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PACIFIC NORTHWEST RIVERS STUDY ASSESSMENT GUIDELINES

WASHINGTON

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A. Participants

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.

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PACIFIC NORTHWEST RIVERS STUDY ASSESSMENT GUIDELINES WASHINGTON

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

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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.

<u>Step 1</u>: 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.

<u>Step 4</u>: 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.

<u>Step 6</u>: 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:

- 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 <u>Maine</u> <u>Rivers Study</u>, the <u>Idaho Rivers Inventory</u>, the <u>Montana Fish and Wildlife</u> <u>Valuation Procedures</u>, and the <u>New Hampshire River Protection and Energy</u> <u>Development Project</u> and have been modified to suit unique state, agency, and <u>Tribal requirements</u>. 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;
- 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:

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

° 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

° Cultural Features (Chapter 7)

- archeological sites
- river related architectural sites
- historic trails and sites
- current Indian cultural use sites (Council responsibility)

% 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

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State
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Local (as applicable)
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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 give it 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.

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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 Prismacolor 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.

PACIFIC NORTHWEST RIVERS STUDY

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

LEAD AGENCY

Washington Department of Game (WDG)

SENIOR RESOURCE EXPERT AND STAFF

Paul Mongillo, Senior Resource Expert, WDG Alex Bradbury,Rivers Assessment Biologist, WDG

COOPERATING RESOURCE EXPERTS

Lyle Burmeister, U.S. Forest Service Tribal Biologists

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 Washington Department of Game has been designated to take the lead in assessing the value of rivers for resident fish resources in the state of Washington.

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

The following components will be included in the resident fish resource assessments: habitat quality, migration corridors, research sites, rare species, gamefish species, abundance of catchable fish, angler effort, quality of angling experience, and economic importance of sport fishery.

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 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 one or both criteria cannot be evaluated due to insufficient data, a value class of U may be assigned to the reach.

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 value class is assigned to a given river segment for each species present. For example, if smallmouth bass in reach "X" are identified as a species of high concern (due to their classification as a Washington gamefish species of regional importance), and reach "X" contains intermediate quality smallmouth bass 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.

Four exceptions to the methodology for Criterion 1 are noteworthy:

- 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 chould be classified as high quality habitat when the value class for that species is determined from Table 1.
- <u>Rare Species</u>: If a river section provides low or intermediate quality habitat for a rare, endangered or genetically unique species, but the occurrence of that species in the state is extremely limited, the "habitat and species value" should be adjusted one or more classes upward.
- 3. <u>Research Sites</u> : 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.

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

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

- 1/ High, intermediate and low quality habitats are defined as those which provide optimum, satisfactory and poor environmental conditions, respectively, for the particular species in question. Environmental factors to be considered in evaluating habitat quality include (but are not limited to) dissolved oxygen and other water quality parameters, instream flow, substrate composition, availability of cover, and abundance of food items.
- 2/ Species of high concern include: 1) rare, endangered or genetically unique species (e.g. sandroller, Olympic mudminnow, pigmy whitefish); and 2) Washington gamefish species (Appendix A) of regional importance (based on angler preference, ecological significance, and/or rarity in the region).
- 3/ Species of intermediate concern include: 1) all Washington gamefish species (Appendix A), except as noted above under species of high concern; and 2) Washington non-gamefish species of ecological significance (e.g. a sculpin population that serves as a forage base for a species of high concern).
- 4/ Species of low concern include all Washington non-gamefish species, except as noted above under species of high and intermediate concern.

4. Potential Value : If environmental conditions in a river segment are expected to improve or deteriorate in the near future, "potential" habitat quality should be used in Table 1. Similarly, if the relative importance of a species is expected to change in the near future, the species should be classified in Table 1 at a level commensurate with its "potential" concern.

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 A) present in the reach (Table 2). A value class is assigned to a given river segment for each gamefish species present. For example, if cutthroat trout occur at intermediate abundance in reach "X" and anglers expend considerable effort to catch that species in reach "X" (i.e., high angler use), a value class of 2 would be assigned to the reach. The same procedure is repeated for all resident gamefish species present in reach "X"; the highest value class obtained is taken as the "sport fishery value" of the reach. If appropriate, a value class of U may be assigned to a river section.

Four 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 uncommonly large fish significantly enhance the angling experience in the stream reach, the "sport fishery value" should be adjusted one or more classes upward. Conversely, if poor aesthetic qualities, high fishing pressure, or the occurrence of stunted fish populations significantly detract from the angling experience in the reach, the "sport fishery value" should be adjusted one or more classes downward.
- Economic Import : If the sport fishery in a river section is important to the regional economy (e.g. through retail sales), the "sport fishery value" should be adjusted one class upward.
- 3. Angling Opportunity : If a particular resident fish resource in a river segment is unique in the immediate area (e.g. the only brown trout fishery within a 50-100 mile radius), the "sport fishery value" should be adjusted one class upward.
- 4. Potential Value : If the sport fishery in a stream section is expected to improve significantly in the near future (e.g. through habitat improvement measures, species introductions, improved access, etc.), "potential" abundance of catchable fish or "potential" angler use should be used in Table 2. Conversely, if the sport fishery is expected to deteriorate in the near future, "potential" levels of abundance or angler use should be used to determine the "sport fishery value" class of the reach.

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

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

- 1/ Levels of abundance (high, intermediate and low) will be defined pending further investigation, but will likely be correlated with total harvest, 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 quantified as fisherman-days per unit area.

EVALUATION PROCESS

Phase I: Data Acquisition and Synthesis	Feb-Sep, 1985
Review available literature and agency files Interview resource experts	Feb-Jun, 1985 Jul-Sep, 1985
Synthesize and evaluate resource data	Feb-Sep, 1985
Phase II: Assessment Review and Revision *	Oct-Sep, 1985-86
Complete preliminary resource assessments, displaying results on maps and evaluation forms	Oct-Dec, 1985
In-house assessment review	Jan-Feb, 1986
Revise maps and evaluation forms	March, 1986
Assessment review by all interested parties	Apr-May, 1986
Revise maps and evaluation forms; prepare final study documents	Jun-Jul, 1986
Assist with data synthesis and final report preparation at state and regional level	Aug-Sep, 1986

* Phase II dates tentative pending completion of Phase I.

DATA FORM ENTRIES

The following data categories should be included in the river rating form(s): river, location, segment, map code, habitat and species value (species code, habitat quality, level of concern, value class), sport fishery value (species code, fish abundance, angler use, value class), overall value class, documentation, and remarks.

GROUP	COMMON NAME	SCIENTIFIC NAME
Bass	Largemouth bass Smallmouth bass	Micropterus salmoides Micropterus dolomieui
Catfish	Brown bullhead Black bullhead Yellow bullhead Channel catfish Blue catfish	Ictalurus nebulosis Ictalurus melas Ictalurus natalis Ictalurus punctatus Ictalurus furcatus
Cod	Freshwater ling (burbot)	Lota lota
Crappie	Black crappie White crappie	Pomoxis nigromaculatus Pomoxis annularis
Grayling	Arctic grayling	Thymalus arcticus
Perch	Yellow perch	Perca flavescens
Pike	Northern pike	Esox lucius
Sunfish	Bluegill sunfish Green sunfish Rock bass Pumpkinseed Warmouth	Lepomis macrochirus Lepomis cyanellus Ambloplites rupestris Lepomis gibbosus Chaenobryttus gulosus
Trout	Bull trout Cutthroat trout Golden trout German brown trout Dolly Varden trout Eastern brook trout Kokanee Lake or Mackinaw trout Atlantic salmon Rainbow trout	Salvelinus confluentus Salmo clarki Salmo aguabonita Salmo trutta Salvelinus malma Salvelinus fontinalis Oncorhynchus nerka Salvelinus namaycush Salmo salar Salmo gairdneri
Walleye	Walleye	Stizostedion vitreum
Whitefish	Lake whitefish Mountain whitefish	<u>Coregonus</u> <u>clupeaformis</u> <u>Prosopium</u> <u>williamsoni</u>

Appendix A. Resident gamefish species of Washington (Source: WDG's 1984 "Washington Game Fish Seasons and Catch Limits" pamphlet).

LEAD AGENCY

Washington State Department of Game

SENIOR RESOURCE EXPERT AND STAFF

Senior Resource Expert: Jack Howerton Staff: Bob Bicknell

COOPERATING RESOURCE EXPERTS

Lyle Burmeister, U.S. Forest Service Elaine Rybak, U.S. Fish and Wildlife Service Tribal Biologists, Statewide

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 Washington State Department of Game has been designated to take the lead in assessing the value of rivers for wildlife in the state of Washington.

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

The concept of "wildlife resource" used herein, refers to those game and non-game species of birds and mammals associated with riverine/riparian habitats, as well as such habitat necessary for the perpetuation of these species. Habitat components may include forage, cover, migration corridors, winter/summer range, nesting sites, etc. Other wildlife, e.g. reptiles, amphibians and invertebrates, and their habitat will be included in the assessment process where such information is available and appropriate.

The three components of the wildlife resource category are habitat, species, and recreation. Habitat standards will be based upon quality and quantity and such factors as uniqueness, importance to species of concern, and the degree to which the habitat has been altered or disturbed by man. Species standards will be based on rareness or sensitivity (both federal and state standards will apply), game species of local importance, indicator species of riparian habitats, non-game species, and nuisance or predatory species. Recreation standards will be based on recreation man-days, access, relative species abundance, and potential use, reflected as the economic impact in a community.

PROPOSED WILDLIFE CRITERIA AND STANDARDS

VALUE CLASSES

The following five value classes will be used for wildlife:

Value Class

1	Outstanding wildlife resource
2	Substantial wildlife resource
3	Moderate wildlife resource
4	Limited wildlife resource
U	Unclassified or Unknown wildlife
	resource

CRITERIA

Each stream is to be placed in a value class for each of the following criteria:

- 1. Habitat value
- 2. Species value
- 3. Recreation value

The final classification of wildlife resource value is the higher class given for criterion 1, 2, or 3. Resource experts will assign stream reaches to a value class using best judgement based on existing data and/or knowledge. Any stream that is assessed as having outstanding habitat value or outstanding species value will be assigned an overall assessment value of 1, as an outstanding wildlife resource.

The following standards will be used to determine the wildlife resource value of a stream reach. Value designations of outstanding, substantial, moderate, and limited are based on data and/or judgement decisions of resource experts. If criteria can not be evaluated due to insufficient data, a value class, U, may be assigned to the reach.

STANDARDS

Criterion 1: Habitat Value

Habitats are evaluated by type, quality and quantity. State resource experts will select habitat types to go into type classes based on rarity of occurrence and importance to wildlife.

The value class for Criterion 1 will be based on habitat quality and significance to wildlife including species abundance and diversity.

For wildlife, Outstanding Value Habitats are defined as:

1. Unique habitats or habitat for species identified by federal or state governments as rare, endangered, or threatened.

- Critical and important habitat for species of special concernsuch as game species of regional importance or species of state concern as identified by state wildlife agencies.
- 3. Habitats managed as wildlife areas or dedicated, by state or federal agencies, as mitigation properties.

Substantial Value Habitats are defined as:

- 1. Relatively undisturbed habitats that support good populations of wildlife of special or state concern.
- 2. Critical and important habitats of wildlife of Substantial Value.

Moderate Value Habitats are defined as:

- Habitats that support moderate populations of wildlife of substantial value.
- Habitats that support substantial populations of wildlife of moderate value.

Limited Value Habitats are defined as:

1. Disturbed and low value habitats that do not provide good diversity of numbers of wildlife of moderate or limited values.

Criterion 2: Species Value

Species values of a stream reach are evaluated on the basis of five species value categories: highest, substantial, moderate, limited, and unclassified. Each state will identify species, species groups or populations belonging in each category. A stream reach will be placed in the highest species value class warranted by the species present according to definition below. All stream reaches supporting species from the "highest" category will automatically be placed in the highest value class.

"Highest" species value class is characterized by:

- 1. Species identified by federal or state wildlife organizations as rare, endangered or threatened.
- Species identified by federal or state wildlife agencies as species of special concern.

"Substantial" species value class is characterized by:

- 1. Game and non-game species of local significance.
- 2. Local healthy populations of non-game and game species that are uncommon elsewhere.

"Moderate" species value class is characterized by:

- 1. Game populations other than those listed as substantial.
- 2. Populations of common native non-game species that are not considered to belong to the previous two categories.

Limited value species are those primarily exotic non-game species that are considered nuisances and/or compete with native wildlife.

Criterion 3: Recreation Value

The recreation value of a stream reach will be based on two components: wildlife use or use potential and local community importance. Each stream reach will be rated separately for each component using the criteria below. An overall recreation value class (highest, substantial, moderate, limited, unclassified) can be determined based on combinations of values of the two components.

Standards of high, moderate and low use or use potential and local importance will be based on judgement decisions by resource experts based on existing data and knowledge.

A. Wildlife Use Potential

Class

Description

High Stream section receives or has potential to receive high use by wildlife recreationists.
 Moderate Stream section receives some use by wildlife recreationists.

wildlife recreationists, or has the potential to receive a moderate amount of use.

Stream section has low use or use potential by wildlife recreationists.

B. Local Community Importance

3. Low

Class	Community Importance
1	High
2	Moderate
3	Low

An overall recreation value class may be determined based on these two recreation criteria using the following matrix.

Local Community Importance

		High	Moderate	Low
Wildlife	High	i	2	3
Potential	Moderate	2	3	3
	Low	3	3	4

For example, if a reach should be assessed as having high wildlife use potential, perhaps by hunters or trappers, and a moderate local community impact, reflected by dollars, then its recreation value would be 2, substantial.

The final step in classifying stream reaches for wildlife is to assess the overall 'wildlife resource value', which will be derived from the three previously described criteria. At this point, the overall value of a reach will be, as stated earlier, the highest value given for any single criterion.

"Outstanding Value" Species

FE-Federal Endangered FT-Federal Threatened SE-State Endangered ST-State Threatened PSE-Proposed State Endangered PST-Proposed State Threatened Non-Game Status Game Oregon Silverspot Butterfly FT,ST Beaver Giant Columbia River Limpet PSE Spruce Grouse Giant Columbia Spire Snail PSE Ruffed Grouse Columbia River Tiger Beetle PSE Sage Grouse Mardon Skipper PST Sharp-tailed Grouse Chinquapin Hairstreak PST Band-tailed Pigeon Larch Mountain Salamander PST ST Chukar Western Pond Turtle Hungarian Partridge Golden Eagle Ring-necked Pheasant Merlin Turkey Bald Eagle FT,ST Valley Quail Brown Pelican FE,SE Bobwhite Ouail White Pelican SE Mourning Dove Peregrine Falcon FE,SE Common Snipe Aleutian Canada Goose FE Scaled Quail Sandhill Crane SE Mountain Quail Snowy Plover SE Bobcat Upland Sandpiper SE Fisher Ferriginous Hawk ST Cascade Red Fox Spotted Owl ST Lvnx Common Loon PST Marten Yellow-billed Cuckoo PST River Otter Streak-horned Lark PST Wolverine Whistling Swan Gyrfalcon Prairie Falcon Trumpeter Swan Grizzly Bear FT,SE Great Basin Canada Goose SE Gray Wolf Western Dusky Canada Goose Columbian White-tailed Deer FE,SE Taverner's Canada Goose Woodland Caribou FE,SE Vancouver Canada Goose Western Pocket Gopher (3 subspecies) PSE Cackling Canada Goose (T.m. louiei, glacialis, tumuli) Black Brant Northern Pocket Gopher PSE Atlantic Brant ST Pygmy Rabbit Lesser Snow Goose Townsend's Big-eared Bat PST Fulvous Whistling Duck PST Western Pocket Gopher (T.m. couchi) Pintai1 Bigfoot Mallard Gadwall Green-winged Teal Game Pronghorn Antelope Blue-winged Teal Cougar Cinnamon Teal Blacktail Deer European Wigeon Mule Deer American Wigeon White-tailed Deer Wood Duck Rocky Mountain Elk Redhead Roosevelt Elk Canvasback

Harlequin Duck

Moose Mountain Goat Mountain Sheep Game

Black Bear Covote Lowland Red Fox Mink Muskrat Nutria Opossum Raccoon Spotted Skunk Striped Skunk Longtailed Weasel Shorttailed Weasel Hooded Merganser Common Merganser Red Breasted Merganser Coot Ring-necked Duck Common Goldeneye Barrow's Goldeneye Bufflehead 01dsquaw Ruddy Duck Badger Eastern Cottontail Nuttall's Cottontail Blue Grouse

Non-Game Great Blue Heron Great Egret Green-backed Heron Black-crowned Night Heron Osprey Black-shouldered Kite Northern Goshawk Swainson's Hawk Burrowing Owl Barred Owl Great Grey Owl Pileated Woodpecker Common Barn Owl Flammulated Owl Snowy Owl

The Washington Department of Game reserves the right to amend these lists at any future date.

Habitat, species, recreation, and overall wildlife resource value classes for river segments in Washington State

	Habitat Value		Habitat Value Species Value		Recreational Value			e d			
River Segment	Score	Justification Appendix "A"	Game Non- Game	Score	Species of Concern App. "B"	Wildlife Use or Potential	Community Importance	Score	Overal Assess Value	Comments	Documentation
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RECREATION VALUE WORK SHEET -- PNW RIVERS STUDY -- WASHINGTON (PLEASE SEE INSTRUCTIONS ON REVERSE SIDE FOR NUMBERED ITEMS)

1	Group name	Address								
2	Contact name	Daytime phone								
Ŭ.	River name	Tributary of ③ WRIA number								
4	Reach (map descri	tion): Downstream end								
_	Upstream end_	Miles								
(5)	Guidebook referen Is reach accessib	e Driving hours from above address e: By road? Which end(s)? By trail?								
	RATINGS (Indicate (not applicable o	<u>A</u> (high), <u>B</u> (above average), <u>C</u> (average), <u>D</u> (below average), or <u>N/A</u> unknown):								
	6 RESOURCE CHAR and picnic si (boating) Wildlife view	6 RESOURCE CHARACTERISTICS: Developed camp and picnic sites, Undeveloped camp and picnic sites; Interesting hydraulics (boating); Challenging (boating); Water clarity; Feeling of solitude; Naturalness; Wildlife viewing; Other (specify):								
	<pre> SCENIC QUALIT detract: </pre>	(give rating and specify major features that enhance or								
	8 RECREATION AC boating	<pre>FIVITIES: Whitewater boating; Whitewater kayaking; Flatwater Camping and picnicking; Hiking and backpacking; Other c specify)</pre>								
	RELATIVE AMO	NT OF RECREATION USE (give rating and specify activity):								
	OVERALL VALUE rating).	RATING: (circle above ratings which most influenced overall								
1	NARRATIVE DESCRI experience, incl additional sheet	TION (describe main factors that enhance or detract from the recreation ding adequacy of access, launching ramps and other facilities; attach if needed):								

INSTRUCTIONS Give name of organized group. If not a group member, write in "Individual." 1 Give name of person we can contact relative to the work sheet. If you are reporting as an individual, give your name here and your address on the line above. For WRIA number see separate map; "WRIA AREAS." 3 Please use the reach descriptions provided where possible. Where these do not meet your group's needs, or if there are none for a particular river segment, please develop your own. The underlying principle here is that a reach should include that area which possesses a consistent level of resource value. Beginning (downstream) and ending (upstream) end points should be described relative to identifiable map features, such as tributary confluences, bridges, etc. Reaches should be as long as possible; i.e., the value class should not change with every change in boating difficulty class. Factors which often determine reach break points are major boating put-in/take-out points, major changes in flow or gradient, and trailheads (for reaches of value to hikers). COMPLETE ONE WORK SHEET FOR EACH REACH. [5] Indicate boating, hiking or other guidebook which describes river or reach; if none, so indicate. RATINGS -- RESOURCE CHARACTERISTICS: This worksheet has been designed for use by boaters, (6) hikers, and other recreational river user groups. Not all groups will be interested in all river characteristics; in such cases enter "N/A" (for not applicable or unknown) in the appropriate space. Rate the first two characteristics according to relative number, the remainder for relative quality of experience. NOTE: Fish resources are being evaluated separately and should not be rated on this worksheet. RATINGS -- SCENIC QUALITY: Compare the reach being rated with others in the same general vegetation and climatic area; i.e., western slope Cascade rivers should not be compared with eastern slope rivers. RATINGS -- RECREATION ACTIVITIES: These relate to the relative quality of the recreation experience and are a distillation of previous ratings for resource characteristics, including scenic quality. Groups should rate those activities for which they have knowledge. Activities related to rivers are defined below: Whitewater Boating. Rivers and river segments which are navigable in rafts or drift boats by intermediate to expert boaters and which contain a significant number of Class II to Class V rapids. Whitewater Kayaking. Rivers and river segments which are used by accomplished boaters in canoes and kayaks. Often these are smaller streams than whitewater boating segments, with more portages and many Class III to Class V rapids. Flatwater Boating. Rivers and river segments which are navigable by both motorized and nonmotorized boats. Waters used by the general public and for family recreation, including inner tubing; generally slack or slow moving but may have occasional riffles. Class I waters for rafting and canoeing. Camping and Picnicking. Rivers and river segments, accessed by either road or boat, which afford camping and picnicking at either developed or undeveloped sites. Hiking and Backpacking. Unroaded rivers and river segments, accessed by trail or cross-country travel, which are used by hikers and backpackers.

Other Activities. These include such activities as swimming, driving for pleasure, and trail travel by vehicles (motor bikes, three-wheelers, mountain bicycles) and horses.

RATING -- OVERALL VALUE: This rating is a distillation of the ratings for activities. A high level of use generally adds to the overall significance rating. In some cases high use may detract from the quality of experience and should not be considered an additive value; such cases should be described.

10 To make the two highest ratings meaningful, groups are requested to limit the number of rivers with reaches rated "A" (high) to not more than 10 percent of the rivers within the group's geographic area of interest, and to limit "B" (above average) rivers to 25 percent. These two highest ratings should not be based entirely on popularity, but should also be awarded to those more remote, less known or less accessible rivers which provide a superior quality recreation experience. Groups are urged to rate as many of the rivers known to them as possible. When overall ratings have been completed for all reaches, adjustments may be necessary to keep the top two classes from exceeding the above limits.

Scarcity refers to the distribution of the feature both within the state and worldwide. Any feature which is limited to less than 5 occurences 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 determing the relative value of any given natural feature. However, the other criteria are important, and a feature that is seriously vulnerable, of extraordinary quality, or of great scientific interest, might receive a higher relative evaluation then it would get based on scarcity alone.

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 feasibile 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.

Quality refers to the relative physical condition of a natural feature in comparison to other known occurrences of the same feature. The size and vigor of plant populations and the diversity and degree of disturbance of plant communities related to historic land-use practices on a 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.

EVALUATION PROCESS

This study will be conducted with two end products in mind:

- 1) a set of maps identifying the locations of known natural features, and
- 2) a tabular summary of the natural features ordered by river/stream segments with appropriate value classes assigned to the segments.

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 occurring within a given stream segment.

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 and because the Natural Heritage Data System is not exhaustive, it is anticipated that many stream/river segments will be assigned a value class of "5" or unknown. The Washington Natural Heritage Data Base will provide data on endangered, threatened and sensitive plants and plant communities.

TABLE II

PLANT ASSOCIATIONS OF CONCERN

FOR NORTHWEST RIVERS STUDY - WASHINGTON

Black cottonwood - Oregon ash community

Black cottonwood - red alder community

Red alder forest

Black cottonwood - willow community

Black cottonwood - Sitka willow community

Black cottonwood / western water hemlock community

Black hawthorn/ cow parsnip community

Quaking aspen forest

White alder forest

Shrub-dominated bogs and wetlands

Rush, sedge and herb-dominated bogs, fens and wetlands

Note: Also included in the survey will be upland communities that fall within the 1000 ft. distance to the river reach.

TABLE III

HYDROLOGICAL AND GEOLOGICAL FEATURES

Outstanding waterfalls and/or gorges

Caves

Hot springs

Exceptional paleontological/fossil localities

Undeveloped river/stream segments

Other geological features of exceptional scientific or educational quality

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STREAM/RIVER SEGMENT

NATURAL FEATURES

<u>CODE</u>

COMMENTS

VALUE CLASS

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Cultural Features

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Pacific Northwest Rivers Assessment Study Methods of Assessing River Segment Values Historic and Archaological Resources Scope of Work

Resource Definition

For the purpose of this study, cultural resources are composed of districts, sites, buildings, structures, and objects that may be evaluated in terms of the criteria for the National Register of Historic Places (36 CFR 63).

Assessments will be based upon existing survey, inventory, and National and State Register data bases as of June 1, 1985. These data bases, for the most part, are on file at the Office of Archaeology and Historic Preservation (OAHP) and include existing cultural resource survey reports, the Washington State Register of Historic Places, the National Register of Historic Places in Washington State, and the Washington State Inventory of Cultural Resources.

River Segment Definition

For the purposes of this study, river segments have been defined by the lead agency (the State Energy Office) as those identified by the Washington Water Research Center in Report #34 entitled: "An Assessment of Potential Hydroelectric Power and Energy for the State of Washington." In general, the defined reaches are approximately hydrologically homogeneous throughout their length and terminate at points where major tributaries are encountered (i.e., where discharge variations occur) or at an upstream point where the median annual streamflow does not exceed 35 cfs.

Value Classes

All river segments will be ultimately classifiable according to their known or expected cultural resource value. While more precise definition of class memberships are being developed, the general rating system to be employed in this study is listed below. It is important to note that this fivefold system was developed as a consensus approach between the five states, federal cultural resource managers involved in the study, and the National Park Service.

Cultural Resource Value Classes:

- 1. Outstanding Known or Potential Cultural Resource Value
- 2. High Known or Potential Cultural Resource Value
- 3. Moderate Known or Potential Cultural Resource Value
- 4. Limited Known or Potential Cultural Resource Value
- 5. Unknown Potential or Insufficient Information to Classify

Class Definition

River segments will be assigned to a specific class according to several parameters including 1) the presence/absence of recorded sites, 2) qualitative assessments of identified resource significance based upon National REgister criteria, 3) the presence/absence of cultural resource survey information, and 4) the expected potential density and significance of cultural resources for unsurveyed river signments. A more detailed and final class definition is to be developed as part of the review and consultation process with the volunteer technical advisory group.

Use of the Plan

Cultural resource value assessments resulting from this study represent resource evaluations appropriate for broad-based, first-level planning efforts. The Bonneville Power Administration (BPA) has assured the states that this information is in no way intended to replace the present project-specific licensing process. To emphasize the intended use of this information, all maps depicting cultural resource data must have a statement such as the following:

The information does not preclude the need to proceed with consultations as required by Section 106 of the National Historic Preservation Act for any project requiring a federal permit, license, loan, loan guarantee, grant, or property transfer or use. For more information, contact the Office of Archaeology and Historic Preservation, 111 West 21st Avenue, KL-11, Olympoia, Washington 98504-5411, telephone (206) 753-4405.

Tasks to be Accomplished

The study activities to be undertaken by OAHP involve the following elements:

1. Development of Standards, Evaluation Criteria, and Value Classes

OAHP shall develop standards, criteria, and value classes based on these criteria for use in evaluating the significance of archaeological and historic resources located on particular river segments.

2. Develop a Volunteer Technical Advisory Group

OAHP shall develop a volunteer technical advisory group composed of professional cultural resource researchers and managers and interested public and tribal groups to review and provide comment upon the development of evaluation criteria and standards.

3. Code River Segments

OAHP shall code river segments upon maps provided by BPA for all classifiable river segments. Maps will be coded by value class and an accompanying data recording sheet shall provide the empirical basis upon which the river reach was assessed.

Time Schedule

The time schedule for these elements are as follows:

Task 1: June 1, 1985 Task 2: June 1, 1985 Task 3: September 30, 1985

Progress Reports

Monthly reports on the progress of the task accomplishment will be provided to the State Energy Office.

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PACIFIC NORTHWEST RIVERS STUDY Method for Assessing the Significance of River Segments and Systems for Recreation Resources in Washington

LEAD AGENCY

Washington State Parks and Recreation Commission

SENIOR RESOURCE EXPERT AND STAFF

Bill Bush, Washington State Parks and Recreation Commission 7250 Cleanwater Lane, MS-KY11, Olympia, Washington 98504 (206) 753-2017

COOPERATING RESOURCE EXPERTS

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Gerald Pelton, Interagency Committee for Outdoor Recreation 4800 Capitol Boulevard Olympia, Washington 98504 (206) 753-7140

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 Washington State Parks and Recreation Commission has been designated to take the lead in assessing the value of rivers for recreation in the State of Washington.

The National Park Service will provide technical assistance to State Parks in the form of major staff support for the recreation assessment.

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.

DATA FORMS

The study team will use a form for the Phase 1 evaluation which includes the matrix as shown plus spaces for control information, additional resource information, and overall (Phase 2) value ratings. A worksheet will be developed for working with user groups and commercial companies, to provide information needed to complete the evaluation forms. We anticipate that the worksheet and evaluation form will be reproduced locally by Xerox or similar process.

WORK SCHEDULE (TENTATIVE)

Finalize assessment methods	Mar
Agree on river segmenting	Mar
Develop evaluation form and worksheet	Mar/Apr
Decide applicability of NRI data	Apr
List of rivers	Apr
Initial contacts with managers, user group leaders, and commercial sector representatives	Mar/Apr
Manager and IAC input: recreation use and facilities	Apr/May/Jun
User group and commercial sector input	Jun/Ju1/Aug
Complete Phase 1 river segment matrices	Jun/Ju1/Aug
Complete Phase 2 evaluation	Sep
Complete maps and report	Sep 30

Evaluation form for reporting the value of river reaches to recreation in Washington. (Note: All rivers in Washington are assumed to possess some recreational value unless they have been sufficiently degraded that they have no attraction for recreation use. The absence of a value rating for a river or reach indicates it was not evaluated by any of the groups contacted in the study and its value is unknown, and does not mean it has no recreation value.)

1	<u></u>		·····				 		Co	npor	nent	Val	ve		
Area No.	WRIA I River No.	deptification [Reach No(s).	Reach Name	Correspondin Reach Identi Start	g Recreation fication End	1:100,000 Map Name	Reach Basis (boating, hiking, etc. specify)	WW boating	WW kayaking	FW boating	Camp/picnic	N 1 KE/ DACKPACK	Scenic quality	Overall value	Comment
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Institutional Constraints

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PACIFIC NORTHWEST RIVERS STUDY

Evaluation of Institutional Constraints

Lead Agency

Washington State Energy Office (WSEO)

Senior Resource Expert

Steven Zubalik, Energy Resource Specialist Washington State Energy Office Mail Stop ER-11 Olympia, WA 98504 (206) 754-0728

Cooperating Resource Experts

Don Peterson Washington State Department of Ecology Mail Stop PV-11 Olympia, WA 98504 (206) 459-6778

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.

Criteria and Standards

- o <u>Constraint Class 1 Criteria</u>
- 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

<u>State</u>

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

<u>State</u>

Waysides Wildlife Management Areas State Forests State Parks

2

<u>Local</u> 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.

o 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.

o 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 be 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

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PACIFIC NORTHWEST RIVERS STUDY

Participants Contact List

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U.S.D.A. FOREST SERVICE

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Cooperating Agency Resource Experts

Natural; Recreation:

Cultural:

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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

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Wildlife:	Martel Morache Idaho Dept. of Fish & Game 600 S. Walnut Boise, ID 83707 (208) 334-2920		
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            - Mr. Basil White
            - Mr. Rodney Roadrunner Clarke
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NOTE: Tribes with names and addresses have responded to BPA regarding project participation.