlife viewing potential; low for limited public access. Recognition is also given for state, regional, or national importance where a stream is important for scientific study, nature study, and/or recreation. Recognition is also awarded for aesthetics (natural beauty) of a stream reach that contributes to the setting recreational activities occur in.

C. Procedure for Determining the Habitat Values of a Stream Reach

The following standards should be used as determined by the state level staff. Rankings are awarded for each habitat meeting a standard. Unless wildlife habitat is known to be present, the stream reach is automatically in Class 5. Habitat designations of high value, substantial value, moderate value, and limited value are based on judgement decisions by resource experts. Important stream reaches with unique habitat characters such as wetlands are advanced one class, but not higher than Class 3. Recognition will also be given for habitat capability wherin current wildlife populations may be below carrying capacity.

Habitat is defined as the place occupied by an entire plant community which In turn supports various wildlife species or wildlife communities. Habitats of special concern include those with rare or endangered plants, wetlands, or important habitats with special features or components. Habitats to be valued should be limited to lands adjacent to and directly influenced by stream courses. Generally, the area will be limited to lands within 1,000 feet of the mean high waterline. In all cases, expert Judgement will determine the appropriateness of the area valued. Habitats can be grouped Into four classes as illustrated by the following:

Class 1 - Very limited in extent, critical or unique within the state and elsewhere in North America; elimination from the state would be a significant loss to wildlife species dependent on the habitat. Examples include:

Hackberry and western juniper woodlands
Research natural areas
Rare or endangered plant concentrations
Wetland ecosystems (bogs, marshes, fens)
Salt desert shrub
Native grasslands
Pacific yew forests

Class 2 - Intermediate habitats between classes 1 and 3. Limited habitat extent within the state; fairly widespread within North America. Elimination from the state would be at least a moderate loss range-wide to species dependent on the habitat. Examples include:

Riparian communities
Forested swamps
Montane and subalpine meadows
Aspen groves

Class 3 - Generally common within the state; widespread in North America. Elimination from the state would be only a minor loss range-wide to species dependent on the habitat.

Birch and red alder stands
Ponderosa pine forest
Mixed coniferous forests
Shurb steppe

Class 4 - This will include those streams with substantial man-caused alterations.

D. Procedure for Determining the Species Values of Stream Reach for Wildlife

The following standards are to be used. Unless wildlife are known to be present, the stream reach is automatically in Class 5. Designations of highest-valued, substantial value, and limited are based on judgement decisions of resource experts. Critical habitats for grizzly bear, mountain caribou, balk eagle, peregrine falcon, rocky mountain wolf, and whooping crane will be given automatic Class 1 assignment. Stream reaches including significant big game migration corridors or substantial big game winter range will receive Class 1 ranking. Critical habitats for kit fox, wolverine, lynx, fisher, Idaho ground squirrel, ferruginous hawk, merlin, boreal owl, trumpeter swan, Tong-billled curlew, sharp tailed grouse, mountain quail, bobwhite quail, ringneck snake, longnose snake, western ground snake, night snake, rough skin newt, wood frog, and Van Dykes salamander will be given at least Class 2 assignment. Important streams for wildlife recruitment, including feeding or nesting habitat involving species in class B, are advanced one class. The following classes will be used.

Class A - Very limited numbers and/or limited habitats both in the state and elsewhere in North America; elimination from the state would be a significant loss to the population or gene pool of the species or subspecies range-wide.

Class A - Very limited numbers and/or limited habitats both in the state and elsewhere in North America; elimination from the state would be a significant loss to the population or gene pool of the species or subspecies range-wide.

Wolf
Mountain Caribou
Grizzly bear
Whooping crane
Bald eagle
Peregrine falcon

Class B - Intermediate between classes A and C. Limited numbers and/or limited habitats in the state, fairly widespread and fair numbers in North America. Elimination from the state would be at least a moderate loss to the population or gene pool of the species or subspecies range-wide.

Van Dykes salamander
Trumpeter swan
Roughskin newt
Wood frog
Merlin
Mountain quail
Lynx
Fisher
Wolverine

Class C - Limited numbers and/or limited habitats in the state; widespread and numerous in North America. Elimination from the state would be only a minor loss to the population or gene pool of the species or subspecies range-wide.

Remaining species that use riparian habitats.

E. Procedure for Determining the Recreation Component of a Stream Reach

Five elements should be considered (1) access, (2) wildlife use potential including (hunting, floating/power boating wildlife viewing), (3) state importance, (4) regional Importance, and (5) national importance. Elaboration on the elements are as follows:

1. Access

As used here, access means the legal right to public entry.

2	A stream section bordered by a mix of private and public land where the public land is distributed in such a way that no significant portion of the stream is unavailable by vehicle and/or walking. Floating/power boating may also be a major means of access.	Substantial
3	A stream section bordered by mostly private land where ingress in uncontrolled or readily available by permission. This portion may be available by floating/power boating, or through navigability laws. Also includes corporate lands - those that are currently open, but could go to individual ownership in the future or company policy regarding ingress could change.	Moderate
4	A stream section bordered mostly by private land where ingress is limited, but some access is allowed. May include minor portions where public land or road crossing may provide limited ingress. The portion through private land may be available by floating/power boating or through navigability laws.	Limited
5	A stream section bordered entirely by private land where public hunting is available for a fee or where a small group has leased exclusive rights. Legality may be in question on some streams, but this category identified "fee" or "lease" use areas.	Limited

2. <u>Wildlife Use Potential Including Floating/Power Boating/Wildlife Viewing</u>

Segments of each river reach should be selected as a basis for estimates. Values should then be assigned as follows:

Wildlife Observation and Hunter/trapper-days	Ranking
1,250 and over	Highest Valued
310 to less than 1,250	Substantial Value
65 to less than 310	Moderate
Greater than 0 to less than 65	Limited
0 (none or unknown)	Not Yet Classified

NOTE: Prorated estimates of the above range of user days may be made for particular short stream reaches.

3. Geographic Importance

A representative segment of each river reach should be selected as a basis for estimates. Rankings should then be assigned.

Geographic Importance

State Importance	Ranking
	Highest Valued Reach
	Substantial Importance
	Moderate Importance
	Limited Importance

Regional Importance	
	Highest Value Reach
	Substantial importance
	Moderate Importance
	Limited Importance

National Importance	
	Highest Value Reach
	Substantial Importance
	Moderate Importance
	Limited Importance

WILDLIFE CRITERIA EVALUATION FORM

I. *River reach (name & location). Where possible, use readily identifiable landmarks to designate each stream reach.	II. Criteria (med., high, low)							III. Specific Attributes				IV. Rating
	Habitat	Species	*Bonus Values	Recreation			Geographic Importance (St., Reg., Nat.)	Species Present	Access Type (walking, boat)	Habitat Type	Special Recognition	
				Access	Hunting Potential	Viewing						

* * Qualify.

Natural Features

PACIFIC NORTHWEST RIVERS STUDY

Method for Assessing the Significance of River Segments and Systems for Natural Features Resources in Idaho

LEAD AGENCY
Idaho Natural Heritage Program
The Nature Conservancy/Idaho Department of Fish & Game
4696 Overland Rd., Suite 518
Boise, Idaho 83705
208-334-3402

SENIOR RESOURCE EXPERT AND STAFF
Steve Caicco, Senior Resource Expert
Craig Groves, Senior Resource Expert
Pam Peterson, Natural Features Staff

COOPERATING RESOURCE EXPERTS
Dean Martins, U.S. Forest Service
Craig Berry, U.S. Bureau of Land Management
Bob Parenti, U.S. Fish & Wildlife Service

INTRODUCTION

The Pacific Northwest Rivers Study was inititated to assess the significance of river segments and systems for a variety of fish, wildlife, natural, recreational, and cultural resource values. The Idaho Natural Heritage Program has been designated to take the lead in assessing the value of rivers for natural features in the state of Idaho.

This report summarizes the method which will be used to complete this assessment. It identifies the value classes to which river segments will be assigned, the criteria which will be used to determine the value of river segments, the standards used to apply these criteria, and the process by which decisions will be made.

CATEGORY DESCRIPTION

Because it is not practical to consider all natural features in a single study, two major categories of natural features will be addressed: 1) botanical features and 2) hydrological/ geological features. Botanical features include rare, threatened, and endangered plant species found in river-related habitats (Table 1), and exceptional examples of native plant associations found in riparian zones (Table 2).

The list of plant species includes taxa which are known to occur within the floodplains of streams or rivers as well as those which grow close enough to waterways that they are susceptible to water development projects. Generally, the river study corridor will be defined as contiguous lands within 1000 feet of each river bank. Sources used to compile this list were the U.S. Fish & Wildlife Service Notice of Review for listed and candidate plants in Idaho, the publication "Vascular Plant Species of Concern in Idaho", and the data base of the Idaho Natural Heritage Program.

An exceptional riparian zone plant association is defined as any relatively undisturbed stand with predominantly native vegetative cover in the overstory and understory. Plant associations are by nature more difficult to define and quantify than plant species. The list of associations in Table 2 is therefore general, and it is expected that some subjectivity will accompany their identification. In addition to the riparian plant associations listed in Table 2, some upland plant associations that fall within the study corridor will also be considered in this study.

Hydrological and geological features included in this study are identified in Table 3. Only these features occurring along free-flowing stream and river reaches will be considered. A free-flowing reach is one without any hydrological impoundments, modifications, diversions, or noticeable slack water.

VALUE CLASSES

An overall value class will be assigned to each stream or river segment. This value will not be a numerically derived sum of point

values, but instead will represent a consensus achieved by reviewing and comparing the individual natural features in a given segment. A higher value class will be assigned to segments with an outstanding diversity of components, or those with an exceptionally rare or high quality example of a given feature or features. The minimum value class assigned to a segment should be no lower than the highest value class of any particular natural feature which falls within it. Value classes to be used in this study are shown below.

Value Class	Definition
1	Outstanding natural features value
2	Substantial natural features value
3	Moderate natural features value
4	Limited to no natural features value
5	Unknown natural features value or unclassified

CRITERIA

Four criteria will be used to evaluate natural features. These criteria are: 1) scarcity, 2) vulnerability, 3) quality, and 4) scientific value. Each natural feature should have these criteria applied to it before overall river and stream segment values are assigned. These criteria are meant primarily as guidelines and as an aid to value class assignment; they should not be applied rigidly or as the sole evaluation method in all cases.

STANDARDS

Scarcity refers to the distribution of the feature both within the state and worldwide. Any feature which is limited to less than 5 occurrences worldwide should receive the highest evaluation consideration; those with 5-25 occurrences the second highest; those with less than 5 in the state but greater than 25

worldwide the third highest; and those with greater than 25 in the state the fourth highest. Scarcity should be the single most important factor in determining the relative value of any given natural feature. However, the other criteria are important, and any feature that is seriously vulnerable, of extraordinary quality, or of great scientific interest should receive the highest relative evaluation regardless of its degree of scarcity.

Vulnerability is the degree to which a natural feature is directly or indirectly susceptible to degradation or destruction. Because the vulnerability to any particular occurrence of a natural feature is primarily a function of the economic viability of a potential project, it is not feasible within the scope of this study to evaluate vulnerability of natural features. Therefore, all identified natural features will be considered to be subject to an equal degree of vulnerability. Consideration will be given, however, to those cases in which representation of specific natural features occurs within areas that receive adequate protection from degradation or destructive alternative uses. In such instances, the value class of the natural feature will be lowered.

Quality refers to the relative physical condition of a natural feature in comparison to other known occurrences of the same feature. The size, vigor, diversity, and degree of disturbance related to historic land-use practices of the specific site should be considered. A site which is among the best known examples of its kind should get higher evaluation marks than one which is a marginal or low quality occurrence.

The scientific value of a feature or a given site refers to

its usefulness and importance as an educational resource. The historical, current, and potential use, accessibility, and taxonomic distinctness of the given feature or site should be considered. Known type localities and areas known as quality study locations should get the highest evaluation marks.

EVALUATTION PROCESS

This study will be conducted with two end products in mind: l) a set of maps identifying the locations of known natural features as well as river and stream reaches necessary to protect these features, and 2) a tabular summary of the natural features and river/stream segments with appropriate value classes assigned to the segments. The tabular summary will be organized by river drainage using the code system developed by the Fisheries Bureau of Idaho Department of Fish & Game in its comprehensive list of lakes and streams.

This study will rely on the expertise, existing data, and cooperation of the participating agencies to the greatest extent possible. No field inventories are planned. Because of the limited scope of this study, it is anticipated that many stream/river segments will be assigned a value class of "5" or unknown.

Because any stream with a flow greater than 3-5cfs has the potential for hydroelectric development, virtually all mappable streams/rivers will be considered in this study. In order to insure protection of rare plants and paleontological sites, their exact locations along stream and river corridors will not be provided in this study. They will, however, be noted as to occur within a given stream segment.

A great deal of information on rare plants and plant associations in Idaho already exists in the data files of the

Idaho Natural Heritage Program. However, much of this information needs to be computerized so that it can be accessed efficiently for this study. Thus, the first task will be to process as much of these data as possible into our computerized data base. After that task is well underway, academic and agency personnel will be interviewed by mail and telephone for hydrological/ geological features and additional information on riparian plant associations. Subsequently, locations of natural features will be plotted on maps and summarized in tabular form. Finally, value classes will be assigned to stream/river segments based on the four criteria discussed previously. The final product of tables and maps assessing natural features in Idaho will be reviewed by several qualified people from both academic institutions and natural resource agencies around the state.

DATA SHEETS

See attached.

TABLE 1. PACIFIC NORTHWEST RIVER STUDY SPECIAL PLANT LIST (IDAHO)

TAXON	FEDERAL STATUS
Achillea millefolium var. californicum	N
Agrostis oregonensis	N
Allium madidum	3c
Allium tolmiei var. platyphyllum	3c
Andromeda polifolia	N
Antennaria arcuata	C2
Artemisia lindleyana	N
Artemisia papposa	3c
Astragalus amblytropis	N
Astragalus aquilonius	N
Astragalus amnis-amissi	3c
Astragalus camptopus	C2
Astragalus cusickii var. cusickii	N
Astragalus cusickii var. flexilipes	N
Astragalus leptaleus	N
Astragalus microcystis	N
Astragalus paysonii	3c
Astragalus riparius	N
Bacopa rotundifolia	N
Blechnum spicant	N
Botrychium lunaria var. onadagense	N
Botrychium matricariifolium	N
Botrychium simplex	N
Calochortus macrocarpus var. maculosus	N
Calochortus nitidus	3c
Camassia cusickii	3c
Cardamine constancei	3c
Carex aboriginum	C2
Carex aenea	N
Carex buxbaumii	N
Carex californica	N
Carex flava	N
Carex hendersonii	N
Carex limosa	N
Carex paupercula	N
Carex sitchensis	N
Carex tumulicola	N
Cephalanthera austiniae	N
Cicuta bulbifera	N
Cornus nuttallii	N
Corydalis caseana var. hastata	3c
Crepis bakeri ssp. idahoensis	N
Cyperus rivularis	N
Cypripedium fasciculatum	3c
Cypripedium parviflorum	N
Dodecatheon dentatum	N
Dodecatheon hendersonii	N
Dryopteris cristata	N
Eleagnus commutata	N
Epipactis gigantea	N

Festuca subuliflora	N
Gaultheria hispidula	N
Gentianella propinqua	N
Gentianella tenella	N
Grindelia howellii	C2
Hackelia davisii	3c
Hackelia ophiobia	3c
Haplopappus insecticruris	C2
Howellia aquatilis	C2
Ivesia baileyi	N
Juncus bryoides	N
Juncus effusus var. pacificus	N
Ledum groenlandicum	N
Leptodactylon glabrum	N
Leptodactylon pungens ssp. pungens	N
Lewisia columbiana var. columbiana	N
Lindernia dubia var. anagallidea	N
Lomatium dissectum var. dissectum	N
Lomatium rollinsii	C2
Lomatium salmoniflorum	N
Lotus humistratus	N
Ludwigia polycarpa	N
Lycopodium inundatum	N
Lycopodium sitchense	N
Maianthemum dilatatum	N
Mertensia bella	N
Mimulus clivicola	N
Mimulus patulus sp nov.	N
Mimulus ringens	N
Mirabilis macfarlanei	LE
Muhlenbergia glomerata	N
Muhlenbergia racemosa	N
Nymphaea tetragona	N
Oxytropis besseyi var. salmonensis	N
Peraphyllum ramosissimum	N
Petasites sagittatus	N
Physaria didymocarpa var. lyrata	Cl
Platanthera obtusata	N
Polypodium glycyrrhiza	N
Potamageton diversifolius	N
Primula alcalina	N
Psoralea physodes	N
Ribes sanguineum	N
Ribes wolfii	N
Rubus bartonianus	3c
Salix candida	N
Salix farriae	N
Salix glauca	N
Salix pedicellaris	N
Sanicula graveolens	N
Sanicula marilandica	N
Scheuzeria palustris	N
Scirpus cyperinus	N
Solidago spectabilis	N

Tauschia tenuissima	3c
Teucrium canadense var. boreale	N
Thelypodium repandum	Cl
Thelypteris nevadensis	N
Tofieldia glutinosa ssp. absona	3b
Trientalis europaea ssp. artica	N
Trifolium owyheense	C2
Trollius laxus ssp. albiflorus	N
Vaccinium oxycoccos	N
Veratrum californicum var. caudatum	N
Viburnum trilobum	N
Viola sempervirens	N
Waldsteinia idahoensis	3c

ADDENDA:

Astragalus scaphoides	N
Hypericum majus	N
Oxalis trilliifolia	N
Selaginella douglasii	N

TABLE 2. RIPARIAN ZONE PLANT ASSOCIATIONS

Alder, Cottonwood, and Willow woodlands
Cherry, Hawthorn, and Willow thickets and woodlands
Quaking apsen groves
Shrub-dominated bogs and wetlands
Rush, sedge, and Herb-dominated bogs, fens, and wetlands
Bulrush and Cattail Marshes

Note: This list is only preliminary. We anticipate including some upland forest associations in this list at a later date.

TABLE 3. HYDROLOGICAL AND GEOLOGICAL FEATURES

Waterfalls
Gorges, chutes, canyons
Caves
Glacial features (including moraines, eskers, drumlins, delta kame, kame complexes, kettle ponds, ice-marginal drainages)
Stream capture sites
Active meander complexes with large islands or island complexes, oxbow sloughs, and good representatiion of all stages of riparian cottonwood forest succession
Hot or warm springs
Type localities of geological formations, soil types, fossils
Exceptional display of bedrock structural features
Paleontological sites or fossil-bearing rocks
Index fossil sites

DATA SHEET

STREAM /RIVER SEGMENT CLASS	CODE	NATURAL FEATURES	COMMENTS	VALUE

Cultural Features

PACIFIC NORTHWEST RIVERS STUDY

Method for Assessing the Value of River Segments and Systems for Cultural Resources in Idaho

LEAD AGENCY

Idaho State Historic Preservation Office (SHPO)

SENIOR RESOURCE EXPERT AND STAFF

Dr. Thomas J. Green, resource expert
Ms. Chris Fuhrman, staff person

COOPERATING RESOURCE EXPERTS

Idaho State Historic Preservation Office
Idaho State Historical Society
US Forest Service Archaeologists, Region 1 and Region 4

INTRODUCTION

The Pacific Northwest Rivers Study was initiated to assess the significance of river segments for a variety of fish, wildlife, natural, recreational, and cultural values. The Idaho State Historic Preservation Office has been designated to take the lead in assessing the value of rivers for cultural resources in the state of Idaho.

This report summarizes the method which will be used to complete this assessment. It identifies the value classes to which river segments will be assigned, the criteria which will be used to determine the value of river segments, the standards used to apply these criteria, and the process by which decisions will be made. Emphasis has been placed on resource concerns appropriate for broad based initial planning such as, where resources have been identified, how important they are, where reconnaissance has been performed and where it has not.

CATEGORY DESCRIPTION

For purposes of this study, the category of cultural resources will be composed of river related historical, architectural and archaeological properties that may be evaluated in terms of the criteria for the National Register of Historic Places. Assessments will be based on existing resource data, that is, cultural properties identified by researchers and resource managers as of February 1985.

These resource data will, in large part, be derived from the Idaho Historic Sites Inventory maintained by the SHPO. The state site inventory reflects a combination of historical, architectural and archaeological properties. These separate but overlapping concerns will be addressed both individually and collectively during the evaluation process.

VALUE CLASS

All river segments will ultimately be classified according to their expected cultural resource value. Although more precise definitions of the individual classes are being developed, the general rating system to be used is described as follows:

Value	Class
1	highest potential for cultural resources
2	substantial potential for cultural resources
3	moderate potentia1 for cultural resources
4	limited potential for cultural resources
5	unknown potential, insufficient information to classify

CRITERIA and STANDARDS

River segments will be evaluated with regard to three criteria: 1) the presence/absence of recorded sites; 2) qualitative assessment of identified resources determined by factors such as National Register status and/or site density; 3) presence or absence of cultural resource survey inf000rmat ion. A more detailed description of these criteria as they relate to each portion of the data base will be included in the final report draft.

In general, river segments will be evaluated in terms of their resource potential. Potent ial here refers to the likelihood of encountering cultural resources of at least limited if not great concern to researchers or resource managers. Ratings of resource potential will be expressed using value class measures and will be based primarily on identified resources. The informed judgement of resource experts will also be a factor. There are not enough resource data to extrapolate a predictive model acceptable to the professional community. However, efforts to enlist the judgement of resource experts for evaluation of unsurveyed areas will be made when appropriate. These exceptions will be noted on data sheets during the evaluation process. Unsurveyed areas will also be graphically distinguished from surveyed areas.

Other evaluation standards that should be noted include corridor width, river segment length and tributary assessment. Both corridor width and segment length will be detemined by the location of identified resources. Corridor width decisions will be made in light of possible mini-hydro activities as well as major inundation projects. River segment lengths will be largely dependent on clustered locations of identified resources or masking the exact location of sensitive site information. It is expected that corridors will be a minimum of 1000' feet on either side of a stream's center, and that river segments will be at least five miles long.

A list of Idaho stream systems produced by the State's Fisheries division will be adapted for use in evaluating cultural resources. Major rivers and perennial streams will be addressed.

Because mini-hydro projects can impact even the smallest of streams, minor tributaries with the potential for cultural value will be included as available time and labor allow.

EVALUATION PROCESS

The initial assessment will be performed by a SHPO staff person in consultation with history, architecture, and archaeology staff resource experts. Each river segment will be assessed with regard to the Idaho Historic Sites Inventory, which also contains National Register properties. The assessments of historical, architectural and archaeological properties will be compared and the highest value present will become the overall resource value assigned to the segment. The overall resource value will be graphically represented on draft maps. Reconnaissance status of the segment will also be noted.

Refinement of the study process and initial assessment is planned for spring. Tabulation of values and map work should take place during the summer. A period of review and comment of the draft maps will precede finalization of the report draft in November.

Various levels of the study process will include, but not be limited to, participation of Federal land managers. The US Forest Service has expressed particular concern that the rivers study be consistant with Forest Management Plans. Tribal cultureal concerns will be addressed in a separate contract category of the study. However, some Tribal input and review will be appropriate here in assessing archaeological and historical data which has been gathered from reservation lands and is now stored in the SHPO files. It is expected that additional resource experts and interested users (researchers) will be identified as the study progresses. Efforts will be made to include as many of these people as possible. The study is an evaluation of existing cultural resource information. Thus, the more experts, managers, researchers and other users that can be involved, the more accurate the evaluation will be.

DATA FORM ENTRIES

A sample evaluation form accompanies this report as Attachment 1.

ADDITIONS

Value assessments resulting from this study represent resource evaluations appropriate for broad based initial planning. The BPA has assured cultural resource managers that this information is in no way intended to replace the present project liscencing process. To emphasize the intended use of the information from this study, all maps depicting cultural resource data must have a printed statement to the effect: this information does not preclude the need to proceed with consultations as required by Section 106 of the 1966 National Historic Preservation Act for all projects that may impact a cultural resource.

Attachment 1
Sample evaluation form for cultural resources.

RIVER	SEGMENT DESCRIPTION	MAP	CULTURAL VALUES								COMPARATIVE VALUE	COMMENTS
			Nat. Reg.		History		Architecture		Archaeology			
			site	survey	site	survey	site	survey	site	survey		

Recreation

PACIFIC NORTHWEST RIVERS STUDY

Method for Assessing the Significance of River Segments and Systems for Recreational Resources in Idaho

LEAD AGENCY
Idaho Department of Parks and Recreation
2177 Warm Springs
Statehouse Mail
Boise, Idaho 83720

SENIOR RESOURCE EXPERT AND STAFF
Todd Graeff, Senior Resource Expert
Mary Grunewald McGown, River Recreation Assessment Coordinator

COOPERATING RESOURCE EXPERTS
George Weiskircher, Bureau of Land Management
Dean Martens, U.S. Forest Service

INTRODUCTION

The Pacific Northwest Rivers Study was initiated to assess the significance of river segments and systems for a variety of fish, wildlife, natural, recreational and cultural resource values. The Idaho Department of Parks and Recreation has been designated to take the lead in assessing the value of rivers for recreational resources in the state of Idaho.

This report summarizes the method which will be used to complete this assessment. It identifies the value classes to which river segments will be assigned, the criteria which will be used to indicate the value of river segments, the standards used to apply these criteria, and the process by which decisions will be made.

CATEGORY DESCRIPTION

Idaho is renowned for its pristine, wilderness rivers and the boating and other opportunities they provide. But those rivers represent just one end of the spectrum of river recreation available in the state.

From the bank to bank flotilla of tubers on the Boise River in the middle of the city to the pristine, remote rapids of the Selway River, Idaho rivers provide a broad choice of activities and settings for all types of river-related recreation experiences.

As with any natural resource, the river-related recreation opportunities are not evenly divided among all the regions of the state. The diverse geologic origins and geomorphology of Idaho have resulted in regions having characteristic, and in some cases unique, drainage patterns that are reflected in the mix and popularity of some river-related recreation activities. It is impossible to rank all rivers on exactly the same criteria due to the physiographic diversity which contributes to the vastly different settings and to the suitability for some activities over others. Consequently, the rivers will be inventoried and ranked on a regional basis.

Although some of the most famous Idaho rivers boast users from throughout the nation and the world, the rivers with primarily regional and/or local use are no less important as recreation resources. In ranking rivers, it is difficult to create a system that is flexible enough to consider the context of each of the possible river recreation opportunities. This method attempts to accommodate situations where a feature that might be considered a negative feature, or disvalue, for one type of experience on one river segment may still be rated as an asset on another.

Use figures were not seen as an appropriate measure of a river's recreation value for several reasons. One, user counts do not exist for most of the rivers that do not require permits. Use figures would be largely conjectural. Second, even popular Idaho rivers used primarily by regional and local residents are likely to have relatively low use numbers because of the small population in the state. Third, the number of users does indicate the popularity of a river segment, but it tells nothing of the quality of experience. As can be seen from the intensive management of users on wilderness rivers, the threshold number of users for perceived crowding can be quite low in certain river environments.

Another consideration in developing the methodology for the study is that all the data will be from secondary sources. Without the possibility of field testing a more detailed and specific methodology, it was determined that a general approach to inventorying and classifying rivers based on recreational values would be most appropriate to the level of data available.

The best source of data is thought to be from the recreation planners and managers who are closest to the river recreation resources. Thus the categories and methods were designed with these field experts in mind.

Recreation potential is a category that was considered but not explicitly included in the inventory and evaluation. As the population of Idaho increases, as new technology opens other frontiers for boating and other water sports, and as Idaho's tourism industry grows, there are likely to be increasing demands on the state's river recreation resources. Potential is not explicitly addressed because the tools and techniques were not readily available to do so. Some rivers that may receive a relatively low ranking in this study could be prime recreation settings in the next decade.

The field experts, however, are given the opportunity to include known potential in their overall ranking of river segments. If a regional expert is aware of plans to improve access, to remove channel obstructions, or other changing conditions that likely will lead to increased recreational use, that potential may be factored in the overall ranking.

VALUE CLASSES,

Value Class	
1	Outstanding recreational resources
2	Substantial recreational resources
3	Moderate recreational resources
4	Limited recreational resources
U	Unclassified or unknown recreational resources

If a river segment is not included in one of these classes, the resource value is presumed not present or does not meet the minimum standards to be included in the study. However, hydroelectric development on segments not included could still adversely affect recreational resources. The inventory is concluding ony that segments inventoried are more likely to have recreational resources that could pose constraints to development.

Value classes are defined by verbal descriptions of the type of river segment that would fall into each class. These definitions will be finalized following pilot testing of the inventory method to check for consistency of interpretations by raters. The draft definitions are included in the section on standards.

CRITERIA

– Many factors, singly and in combination, contribute to a river's recreational value. Three major criteria, land-based recreation opportunities, water-based recreation opportunities and scenic factors, have been identified as incorporating most of the factors. Each criterion represents a cluster of resource attributes that are important in defining the present and potential recreational values.

Each criterion has an associated inventory and ranking matrix which will be completed for each river segment included in the study. The inventory and ranking matrix will document the physical attributes and activity opportunity characteristics of each study segment. The matrices lead into assignment of a value class for each criterion.

In addition to the three major criteria, the Recreation Opportunity Spectrum (ROS) class will be selected for each study segment, but will not be put into a value class.

Criterion 1 -Water-Based Recreation Opportunities

The major non-fishing activities likely to occur on Idaho rivers have been included. Others may be added by the raters. The activity categories are:

MOTORIZED BOATING:
Jet boating
Propeller boating

NONMOTORIZED BOATING:
Kayak/closed canoe
Raft
Dory
Open canoe

WATER CONTACT ACTIVITIES:
Swimming
Tubing

The attributes of the physical setting, users, water character, access, etc. that qualify and describe the major activities appear at the left side of the matrix. The attributes are not necessarily of equal importance. Professional judgment by the field personnel and the study staff will allow for weighing one attribute more than another. This may result in the value class being different than the cobined face value of the attributes might imply. A sample Water-Based Recreation Opportunities matrix is included in the appendix.

Criterion 2 - Land-Based Recreation Opportunities

Many opportunities occur along Idaho rivers and are as important as the water-based opportunities. The categories are broad and therefore should include most activities that occur. For example, the "Trails" activity could include developed bicycle/jogging paths, day hiking, backpacking, horsepacking, crosscountry skiing. The activity categories are:

Camping
Trails
Picnicking
Pleasure driving
Off Road Vehicles
Resort/Lodge
Historic sites

The physical setting and access descriptors along the side of the matrix are similar to those on the Water-Based Opportunity matrix, but modified to apply to land-based activities. A sample Land-Based Opportunities matrix is included in the appendix.

Criterion 3 - Scenic Factors

Scenic factors play an important, often pervasive, role in river related recreation activities. A sliding scale of importance probably would describe best the relative importance of scenery to each activity. For example, a kayaker pitting his or her skills against challenging whitewater usually is less concerned about scenic factors than a family of tourists who have chosen a route along a river designated as a scenic highway.

Two indicators of visual quality are used in this study, the visual quality assessments made by the federal agencies and a scenic factors matrix created for this study. Since many of the study segments flow through land managed by federal agencies, the U.S. Forest Service and Bureau of Land Management visual resource classifications provide readily available, large scale visual quality assessments on those lands. These two classification systems, though not the same, are equivalent in that they are based on the premise that diversity and contrast of landforms, vegetation patterns, water features, etc., also have the greatest attractiveness for recreation use and aesthetics.

These agency visual resource classifications are mapped on a different scale than the river segments. They are most useful in describing conditions in mostly natural areas with minimal visible human activity. Consequently, these systems are not readily adapted to the broad range of study segments, and they have not been applied to non-federal lands.

Therefore, a matrix was developed to assess some of the scenic factors important to recreationists on federal and non-federal land. Although scenic preference is likely to vary from activity to activity and between user groups, there is no way to include psychometric preference surveys in this study. The matrix assesses which scenic attributes are most important from the most likely viewing areas, not by user group preference. These areas include views from the river, from recreation sites along the river, from scenic overlooks or viewpoints and from highways. The matrix attempts to catalog the features that contribute to each river segment's visual character. A sample Scenic Factors matrix is included in the appendix.

Recreational Opportunity Spectrum

The Recreation Opportunity Spectrum (ROS) is used as an indicator of the experience settings likely available. One ROS class is not rated more highly than another. In the ranking of the river segments, ROS class may indicate the relative availability or scarcity of certain river-related recreation opportunities in a region.

Definitions of the seven ROS classes, urban, rural, roaded, natural, roaded modified, semiprimitive motorized, semiprimitive nonmotorized and primitive, are included in the appendix.

STANDARDS

The standards are closely integrated with the activities and attributes in this methodology. The field experts will rank some attributes against some activities as high, medium or low. By reviewing the inventory of attributes and the aggregation of ranks for each activity, the rater will have some record of the relative position of each type of activity in terms of recreational significance for each river segment.

When ranking the activities or each segment in terms of its relative recreational resource value, the rater may add comments to explain exceptions not covered on the form. Raters may include knowledge of recreation potential, or likely changes in use; if there are temporary disvalues such as a disturbed riverbank that could be reclaimed, if the ranking does not accurately express the recreational value, or any other pertinent comments.

The value class designations are the verbally defined standards that will be used at two levels. First, after completing the inventory/evaluation matrices for each segment, each of the three criteria will be given a value class designation according to how the criterion meets the value class definitions.

Second, after the criteria have been classified for each river segment, then each river segment will be put into a value class. The same set of definitions for value classes will apply at both levels of classification.

Value Class Definitions

Value Class I: Outstanding recreational resource.

An outstanding recreational resource may be due to a unique combination of attributes or to one specific characteristic that creates exceptional recreational opportunities for one or more activities. Outstanding resources would be described by recreation experts and the public as "blue ribbon" resources--the epitome or classic of its type of setting and/or experience. Recreationists may be willing to travel substantial distances or endure difficult access to use these resources.

Value Class II: Substantial Recreational Resource

This class describes recreational resources that are highly valued but do not offer the special characteristics found in outstanding recreational resources. These may be somewhat scarce opportunities in a region due to the limited suitability for certain opportunities or based on the special physical attributes of the river segment. These opportunities and/or settings are of a higher quality than the resources typically found in the region. These are very important recreational settings in the region.

Value Class III: Moderate Recreational Resource

Moderate recreational resources are typically available in the region. They have considerable recre8tional value, but the physical setting or experience opportunity may be considered standard for what is available in the region. It may be a valuable recreation resource in part because it is convenient or easily accessible to user groups. Most users typically would not travel a great distance to use this resource as it has some substitutability within the region.

Value Class IV: Limited recreational resource.

These resources have recreational value, but relative to the other value classes do not offer as high a quality recreation context, special physical setting or the intensity or uniqueness of experience described in the other value classes. The recreational value may be limited due to the inherent nature of the setting, to restricted access, or due to man-made disvalues such as disturbed land, polluted water, etc.

Value Class V: Unclassified recreational resource.

These resources likely have some current or potential recreational value, but the level or type of value is unknown. All rivers and streams in the state having a flow of at least 5 cfs during the recreational use period are assumed to be in this class until they are classified or dropped from the study. This class does not imply a lack of recreational value; it states that values are as yet unknown.

EVALUATION PROCESS

The agency staff will rely heavily on input from regional experts for classification of river characteristics and segments. A core group of recreation experts, probably eight to ten, from each of the six state administrative regions, will be requested to participate in the study.

A preliminary list of river study segments will be developed by the agency staff and sent to the regional experts along with data matrix samples and a description of the way the rivers list, corresponding maps and the data matrices will be used to collect information about the river segments and assign them to value classes.

Agency staff will travel to each region of the state to meet with the regional experts to arrive at consensus ratings for each river segment on the preliminary list and any others added by the experts and user groups. The value class definitions will guide the ranking process. After the consensus process has been completed in each region, the revised rivers list and value class assignments will be circulated for review to the consensus participants and other interested persons and groups. If consensus is not reached on the value class assignment of a river segment, the dissent will be noted on the data form.

The regional experts will represent federal and state agencies, universities, some local agencies and some users.

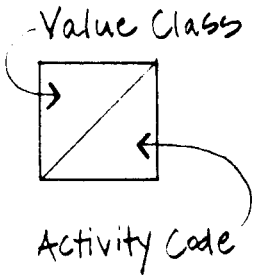
Although the state agency has primary responsibility for conducting the study, the other land managing agencies, notably the Forest Service and BLM will have tremendous influence in the final outcome of the study.

DATA FORM ENTRY

The data sheets that will be included in the final report will summarize the information collected in the first two stages of the project. It will include the value class designation for each criterion and the overall value class designation for each study segment.

DATA FORM

Idaho River Recreation Value Classes



RIVER SEGMENT	CRITERIA: Water-Based Recreation Opportunities	Land-Based Recreation Opportunities	Scenic Factors	ROS Class	Rationale	Value Class for Entire River Segment

APPENDIX

WATER-BASED OPPORTUNITIES

River:

From:

To:

Miles:

Attributes	activity code	Swimming	Tubing	Other	Jet Boating	Prop. Boating	Kayak	Raft	Dory	Open canoe	Other
	Activities	1			2		3				4
USE PATTERN											
does not occur											
developed											
dispersed											
day use											
overnight use											
WATER CHARACTER											
flatwater, suitable for motorboats											
minor rapids, riffles suitable for open canoes (Class I)											
moderate rapids, more suitable for whitewater canoes, rafts, kayaks (Class II to III)											
large or technical rapids suited to advanced white-water rafting and kayaking (Class III to V)											
not boatable due to size, flow, etc.											
obstruction to navigation, must be portaged											
ACCESS											
difficult or inadequate, limits recreational use											
appropriate for how river is managed or used											
COMPATIBILITY OF LAND USES											
no disturbances - sight or sound											
harmonious											
neutral											
intermittent disturbances											
intrusive											
Please indicate the relative significance or proportion of the following attributes. H = High M = Medium or moderate L = Low or least U = Unknown											
LAND OWNERSHIP											
public											
private											
USER ORIGINS											
local											
regional											
state											
national											
REGIONAL ECONOMIC IMPACT											
gas and sundries											
lodging											
food and entertainment											
outfitter/guide services											
other											

COMMENTS

Include exceptions, explanations, qualifications which you think are important in the overall importance and ranking of this river segment. If any special events occur here, if the combination of attributes is special, if there is a negative aspect which could be repaired or reclaimed, if you know of a proposed development or likely change in use patterns or users, please note here

VALUE CLASS: The water-based recreational opportunities on this segment of river are best described by the following value class. Please see instructions for complete definitions.

- ☐ VALUE CLASS 1: Outstanding Recreational Resource
- ☐ VALUE CLASS 2: Substantial Recreational Resource
- ☐ VALUE CLASS 3: Moderate Recreational Resource
- ☐ VALUE CLASS 4: Limited Recreational Resource
- ☐ VALUE CLASS 5: Unknown Recreational Resource

LAND-BASED OPPORTUNITIES

River:

From:

To:

Miles:

Attributes	Activities: Camping (activity code 1)	Trails (2)	Picnicking (3)	Pleasure driving (4)	ORV (5)	Resort/lodge (6)	Historic Site (7)	Other (8)
USE PATTERN								
does not occur								
developed								
dispersed								
day use								
overnight use								
SEASON								
spring								
summer								
fall								
winter								
year around								
ACCESS								
difficult or inadequate, limits recreational use								
appropriate for how river is managed or used								
COMPATIBILITY OF LAND USES								
no disturbances - sight or sound								
harmonious								
neutral								
intermittent disturbances								
intrusive								
Please indicate the relative significance or proportion of the following attributes. H = High M = Medium or moderate L = Low or least U = Unknown								
LAND OWNERSHIP								
public								
private								
USER ORIGINS								
local								
regional								
state								
national								
REGIONAL ECONOMIC IMPACT								
gas and sundries								
lodging								
food and entertainment								
outfitter/guide services								
other								

COMMENTS

Include exceptions, explanations, qualifications which you think are important in the overall importance and ranking of this river segment. If any special events occur here, if the combination of attributes is special, if there is a negative aspect which could be repaired or reclaimed, if you know of a proposed development or likely change in use patterns or users, please note here.

VALUE CLASS: The land-based recreational opportunities on this segment of river are best described by the following value class. Please see instructions for complete definitions.

- ☐ VALUE CLASS 1: Outstanding Recreational Resource
- ☐ VALUE CLASS 2: Substantial Recreational Resource
- ☐ VALUE CLASS 3: Moderate Recreational Resource
- ☐ VALUE CLASS 4: Limited Recreational Resource
- ☐ VALUE CLASS 5: Unknown Recreational Resource

SCENIC FACTORS

River:

From:

To:

Please put an X in the boxes that describe the scenic factors on this river segment.

ATTRIBUTES	View of well-known landform or landmark	View of specific natural feature(s)	Long distance views, i.e., long sight lines	Enclosed views, i.e., forest or hills block sight lines	Constricted viewshed, i.e., in a canyon or gorge	Wide angle viewshed, i.e., a panoramic view	Variation in viewshed	Topographic diversity	Vegetative diversity	Historic site or structure	Other	COMMENTS
VIEWING AREA code	1		2					3		4	5	
From river												
Recreation sites along river												
Scenic overlook or viewpoint												
Road adjacent to river												

RECREATION OPPORTUNITY SPECTRUM CLASSES

Urban

The urban settings are often where people live and work. Buildings dominate as do powerlines, traffic controls, and paved roads. Large numbers of users can be expected. Recreation places are often city or county parks with exotic plantings and mowed lawns.

Few urban recreation places occur on National Forests, and those are like small cities with all the comforts of home. Examples may be very large sophisticated resorts or winter sports complexes.

Rural

These are often the settings between the cities and the forests, such as pastoral farmlands and small communities. Affiliation with people and convenience of facilities are prevalent. Recreation places are often county and state parks.

Rural settings may include large winter sports areas and large campgrounds on National Forest lands. Facilities often include cooking grills, and flush toilets with electric lights. Occasionally, electric and sewer hookups for trailers are provided. Fees are charged on nearly every site. The visitor is restricted to designated roads and campsites.

A campground host may be on duty to help the visitor. Outdoor living skills are not important and seldom needed.

Roaded Natural

these are the settings seen from the many highways and scenic roads throughout the forest. The vegetation is often managed through timber harvest to maintain a healthy, natural-appearing forest. Recreation places are smaller campgrounds or winter sports facilities, with moderate evidence of people.

Roads and parking are often gravel; some may be paved. Facilities include toilets with sealed pits, fireplaces, tables and level places for tents. Water may be provided by handpumps. There are no hookups for trailers, but parking spurs will often accommodate self-contained units.

Fees are charged at many campgrounds. The user is restricted to camping and picnicking in designated sites by roadside barriers and is subject to periodic visits by a compliance checker.

Semiprimitive Motorized

These settings are more remote, away from main traveled highways or roads, where nature predominates. The visitor ovten must have a four-wheel drive vehicle or trail bike to travel the primitive roads and trails. Visitors may also travel by foot or horseback expecting to see the motorized user, but concentration of users is low.

There may be logging or mining, but it is limited. The forest appears predominantly natural. Recreation facilities are few, if any. At some campspots there may be sealed-pit toilets and spring boxes for water. There are only limited onsite controls over users, such as road closure signs and limits on where they may camp to protect lake and streamside areas.

Semiprimitive Nonmotorized

these settings are similar to the above except they are designed for the hiker, backpacker, and horse user. Sights and sounds of motorized users are not found on the trails. Distant sounds of highway and logging traffic may sometimes be heard.

Hiking and equestrian trails offer varying degrees of travel difficulty and provide challenges to users. The visitors usually display higher degrees of outdoor skills and must bring all their own equipment for activities like camping, hiking, and river running. Few facilities are provided.

Timber harvest activities may occur but are limited, and any motorized access is closed to public recreational use. The forest appears natural. Some onsite controls over users occur, such as trailhead registration and restrictions on camping areas to protect lakeshores and streamside areas.

Primitive

These are large in size and the most remote areas of all, where both interaction and evidence of other humans are slight. Often the settings are the central core of wilderness areas, completely away from the sights and sounds of people.

The areas are for foot and horse traffic only. No facilities are provided. Visitors should have adequate outdoor skills to cope with a multitude of natural wildland conditions. They bring all their own equipment for camping, hiking, mountain climbing, and the like.

There is no timber harvest. Other resource activity such as grazing may occur, but is usually limited. Trails offer varying degrees of travel difficulty; sometimes large areas have no trails at all.

There are no onsite controls over visitors, but they may see a back-sountry ranger occasionally. Users generally are free to travel and camp where they want, although there may be restrictions on camping near lakeshores and streambanks to help protect those areas.

Institutional Constraints

PACIFIC NORTHWEST RIVERS STUDY

Method for Assessing the Significance of River Segments
and Systems for Institutional Constraints in Idaho

Category Description

Institutional constraints are comprised of laws or policies with direct implications for hydropower development. Constraints may consist of laws, policies, plans, ordinances, or other mechanisms imposed and/or administered by agencies of government at the Federal, state, or local level, or by the Tribes, Institutional constraints may prohibit, significantly limit, or otherwise impose conditions on hydropower development.

Constraint Classes

Class	Description
1	Federal, state, or local regulations prohibit hydropower development
2	Potential Federal prohibitions
3	Federal, state, or local regulations limit or restrict hydropower development
4	Federal, state, or local regulations permit hydropower development with case specific conditions
5	Unclassified or Unknown

(Note that state and local constraints will vary by state)

Criteria and Standards

° Constraint Class 1 Criteria -

- Designated Resource Areas

River reaches within or containing any of the following designated resource areas may be designated as Constraint Class 1.

National

Parks
Monuments
Wilderness Areas
Wild and Scenic Rivers
Estuarine Sanctuaries
Research Natural Areas
Areas of Critical Environmental Concern

State (As applicable)

Parks
Wildlife Refuges Scenic
Waterways Natural
Heritage Areas

Tribes (As applicable)

– Legal Exclusions

River reaches not affected by a designated resource area but otherwise excluded from hydropower development by Federal, state, or local law, policy, or plan, etc., shall also be designated as Value Class 1. Legal exclusions may take the form of codified congressional or legislative mandates, resource agency management policies, development plans and local land use restrictions, zoning ordinances, or Tribal decree.

o Constraint Class 2 Criteria

– Potential Prohibitions

Areas explicitly identified for potential inclusion as a Class 1 resource area will be included. Examples: Wild and scenic study rivers, potential wilderness areas, etc.

o Constraint Class 3 Criteria

– Special Management Areas

River reaches affecting, or affected by any of the following special management areas shall be designated as Class 3.

National

Wildlife Refuges
Roadless Areas
Sites in National Register of Historic Places
National Natural Landmarks
Campgrounds
Trails
Management Plan Constraints

State (As applicable)

Waysides
Wildlife Management Areas
State Forests
State Parks

Local

County Parks
City Parks

- Legal Restrictions

River reaches not affected by special management areas but on which hydropower development would otherwise be significantly limited by Federal, state, or local statute, policy, plan, Tribal decree, etc., shall be designated as Class 3. Significant limits on development may take the form of restricted generating capacity, restricted season of operation, siting restrictions, instream flow requirements, local conditional use zoning restrictions, etc.

- Constraint Class 4 Criteria

  - Case Specific Conditions

    River reaches on which hydropower development is permitted generally or not otherwise precluded or restricted by Federal, state, or local law, policy, or plan, Tribal concern, etc., shall be designated as Class 4. It is recognized that hydropower development on these reaches would be subject to case specific conditions based on the merits of a specific proposal.

- Constraint Class 5 Criteria

  - Unclassified or Unknown

    Stream reaches which are not addressed by any Federal, state, or local laws, policies, or plans, etc., regarding management or disposition of the stream resource, shall be designated as Class 5.

Evaluation Process

Each stream reach is to placed in a constraint class by resource experts. Unless otherwise required by statute or rule, the final classification of a stream reach shall be the highest value necessary for compliance with the institutional constraints of any individual level of government. Opportunity for review and revision will be given to affected agencies and the public. Exceptions to the classification scheme outlined above will be noted and justified.

APPENDIX A

PACIFIC NORTHWEST RIVERS STUDY

Participants Contact List

Bonneville Power Administration
Thomas E. Pansky, Regional Coordinator
P.O. Box 3621 - PRT
Portland, OR 97208
(503) 230-3969

BONNEVILLE POWER ADMINISTRATION

Coordinator:
Tom Pansky
Division of Power Resources Planning
P.O. Box 3621 - PRT Portland, OR
97208 (503) 230-3969
FTS: 429-3969

Contracting Officer's Technical Representative:
Bob Moulton
Division of Power Resources Planning
P.O. Box 3621 - PRT Portland, OR
97208 (503) 230-3973
FTS: 429-3973

Technical Advisor:
Drew Parkin
15 Thingvalla Avenue
Cambridge, MA 02138
(617) 876-6173

U.S. BUREAU OF LAND MANAGEMENT

Coordinator:
Jack Witherspoon
825 N.E. Multnomah
P.O. Box 2965
Portland, OR 97208
(503) 231-6972
FTS: 429-6972

U.S. FISH AND WILDLIFE SERVICE

Coordinator:
Richard Giger
500 N.E. Multnomah, Suite 1650
Portland, OR 97232
(503) 231-6154
FTS: 429-6154

U.S.D.A. FOREST SERVICE

Coordinator:
Edward Allen
319 S.W. Pine Street
P.O. Box 3623
Portland, OR 97208
(503) 221-3014
FTS: 429-3014

NATIONAL PARK SERVICE
Pacific Northwest Region
Westin Building - Room 1920
2001 6th Avenue
Seattle, WA 98121

Coordinator:

Sid Malbon
NPS - Chief, Environmental Activities & Planning
(206) 442-5366

Cooperating Agency
Resource Experts

Natural;
Recreation:

Dennis Canty
NPS - Environmental Activities & Planning (206) 442-5366

Howard Chadwick
NPS - Environmental Activities & Planning
(206) 442-5366

Cultural:

Stephanie Toothman, Regional Historian
NPS - Cultural Resources Division
(206) 442-0791
FTS: 399-0791

Jim Thomson, Regional Archeologist
NPS - Cultural Resources Division
(206) 442-0791
FTS: 399-0791

Jane Evans
NPS - Cultural Resources Divison
(206) 442-0791
FTS: 399-0791

STATE OF IDAHO

Senior Resource Experts		Project Staff/Participating Agencies
State Coordinator:	Carl Nellis Idaho Dept. of Fish & Game 600 S. Walnut Boise, ID 83707 (208) 334-3180 FTS: 554-3180	
Fish:	Virgil Moore Idaho Dept. of Fish & Game 600 S. Walnut Boise, ID 83707 (208) 334-3791	Dan Schill Idaho Dept. of Fish & Game 600 S. Walnut Boise, ID 83707 (208) 334-3969
Wildlife:	Martel Morache Idaho Dept. of Fish & Game 600 S. Walnut Boise, ID 83707 (208) 334-2920	
Natural Features:	Craig Groves, Heritage Coordinator The Nature Conservancy 4696 Overland Road, Suite 518 Boise, ID 83705 (208) 334-3402	Steve Caicco/Pam Peterson The Nature Conservancy 4696 Overland Rd., Ste. 518 Boise, ID 83705 (208) 334-3402
Cultural:	Tom Green, State Archeologist Idaho State Historic Preservation Office 610 N. Julia Davis Dr. Boise, ID 83702 (208) 334-3847	Ms. Chris Fuhrman Idaho State Historic Preservation Office 610 N. Julia Davis Dr. Boise, ID 83702 (208) 334-3847
Recreation:	Todd Graeff Idaho Dept. of Parks & Recreation 2177 Warm Springs Ave. Statehouse Mail Boise, ID 83720 (208) 334-2284	Mary McGown Idaho Dept. of Parks & Rec. 2177 Warm Springs Ave. Statehouse Mail Boise, ID 83720 (208) 334-3360
Institutional:	Susan Martin Idaho Dept. of Health & Welfare Division of Environment Statehouse Mail Boise, ID 83720 (208) 334-4251	
	Don McNarie Idaho Dept. of Lands Statehouse Mail Boise, ID 83720 (208) 334-3955	
	Jim Winner Idaho Dept. of Water Resources Statehouse Mail Boise, ID 83720 {208) 334-4481	

IDAHO - Bureau of Land Management
Idaho State Office
3380 Americana Terrace
Boise, ID 83706

Coordinator: Gregg Berry
(208) 334-1491
FTS: 554-1491

Fred Minkler
(208) 334-1491
FTS: 554-1491

Recreation: George Weiskircher
(208) 334-1748 FTS:
554-1748

IDAHO - Forest Service
Intermountain Region - 4

Coordinator: Dean Martens
Payette National Forest
P.O. Box 1026
McCall, ID 83638
(208) 634-8151

IDAHO - Forest Service
Northern Rockies Region - 1
[See contacts in Montana listing]

IDAHO - U.S. Fish and Wildlife Service

Coordinator: John Wolflin, Field Supervisor
4620 Overland Road, Room 209
Boise, ID 83705
(208) 334-1931

STATE OF MONTANA

	Senior Resource Experts	Project Staff/Participating Agencies
State Coordinator:	Patrick Graham Montana Dept. of Fish, Wildlife & Parks 1420 East Sixth Avenue Helena, MT 59620 (406) 444-2449	Stewart Allen Research Coordinator 440 North Park Helena, MT 59601 (406) 442-6966
Fish:	George Holton Montana Dept. Fish, Wildlife, & Parks 1420 East Sixth Avenue Helena, MT 59620 (406) 444-2448	
Wildlife:	John Mundinger MT Dept. Fish, Wildlf, Parks 1420 East Sixth Avenue Helena, MT 59620 (406) 444-2612	Gael Bissell MT Dept. Fish, Wildlf, Parks 1420 East Sixth Avenue Helena, MT 59620 (406) 444-2612
Natural Features:	Larry Thompson Montana Dept. Natural Resources and Conservation 25 South Ewing Helena, MT 59620 (406) 444-6786	Tom Ring MT Dept. Natural Resources and Conservation 25 South Ewing Helena, MT 59620 (406) 444-6786 Bob Kiesling, State Director The Nature Conservancy P.O. Box 258 Helena, MT 59624 (406)443-0303
Cultural:	Tom Foor Dept. of Anthropology University of Montana Missoula, MT 59820 (406) 243-5081	
Recreation:	Paul Pacini MT Dept. Fish, Wildlife, & Parks 1420 East Sixth Avenue Helena, MT 59620 (406) 444-3750	Stewart Allen (see, above)
Institutional:	Patrick Graham Montana Dept. of Fish, Wildlife & Parks 1420 East Sixth Avenue Helena, MT 59620 (406) 444-2449	

MONTANA - Bureau of Land Management

Montana State Office
222 North 32nd Street
P.O. Box 36800
Billings, MT 59107

Coordinator:	Loren Cabe Division of Lands & Renewable Resources FTS: 585-6815
Fish:	Dan Hinkley Div. of Lands & Ren. Res. FTS: 585-6474
Wildlife:	Ray Hoem Div. of Lands & Ren. Res. FTS: 585-6474
Natural Features; Cultural:	Burt Williams Div. of Lands & Ren. Res. FTS: 585-6474
Recreation; Institutional:	Bob Lund Div. of Lands & Ren. Res. FTS: 585-6474

MONTANA - Forest Service

Northern Rockies Region - 1
P.O. Box 7669
Missoula, MT 59807

Coordinator:	Earl Reinsel, Energy Planner (406) 329-3399 FTS: 585-3399	
Fish; Wildlife:	Don Bartschi Fish & Wildlife Unit Regional Office (406) 329-3287 FTS: 585-3287	
Natural Features:	Leon Logan, Water Resources Range & Watershed Unit (406) 329-3516 FTS: 585-3516	
Cultural; Recreation; Institutional:	Wendell Beardsley Recreation & Lands Unit (406) 329-3150 FTS: 585-3150	Ernestine Green Recreation & Lands Unit (406) 329-3662 FTS: 585-3662

MONTANA - U.S. Fish and Wildlife Service

Coordinator:	Gary Wood Room 305, Federal Building 316 North 26th Billings, MT 59101 (406) 657-6750
Fish:	Larry Lockard NW Montana Fish and Wildlife Center 780 Creston Hatchery Road Kalispell, MT 59901 (406) 755-7870
Wildlife:	Alex Hoar Room 305, Federal Building 316 North 26th Billings, MT 59101 (406) 657-6750
Natural Features; T&E Species:	Carol Taylor Federal Building 301 South Park Helena, MT 59626 (406) 449-5225

STATE OF OREGON

Senior Resource Experts		Project Staff/Participating Agencies
State Coordinator:	Gary Waltenbaugh Oregon Department of Energy 102 Labor & Industries Bldg. Salem, OR 97310 (503) 378-8327	
Fish; Wildlife:	Brent Forsberg Oregon Dept. of Fish and Wildlife 506 S.W. Mill Street P.O. Box 3503 Portland, OR 97208 (503) 229-5680	Louis Fredd OR Dept. of Fish and Wildlife 506 S.W. Mill Street P.O. Box 3503 Portland, OR 97208 (503) 229-6959
Natural Features:	Curt Soper, Heritage Coordinator The Nature Conservancy 1234 N.W. 25th Avenue Portland, OR 97210 (503) 228-9550	
Cultural:	Leland Gilsen Oregon Dept. of Transportation, Parks & Recreation Division 525 Trade Street S.E. Salem, OR 97310 (503) 378-5023	
Recreation:	John Lilly Oregon Dept. of Transportation, Parks & Recreation Division 525 Trade Street S.E. Salem, OR 97310 (503) 378-5000	Al Cook/Jack Remington Oregon Dept. of Transportation, Parks & Recreation Division 525 Trade Street S.E. Salem, OR 97310 (503) 378-5000
Institu-tional (State):	Steve Brutscher Oregon Water Resources Dept. 555 13th St. N.E. Salem, OR 97310 (503) 378-3671	
(Local):	Lloyd Chapman Dept. of Land Conservation & Development 1175 Court Street N.E. Salem, OR 97310 (503) 373-7399	

OREGON - Bureau of Land Management

Oregon State Office
825 NE. Multnomah Street
P.O. Box 2965
Portland, OR 97208

Coordinator: Jack Witherspoon
(503) 231-6953
FTS: 429-6953

Fish: Art Oakley Fishery
Biologist (503)
231-6866

Wildlife: Bill Nietro
Wildlife Biologist
(503) 231-6866

Recreation: Jack Witherspoon
(503) 231-6972

Natural Features; Ken White
Recreation; Lands, Minerals & Recreation Branch
Institutional: (503) 231-6972

OREGON - Forest Service

Pacific Northwest Region - 6

Coordinator; Gene Tomlin
Natural Features; Range and Watershed Management
Cultural; 319 S.W. Pine Street
Recreation; P.O. Box 3623
Institutional: Portland, OR 97208
(503) 221-3033

Fish; Del Skeesick
Wildlife: Willamette National Forest
P.O. Box 10607
Eugene, OR 97440
(503) 687-6699

OREGON - U.S. Fish and Wildlife Service

Coordinator: Pat Wright
727 N.E. 24th Avenue
Portland, OR 97232
(503) 231-6179
FTS: 429-6179

Jim Michaels
Endangered Species Office
2625 Parkmont Lane S.W., Building B-2
Olympia, WA 98502

STATE OF WASHINGTON

Senior Resource Experts		Project Staff/Participating Agencies
State Coordinator:	Steven Zubalik Washington State Energy Office 400 E. Union Olympia, WA 98504 (206) 754-0728	Gilbert McCoy WA State Energy Office 400 E. Union Olympia, WA 98504 (206) 754-0753
Fish:	Paul Mongillo Resident Fish Program Manager Washington Department of Game 600 N. Capitol Way Olympia, WA 98504 (206) 753-5713	Alex Bradbury Fish Management Division Washington Dept. of Game 16018 Mill Creek Blvd. Mill Creek, WA 98012 (206) 775-1311
Wildlife:	Jack Howerton Washington Department of Game 600 N. Capitol Way Olympia, WA 98504 (206) 753-2736	Bob Bicknell Habitat Management Division Washington Dept. of Game 600 N. Capitol Way Olympia, WA 98504 (206) 753-3188
Natural Features:	Mark Sheehan WA Natural Heritage Program Dept. of Natural Res. EX-12 Olympia, WA 98504 (206) 753-2449	Elise Augenstein WA Natural Heritage Program Dept. of Natural Res. EX-12 Olympia, WA 98504 (206) 753-2448
Cultural:	Robert Whitlam Office of Archeology and Historic Preservation 111 West 21st Avenue, KL-11 Olympia, WA 98504 (206) 753-4405	
Recreation:	Bill Bush Washington State Parks & Recreation Commission 7250 Cleanwater Lane, MS-KY11 Olympia, WA 98504 (206) 753-2017	Gerald Pelton Planning Services Division Interagency Committee for Outdoor Recreation 4800 Capitol Boulevard Olympia, WA 98504 (206) 753-7140 Howard Chadwick National Park Service 2001 Sixth Avenue Westin Building - Room 1920 Seattle, WA 98121 (206) 442-5366
Institutional:	Steven Zubalik Washington State Energy Office 400 E. Union Olympia, WA 98504 (206) 754-0728	Don Peterson Washington Dept. of Ecology MS-PV11 Olympia, WA 98504 (206) 459-6285

WASHINGTON – Bureau of Land Management
Oregon State Office
825 NE. Multnomah Street
P.O. Box 2965
Portland, OR 97208

Coordinator: Jack Witherspoon
(503) 231-6972
FTS: 429-6972

Fish: Art Oakley Fishery
Biologist (503)
231-6866

Wildlife: Bill Nietro
Wildlife Biologist
(503) 231-6866

Recreation: Jack Witherspoon
(503) 231-6972

Natural Features; Ken White
Recreation; Lands, Minerals & Recreation Branch
Institutional: (503) 231-6972

WASHINGTON - _Forest Service
Pacific Northwest_Region - 6

Coordinator; Gene Tomlin
Natural Features; Range and Watershed Management
Cultural; 319 S.W. Pine Street
Recreation; P.O. Box 3623
Institutional: Portland, OR 97208
(503) 221-3033

Fish; Lyle Burmeister
Wildlife: Gifford Pinchot National Forest
500 West 12th Street
Vancouver, WA 98770
(206) 696-7531

WASHINGTON - U.S. Fish and Wildlife Service

Coordinator: Elaine Rybak
Building B-3, 2625 Parkmont Lane
Olympia, WA 98502
(206) 753-9440
FTS: 434-9440

Jim Michaels
Endangered Species Office
2625 Parkmont Lane S.W., Building B-2
Olympia, WA 98502

INDIAN TRIBES - Biologists & Resource Contacts

Shoshone-Bannock Tribes of the Fort Hall Reservation
Fort Hall, ID 83203
(208) 238-3808 or 238-3867 or 238-3900
- Mr. Dan Daley

[Also representing Duck Valley Reservation]

Confederated Salish and Kootenai Tribes
P.O. Box 278
Pablo, MT 59855
(406) 675-4600
- Mr. Jim Paro

Blackfeet Tribe
Box D
Browning, MT 59417
(406) 338-7406
- Mr. Roy LaFromboise, Director, Planning Department
- Ms. Ferol Wagner

Klamath Indian Tribe
P.O. Box 436
Chiloquin, OR 97624
(503) 783-2219
- Mr. Elwood Miller.
- Mr. Gene *Gentry*
- Mr. Craig Bienz

Confederated Tribes of the Colville Reservation
P.O. Box 150
Nespelem, WA 99155
(509) 634-4711, ext. 298
- Mr. Jerry Marco
- Mr. John Smith
- Mr. Randy Lewis

Upper Columbia United Tribes Fisheries Research Center
Eastern Washington University
Cheney, WA 99004
(509) 359-6397 or 359-2339 or 359-2523
- Dr. Allan T. Scholz, Director

Spokane Tribe
P.O. Box 385
Wellpinit, WA 99040
- Mr. Glen Ford, Tribal Council

Kalispel Tribe
P.O. Box 540
Usk, WA 99180
- Mr. Glen Nenema, Chairman
- Mr. Lawrence Goodrow

Upper Columbia United Tribes (continued)

Kootenai Tribe
P.O. Box 1269
Bonners Ferry, ID 83805
- Mr. Basil White
- Mr. Rodney Roadrunner Clarke

Coeur d'Alene Tribe
Plummer, ID 83851
- Mr. .Tames Albrecht
- Mr. Richard James Mullen

Columbia River Inter-Tribal Fish Commission
2705 E. Burnside, Suite 114
Portland, OR 97214
(503) 238-0667
- Mr. Rob Lothrop

Nez Perce Tribe of Idaho
P.O. Box 305
Lapwai, ID 83540
(208) 843-2253
- Mr. Burnie Hill
- Mr. Ross Fuller

Confederated Tribes of the Umatilla Indian Reservation
P.O. Box 638
Pendleton, OR 97801
(503) 276-8221
- Ms. Jean Shaffer

Confederated Tribes of the Warm Springs Reservation of Oregon
Warm Springs, OR 97761
(503) 553-1161
- Mr. Cris Stainbrook

Confederated Tribes and Bands of the Yakima Indian Nation
P.O. Box 151
Toppenish, WA 98948
(509) 865-5121
- Mr. Joe Jay Pinkham, Chairman, General Council
- Mr. William Yallup, Sr., Tribal Council
- Mr. Lynn Hatcher
- Mr. William Bradley
- Mr. Don Tahkeal

Northwest Indian Fisheries Commission
2625 Parkmont Lane, SW
Olympia, WA 98502
(206) 352-8030
FTS: 434-9476
- Mr. Dennis McDonald

Northwest Indian Fisheries Commission (continued)

Point No Point Treaty Council
7850 N.E. Little Boston Road
Kingston, WA 98346
[Representing Jamestown Klallam, Lower Elwha Klallam, Skokomish, and Port Gamble Klallam Tribes]
(206) 297-3422 or 297-2972 or 297-2826
- Mr. Stephen Ralph

Lummi Tribe of Indians
2616 Kwina Road
Bellingham, WA 98255
(206) 734-8180, ext. 225
- Mr. Paul Hage

Tulalip Tribe
6700 Totem Beach Road
Marysville, WA 98270
(206) 653-4585
- Mr. David Somers
- Mr. Terry Williams

Hoh Indian Tribe

Makah Indian Tribe

Quileute Indian Tribe

Quinalt Indian Tribe

Squaxin Indian Tribe

Muckleshoot Indian Tribe

Nisqually Indian Tribe

Nooksack Indian Tribe

Puyallup Indian Tribe

Sauk-Suiattle Indian Tribe

Stillaguamish Indian Tribe

Suquamish Tribe of the Port Madison Reservation

Swinomish Indian Tribe

Upper Skagit Indian Tribe

NOTE: Tribes with names and addresses have responded to BPA regarding project participation.