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

April 1987

PACIFIC NORTHWEST RIVERS STUDY ASSESSMENT GUIDELINES

I D A H O

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PACIFIC NORTHWEST RIVERS STUDY
ASSESSMENT GUIDELINES
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OVERVIEW

This document presents the process that participants used to complete the first phase of the Pacific Northwest Rivers Study. It identifies assessment guidelines for each river resource category and provides some of the reporting formats used for data collection and presentation.

The Rivers Study was designed to produce a consistent and verifiable river resource database. While this information has proven useful for a variety of applications, the specific purpose of the project was to identify resource considerations which might affect hydropower development. The objective is to use this information to identify areas where minimal impact can be anticipated and development might be appropriate. The study responds to the expressed need for resource information for the following:

1. Energy Supply Forecasting - Bonneville Power Administration (BPA) and Northwest Power Planning Council (Council).

2. Protected Areas - Council: 1984 Columbia River Basin Fish and Wildlife Program §1204 (c)(1).

3. Site Ranking - Council: Northwest Conservation and Electric Power Plan §14.2.

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 project was organized into four, state-level studies. In Idaho the project was coordinated by the Idaho Department of Fish and Game with active participation from state agencies, federal agencies, and Indian tribes. The study was an 18 month effort by the four northwest states. Funding of approximately 1.0 million dollars was provided by the Bonneville Power Administration. Concurrently, the Northwest Power Planning Council provided $540,000 to evaluate anadromous fish resources and Indian cultural/archaeological values. Rivers Study activities and goals, budgets, and time schedules are listed in the September 1984 Pacific Northwest Rivers Study Plan, which is available from BPA. The actual assessment phase was conducted between May and December of 1985. Review of preliminary findings was completed by May 1986 and information was entered into a computerized information system by September 1986. Continual update of the information is occuring at the present time.

It was not the intent of this study to circumvent the existing management responsibilities of any participating agency. The study was undertaken as 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.

River Assessment Process

The goal of the project was to evaluate and document the significance of the individual river segments for a variety of resource values. Comparative assessment was a major feature of this process. The process did not, however, result in rivers being ranked in numerical order. Rather, each stream reach was given one of four significance ratings for each of the five resource categories.

The study relied on currently available information and evaluation by recognized resource experts. The states, Tribes, and federal agencies were represented in the evaluation process commensurate with their legal authorities and management duties.

The following is a summary description of the assessment process.

STEP 1: Identification of River Resource Categories.

Categories were chosen to:

1) reflect the overall value of rivers and streams as natural resources;

2) reflect the interests of 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].

The categories selected included resident fish, wildlife, natural features, recreation, and cultural features. Anadromous fish and Tribal cultural and archaeological values were included through a separate Council contract.

A senior resource expert and cooperating experts were designated in each state to oversee activities related to each resource category. Cooperating experts provided input into the assessment through the senior resource expert.

STEP 2: Inventory of Information and Identification of Experts

Each state task force inventoried the availability of expertise and information in each of the resource categories. Agencies, groups, individuals, or other sources that had or could produce useful data within the study period were identified.

STEP 3: Criteria and Standards Development

Evaluation criteria and standards were identified for each resource category. An effort was made to standardize criteria for all state-level studies in order to ensure regional consistency. Criteria were, however, refined at the state level to meet the specific circumstances of each state. The development of criteria and standards was the responsibility of regional and state project staff. Input and review was received from participating federal agencies and Indian tribes as well as the interested public. Chapters 2-6 describe in detail the criteria and standards used in the State of Idaho.

In order to standardize the assessment process among the various resource categories, a list was developed of all stream segments that would be included in the assessment. The list in Idaho included all major rivers and significant tributaries, except for those rivers in Wilderness Areas or designated as Wild and Scenic. These rivers were omitted in this phase of the Rivers Study due to protection from hydro project development. Current work will be focusing on what was missed in this first assessment phase and updating the data collected. In Idaho 1,564 stream segments were assessed for each resource category. This list of stream segments was computerized and provided to all study participants.

STEP 4: Individual Resource Category Evaluation

An independent inventory of river resources was undertaken for each resource value category. Under the direction of designated senior resource experts, rivers and streams meeting minimum threshold standards were assessed by field level specialists using the identified standards and assessment procedures.

Resource experts assigned a value class to each river segment. These value classes were recorded on maps and data forms. The terms "outstanding", "substantial", "moderate", "limited", and "unclassified or unknown" were used to denote relative significance. Stream segment descriptions and rules governing treatment of tributaries were determined by the state-level project management staff. The number of stream segments to be included in each value class was determined by the state-level project staff.

Results were compared for consistency, and stream segments were grouped according to overall significance. The final result of this first phase resource assessment was the identification of all river areas which possess a particular fish, wildlife, natural, recreational, or cultural value and the relative significance of each area.

The institutional constraint assessment was limited to documentation on 1:100,000-scale maps of Wilderness Area boundaries and Wild and Scenic rivers in Idaho. This is currently being computerized and will be

completed by Summer 1987. Institutional constraints cover of those streams where existing legal designations or administrative programs might constrain the development of new hydropower facilities.

STEP 5: Display and Review of Resource Category Findings

A set of data forms identified both the final significance ratings given to individual stream segments and the documentation used to substantiate these ratings for each resource category. Final ratings were also depicted on color coded 1:100,000 or 1:500,000-scale maps. Information from the data forms was subsequently entered into a computer.

Findings were reviewed by designated resource experts and agency and Tribal participants. Results were revised as appropriate by the senior resource experts in consultation with regional project management. A chance to review the results and provide comments was given to private groups and citizens who gave input or expressed interest. Public meetings were held in all parts of the State of Idaho.

A special effort was made to document the significance of reaches and streams found to have high and/or unique resource values, as well as those reaches reflecting the priorities of the Regional Act.

STEP 6: Information Synthesis

Information from resource categories was combined in order to display all resource values of a given stream segment. This synthesis was achieved by means of a computerized data management system. With this system a matrix can be created which lists all river segments in a given basin and depicts all final resource ratings associated with each segment. (See 1986 Final Report.)

STEP 7: Presentation and Documentation

Information packets were prepared which summarized findings for all resource categories. This information, as well as printouts from the computerized information system, are available to interested persons. Graphic representations of data were prepared using computer mapping techniques provided by BPA. Examples of these computer maps are also available. Public meetings and agency briefings were conducted to further inform interested parties regarding study findings.

Information can now be distributed by means of information system printouts and/or machine readable disks. A system users guide is also available. General information is available through the 1986 Final Report, which describes findings from the Idaho portion of the study.

Guidelines

The following chapters explain the guidelines used in the assessment process for each resource category. These guidelines were used for all data collection and assessments completed in 1985 and 1986. Revisions to these guidelines are anticipated as the information system expands. Documentation of these changes will be distributed as they occur.

Resident Fish

RESIDENT FISH RESOURCES

Methods Used for Assessing the Significance of River Segments for Resident Fish Resources and Fisheries Associated Recreation in Idaho

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U.S.D.I., Bureau of Land Management
U.S.D.A., 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 was designated to take the lead in order to identify environmental factors that could affect the future of hydropower in the region in assessing the value of rivers for resident fish resources in the State of Idaho.

This report summarizes the method used to complete this assessment. It identifies the value classes to which river segments were assigned, the criteria used to determine the value of river segments, the standards used to apply these criteria, and the process used for decision making.

Data for the study were gathered and organized in a manner appropriate for broad based initial planning efforts. Study information was not intended as a substitute for permitting and consultation procedures required by law. Emphasis was placed on basic resource management concerns such as where resources have been identified, their importance, and where resource reconnaissance have and have not been performed. Resource data expressed on study maps are a generalization of information taken from maps of significantly larger scale and should be used as an overview of the more detailed tabular data base.

Category Description

The following components were 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 were assigned to each river segment to denote its relative significance for resident fish:

Value Class	
1	Outstanding resident fish resource
2	Substantial resident fish resource
3	Moderate resident fish resource
4	Limited resident fish resource
U	Unclassified or unknown resident fish resource

Criteria

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

1. habitat and species value, and
2. sport fishery value.

Specifically, a value class was determined for each criterion: the higher value class of criterion 1 or 2 was assigned to the river segment as the overall value of the segment. If both criteria were not evaluated due to insufficient data, a value class of U was assigned to the segment. If one criteria could not be evaluated the segment was assigned a value class of U unless the other criteria was assigned a value class of 1.

Standards

Criterion 1: Habitat and Species Value

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

Five exceptions to the methodology for Criterion 1 are noteworthy:

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

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

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

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

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

Criterion 2: Sport Fishery Value

The value class for Criterion 2 was based on angler use and the relative abundance of resident gamefish species (Appendix B) present in the segment. For example, if gamefish occurred at intermediate abundances in segment "X" and anglers expended considerable effort in segment "X" (i.e. high angler use), a value class of 2 was assigned to the segment (Table 2). No attempt was made to establish rigid statewide standards for rating angler use and sportfish abundance. Instead, a series of guidelines values was established for use by resource experts during the assessment process. If appropriate, a value class of U was assigned to a river segment. Three exceptions to the methodology for Criterion 2:

1. Quality of Angling Experience: The sport fishery value was adjusted one class upward when exceptional aesthetic qualities, low fishing pressure, or the occurrence of large fish significantly enhanced the angling experience in the stream segment.

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

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

Study Process

The initial portion of the study involved the review of existing data files. Resource experts from all agencies involved summarized pertinent available data from their files concerning individual stream segments 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 conducted the assessment process during meetings held at Idaho Department of Fish and Game Regional Offices. Assessment values for individual study segments were determined by group concensus, after evaluating available data, at these meetings. If meeting participants were unable to reach a concensus after a reasonable length of time, more than one assessment value was reported in the study results and reasons for the discrepancy documented. The rating of individual stream segments was performed by resource experts from those agencies with management responsibilities or interests pertaining to that segment.

The results of the resource expert meetings were summarized in both tabular form and on a 1:500,000-scale base map of the State of Idaho. Tabular data were entered into a computer database and "hard copy" printouts were sent back to resource experts for review. This review served two purposes. First, verification of data; and secondly, it allowed resource experts time to find further data excluded in the original assessment.

Data Form Entries

The following data categories were included in the data forms: river, location, segment, 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.

	RELATIVE SIGNIFICANCE OF SPECIES		
HABITAT QUALITY 1/	HIGH 2/	INTERMEDIATE 3/	LOW 4/
HIGH	1	2	4
INTERMEDIATE	2	3	4
LOW	2/3	4	4

1/ High, intermediate and low quality habitats were defined as those which provide optimum, satisfactory and poor environmental conditions, respectively, for the species in question. Environmental factors considered in evaluating habitat quality included (but were 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 included: 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 included: 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 fish populations that serve as a forage base for a species of high concern.

4/ Species of low concern included: 1) all exotic nongame species not included above; and 2) native nongame fish 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) were correlated with catch per unit effort, actual population size based on field sampling data, or resource expert consensus estimates. Estimates were noted in the data base.

2/ Levels of angler use (high, intermediate, and low) expressed as fisherman-days per unit area, or resource expert consensus estimates. Estimates were noted in the data base. For estimation purposes the following guidelines were used:

High - supports a reknowned fishery as evidenced by the number of anglers who come specifically to fish this particular stream segment, anglers from a national or statewide area.

Intermediate - supports a fishery utilized by anglers from a 3-4 county area.

Low - supports a fishery used by local anglers.

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

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 native habitats in Idaho if adverse impacts on habitat or populations occur.

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Wildlife

WILDLIFE RESOURCES

Methods Used for Assessing the Significance of River Segments for Wildlife Resources and Wildlife Associated Recreation in Idaho.

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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 in order to identify environmental factors that could affect the future of hydropower in the region. The Idaho Department of Fish and Game was designated to take the lead in assessing the value of rivers for wildlife and wildlife associated recreation in Idaho.

This chapter identifies the process used to complete this assessment. It describes the value classes to which river segments were assigned, the criteria used to determine the value class for a river segment, and the standards considered in applying the value class within each criterion.

Data for the study were gathered and organized in a manner appropriate for broad based initial planning efforts. Study information was not intended as a substitute for permitting and consultating procedures required by law. Emphasis was placed on basic resource management concerns such as where resources have been identified, their importance, and where resource reconnaissance have and have not been performed. Resource data expressed on study maps are a generalization of information taken from maps of significantly larger scale and should be used as an overview of a more detailed data base.

Wildlife Criteria and Standards

A. Value Classes

The following five value classes were used for wildlife:

Value Class	Description
1	Outstanding or unique wildlife resource
2	Substantial wildlife resource
3	Moderate wildlife resource
4	Limited wildlife resource
U	Unclassified or unknown wildlife resources

Each stream segment was placed in a value class for wildlife for each of the following three criteria--habitat, species, and recreational values.

The final rating of the wildlife resource value is the highest value assigned any of these criteria. Value assignment for recreation was based on at least two of the three categories having equal value under the recreational criteria. Resource experts assigned stream semgents to value classes based on existing data or best judgement.

B. Criteria

Three basic criteria were used: habitat value, species value, and recreational significance.

Habitat was given proportionately greater weighting in the final value rating than the other two criteria. A bonus was allowed for certain components such as good land use, special features, and endangered and other special species. An explanation accompanies any special recognition.

A summary of the three criteria follows.

1. Habitat Values of a Stream Segment

The habitat value of each segment was based on a qualitative ranking system. High values (classes 1 or 2) were given to habitats with unique or special features or components; medium value (class 3) was given 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 value (class 4) was given to areas with habitat types considered of least value to wildlife species. Recognition was also given for habitats with vertical structure, horizontal diversity of vegetation types, and absence of significant man-caused changes.

2. Species Values of a Stream Segment

The value of each segment was based on a qualitative ranking system in which high (1 or 2) was used for species of special concern and rare, threatened, or endangered species; medium (class 3) for habitat richness and species abundance for large mammals, upland game birds, waterfowl, furbearers and raptors; low (class 4) for small mammals and other birds based on their diversity and abundance. Recognition was also given for selected species values.

3. Recreation Component of a Stream Segment

The value of each reach was based on a qualitative ranking system (classes 1-4) in the following categories; access, hunting, and wildlife viewing.

Recognition was also given for state, regional, or national importance where a reach was important for scientific study, nature study, and/or recreation. Recognition was also awarded for aesthetics (natural beauty) of a stream reach that contributed to the recreational setting.

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

The standards used were determined by the state level staff. Rankings were awarded for each habitat meeting a given standard. Habitat designations of outstanding value (1), substantial value (2), moderate value (3), limited value (4), and unknown value (U) were based on judgement decisions by resource experts. For wildlife, six key habitat components were identified that automatically resulted in Class 1 assignment. These were 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 was 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. Important stream segments with unique habitat characters such as wetlands were advanced one class. Recognition was also given for habitat capability where current wildlife populations may be below carrying capacity.

Habitat was defined as the area occupied by an entire plant community which in turn supports various wildlife species or wildlife communities. Habitats of special concern included those with rare or endangered plants, wetlands, or important habitats with special features or components. Habitats evaluated were usually limited to lands adjacent to and directly influenced by stream courses. Generally, the area was limited to lands within

1,000 feet of the mean high waterline. In all cases, expert judgement determined the appropriateness of the area valued. Habitats were classified into four groups:

Group 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 stands
Research natural areas
Rare or endangered plant concentrations
Wetland ecosystems (bogs, marshes, fens, hot springs)
Salt desert shrub
Native grasslands
Pacific yew types

Group 2 - Intermediate habitats between groups 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

Group 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
Shrub steppe

Group 4 - Streams with substantial man-caused alterations.

D. Procedure for Determining the Species Values of a Stream Segment

Absence of wildlife resulted in a Class U assigment. If wildlife were known to be present, designations of highest, substantial and limited value were based on judgement decisions of resource experts. Critical habitats for Group A species (see below) were given automatic Class 1 designation. Stream segments including significant big game migration corridors or substantial big game winter range received Class 1 ranking. Critical habitats for kit fox, wolverine, lynx, fisher, Idaho ground squirrel, ferruginous hawk, merlin, boreal owl, trumpeter swan, long-billed curlew, sharp-tailed grouse, mountain quail, bobwhite quail, ringneck snake, longnose snake, western ground snake, night snake, roughskin newt, wood frog, and Van Dykes salamander were given at least Class

2 designation. Important streams for wildlife recruitment, including feeding or nesting habitat involving species in Group B, were advanced one class. The following groups of species were given special recognition:

Group 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.

Grey wolf
Mountain caribou
Grizzly bear
Whooping crane
Bald eagle
Peregrine falcon

Group B - Species of special concern and other uncommon species. Intermediate between groups A and C. Limited numbers and/or limited habitats in the state, fairly widespread and moderate 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

Group 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.

Group D - All other species that use riparian habitat.

E. Procedure for Determining the Recreation Values of a Stream Segment

Three factors were considered (1) access, (2) wildlife use, and (3) georgraphic importance. Elaboration on these factors follows:

1. Access

As used here, access means the legal right to public entry. Standards used in evaluating access were:

Standard	Description of Habitat	Ranking
1	Stream segment bordered almost entirely by public lands which ensure access by hunters or wildlife observers.	High (1)
2	A stream segment 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 (2)
3	A stream segment bordered by mostly private land where access in uncontrolled or readily available by permission. This portion may be available by floating/power boating, or through navigability laws. Also includes corporate lands that are currently open but which could go to individual ownership in the future or where company policy regarding access could change.	Moderate (3)
4	A stream segment bordered mostly by private land where access is limited, but some access is allowed. May include minor portions where public land or road crossing provide limited access. The portion through private land may be available by floating/power boating or through navigability laws.	Limited (4)
5	A stream segment 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 identifies "fee" or "lease" use areas.	Limited (4)

2. Wildlife (Consumptive and non-consumptive)

Representative river segments were selected as a basis for estimates. Values were then assigned as follows:

Wildlife Observation and Hunter/trapper-days	Ranking (Value)
1,250 and over	High (1)
310 to less than 1,250	Substantial (2)
65 to less than 310	Moderate (3)
Greater than 0 to less than 65	Limited (4)
0 (none or unknown)	Not Yet Classified (U)

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

3. Geographic Importance

A representative segment of each river was selected as a basis for estimates. Habitat, species and recreation values previously assessed were used to establish the rankings.

	Ranking (Value)
State Importance	High (1) Substantial (2) Moderate (3) Limited (4)
Regional Importance	High (1) Substantial (2) Moderate (3) Limited (4)
National Importance	High (1) Substantial (2) Moderate (3) Limited (4)

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Targhee NF	Mark Orme
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Cache NF	None

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Natural Features

NATURAL FEATURES RESOURCES

Methods Used for Assessing the Significance of River Segments for Natural Features Resources in Idaho

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Introduction

The Pacific Northwest Rivers Study was initiated to assess the significance of river segments and systems for a variety of fish, wildlife, recreational, natural, and cultural resource values. The Idaho Natural Heritage Program was 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 was used to complete this asessment. It identifies the value classes to which river segments were assigned, the criteria which were used to determine the value of river segments, the standards used to apply these criteria, and the process by which decisions were made.

Data for the study were gathered and organized in a manner appropriate for broad based initial planning efforts. Study information was not intended as a substitute for permitting and consultating procedures required by law. Emphasis was placed on basic resource management concerns such as where resources have been identified, their importance, and where resource reconnaissance have and have not been performed.

Category Description

Because it is not practical to consider all natural features in a single study, two major categories of natural features were 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 or adjacent to 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 was defined as contiguous lands within 1,000 feet of each river bank. Sources used to compile this list were the U.S. Fish and 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 was defined as any relatively undisturbed stand with predominantly native vegetation cover in the overstory and understory. Plant associations are by nature difficult to define and quantify. The list of plant associations listed in Table 2 is therefore general, and some subjectivity accompanies their identification. In addition to the riparian plant associations listed in Table 2, upland plant associations that fell within the study corridor were also considered in this study.

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

Value Classes

An overall value class was assigned to each stream or river segment. This value was not a numerically derived sum of point values, but instead represented the value class of the natural feature of greatest significance contained within that segment. In a few cases, river segments containing concentrations of natural features were given a value class higher than any of the value classes assigned to the individual natural features. Value classes 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 natural features value
U	Unknown or Unclassified

Criteria

Four criteria were used to evaluate natural features. These criteria were: 1) scarcity, 2) vulnerability, 3) quality, and 4) scientific value. Each natural feature had these criteria applied to it before individual value classes were assigned. These criteria were meant primarily as guidelines and as an aid to value class assignment; they were not 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 20 occurrences worldwide received the highest evaluation consideration; those with between 20-100 occurrences worldwide, or with fewer than 20 occurrences in the state were given second highest consideration; those with 20-100 occurrences in the state were given third highest consideration. Scarcity was the single most important factor in determining the value class of any individual natural feature. However, the other criteria are important, and any feature that is seriously vulnerable, or of extraordinary quality, or of great scientific interest received 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 was not feasible within the scope of the study to evaluate vulnerability of natural features. Therefore, all identified natural features were considered to be subject to an equal degree of vulnerability. Consideration was given to those cases in which representation of specific natural features occurred within areas that receive adequate protection from degradation or destructive alternative uses. In such instances, the value class of the natural feature was 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 were considered. A site which is among the best known examples of its kind received a higher evaluation mark than 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 use, potential use, and accessibility of the given feature or site was considered. Areas recognized as high quality study locations received the highest evaluation marks.

Evaluation Process

The study was conducted with two end products in mind: 1) a set of maps identifying the locations of known natural features as well as river and stream segments 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 was organized by river drainage using a code system developed by the Fisheries Bureau of Idaho Department of Fish and Game in its comprehensive list of lakes and streams.

A meeting was held with representatives from the lead agencies with responsibility for the Natural Features sections of all four states to ensure that similar methodologies were being employed throughout the range of the study. Agreement was reached on a standard evaluation procedure for individual natural features.

The study relied on existing data and the expertise and cooperation of the participating agencies to the greatest extent possible. No field inventories were conducted. Because of the focus on known natural features, the distribution of value classes assigned to river segments was skewed toward the higher value classes, and many river segments were assigned a value class of "U" (unknown or unclassified). For the same reasons, a value class of "N" (resource not present) was not used.

Because any stream with a flow greater than 3-5 cfs has the potential for hydroelectric development, virtually all mappable streams/rivers were considered in this study. In order to insure protection of rare plants and paleontological sites, their exact location along stream and river corridors has not been included. Their occurrence was, however, noted within a given stream segment.

Much of the information on rare plant localities and plant associations in Idaho was taken from the data base of the Idaho Natural Heritage Program, which includes locality information collected by the Idaho Rare and Endangered Plants Committee. Information on established and proposed Research Natural Areas (RNA's) on public lands came from the Heritage program data base. For public land administered by the Forest Service, these data were checked against current Forest Management Plans for completeness and accuracy of location. Because of their high-quality natural ecosystems and significance to scientific researchers, all established and proposed RNAs were deemed to be of more than moderate natural features significance. For this reason, all stream segments containing such areas were assigned a value class of either "1" or "2". The only agency which took exception to this evaluation was the Payette National Forest, which considered a value class of "3" (moderate significance) more appropriate for a number of their proposed RNAs and requested that their exception be documented.

Hydrological and geological information came from numerous published and unpublished reports but relied heavily on geologic theme studies produced for the National Park Service's National Natural Landmark program. The National Park Service also supplied information on

undeveloped river corridors. Data on the geothermal resources were taken from the map Geothermal Resources of Idaho published by the Idaho Department of Water Resources.

Data acquired from the above sources were mapped onto base maps (1:100,000 BLM Surface Management Status) and information on the natural feature, its specific location, and the value assigned to it were entered into computer files. These computer files were later used to produce tabular summaries of the data and to assign overall river segment values on the basis of the natural features contained within a particular stream segment.

Participating agencies were given an opportunity to review only the tabular summaries of natural features organized by 1:100,000 scale map and coded stream segments. Most participants made numerous additions and provided helpful comments or suggestions concerning the process.

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USE CONSIDERATIONS

Because the focus of this study was on known natural features, value classes were assigned to only about one-third of the stream segments coded. Therefore, the absence of a value class should not be taken as indication that no resource value is present. There are many areas of Idaho for which insufficient natural features information makes it difficult if not impossible to rate the stream sections. The lack of an adequate inventory of Idaho's wetlands is the most obvious example of this insufficiency.

It must be emphasized that the results of this study are not based on field inventory and therefore cannot be used as a substitute for on-site inspections related to any specific project. In addition, river segment ratings cannot be extrapolated to adjacent drainages due to the site-specific nature of the data, and the inadequate knowledge of the resources.

Finally, the value class of a river segment is an indication of the natural features values that are present somewhere within the segment. In only a few cases is the resource distributed throughout the entire river segment. Those needing more specific information about the location of a given natural feature should contact the Heritage Program directly.

Recreation

RECREATIONAL RESOURCES

Methods Used for Assessing the Significance of River Segments for Recreational Resources in Idaho

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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 in order to identify environmental factors that could affect the future of hydropower in the region. The Idaho Department of Parks and Recreation was designated to take the lead in assessing the value of rivers for recreational resources in Idaho.

This report summarizes the method used to complete this assignment. It identifies the value classes to which river segments were assigned, the criteria used to indicate the value of rivers segments, the standards used to apply these criteria, and the process by which decisions were made. Fish and wildlife recreation has been included in more detail in their respective resource categories.

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 recreational 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, river-related recreation activities. It was 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 were inventoried and ranked on a regional basis. The river study corridor was defined as contiguous lands within 1,000 feet of each river bank. Only those recreational resources occuring along free-flowing stream and river reaches were considered. A free-flowing reach is one without any hydrological impoundments, modifications, diversions, or noticeable slack water.

Although some of the most famous Idaho rivers have users from throughout the nation and the world, the rivers with primarily regional and/or local use are no less important as recreation resources. Creating a river ranking system flexible enough to consider a feature that was a disvalue for one river segment as an asset on another was very difficult.

Use figures were not seen as an appropriate measure of a river's recreational 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 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 were collected 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 was most appropriate to the level of data available.

The best source of data was thought to be from the recreation planners and managers who are closest to the river recreation resources. Potential was not explicitly addressed because the tools and techniques are not readily available to do so. Some

rivers that received a relatively low ranking in this study could be prime recreation settings in the next decade.

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

Value Classes

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

If a river segment was not included in one of these classes, the resource value was assumed to be unknown or unclassified. This recreational assessment is part of an ongoing study. It is hoped that as additional information is received for a river segment, it will be added to the study.

Value classes were assigned at regional meetings of the resource experts. At each regional meeting, representatives from the BLM, the USFS, and either a member of Idaho Whitewater Association or Friends of Whitewater was included. The federal experts were chosen by their respective agencies, the other members were invited by the River Recreation Assessment Coordinator. This mix of federal and nonfederal participants helped bring a consistency to the value ratings.

The value classes were defined by verbal descriptions of the type of river segment that would fall into each class. These definitions are included in the section on standards.

Criteria

Many factors, singly and in combination, contribute to a river's recreational value. Two major criteria, land-based recreation opportunities, and water-based recreation opportunites represent two groups of resource attributes that are important in defining the present and potential recreational values. Combining these criteria with scenic values and recreational opportunity incorporates most all of the factors that were considered to define a river's value. Value classes were assigned based on a combination of these criteria.

Criterion 1 - Water-Based Recreation Opportunities

The major recreational activities likely to occur on Idaho's rivers have been included. The categories are:

MOTORIZED BOATING:
Jet boating
Propeller boating

NONMOTORIZED BOATING:
Kayak/covered canoe
Raft
Dory
Open canoe

WATER CONTACT ACTIVITIES:
Swimming
Tubing
Fishing from a boat

OTHER:
This includes all water-based opportunities that were not specifically mentioned in the other categories.

Criterion 2 - Land-Based Recreation Opportunities

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

Camping
Trails
Picnicking
Pleasure driving
Off road vehicles
Resort/lodge
Historic sites
Land-based fishing
Other--includes hunting, snowmobiling, cross-country skiing, etc.

Visual Resource Management

Scenic factors play an important, often pervasive, role in river related recreation activities. The visual quality indicator used in this study is a combination of the visual quality assessments made by the two federal agencies. The BLM uses Visual Resource Management (VRM), and the USFS uses Visual Quality Objectives (VQO). Since many of the study segments flow through land managed by federal agencies, the U.S. Forest Service and the 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., 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 most 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.

Recreational Opportunity Spectrum

Both the Bureau of Land Management and the Forest Service use the Recreational Opportunity Spectrum (ROS) 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 classes may indicate the relative availability or scarcity of certain river-related recreational opportunity in a region.

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

Evaluation Process

The agency staff relied heavily on input from regional experts for classification of river characteristics and segments. A core group of six to ten recreation experts from each of the six state administrative regions participated in the study.

A preliminary list of river study segments was developed by the agency staff and sent to the regional experts. Agency staff traveled to each region in the state to meet with the regional experts to arrive at consensus ratings for each river segment on the preliminary list and any other segments added by the experts and user groups. The value class definitions guided the ranking process. After the regional meetings, some additional river segments were added and given an unclassified value. This value can be changed in the future as additional information is collected. After the consensus process was completed in each region, the revised rivers list and value class assignment was circulated for review to the participants and other interested persons and groups. Consensus was not reached for the value class assignments on a few select river segments. This dissent was noted on the data forms.

The regional experts represented federal and state agencies, universities, some local agencies and private interest groups. Although the Idaho Department of Parks and Recreation had primary

responsibility for conducting the study, the other land management agencies, notably the Forest Service and the BLM had a major influence in the final outcome.

RECREATION VALUE CLASS DEFINITIONS

Value Class 1: 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 2: 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.

Value Class 3: Moderate Recreational Resource

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

Value Class 4: 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 man-made disvalues such as disturbed land, polluted water, etc.

Value Class U: 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 have 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, but instead a lack of knowledge or an inability to collect data for the segment.

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Rob Lesser, Idaho Whitewater Association, Boise
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Jim Goode, Friends of Whitewater, Moscow
Dana Olson, Friends of Whitewater, Pocatello
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APPENDIX 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 plants and mowed lawns.

Few urban recreation places occur on National Forests. Examples of National Forest urban areas include large resorts and winter sports complexes.

Rural

These are often the settings between the cities and the forests, such as pastorial 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 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 State's underdeveloped areas including National Forests. 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 areas are often gravel, though 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-cantained 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, they are away from the main traveled highways or roads where nature predominates. The visitor often 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. Concentrations of users is low. There may be logging or mining, but it is limited. The landscape 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 user, 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 visitor usually displays 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. 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

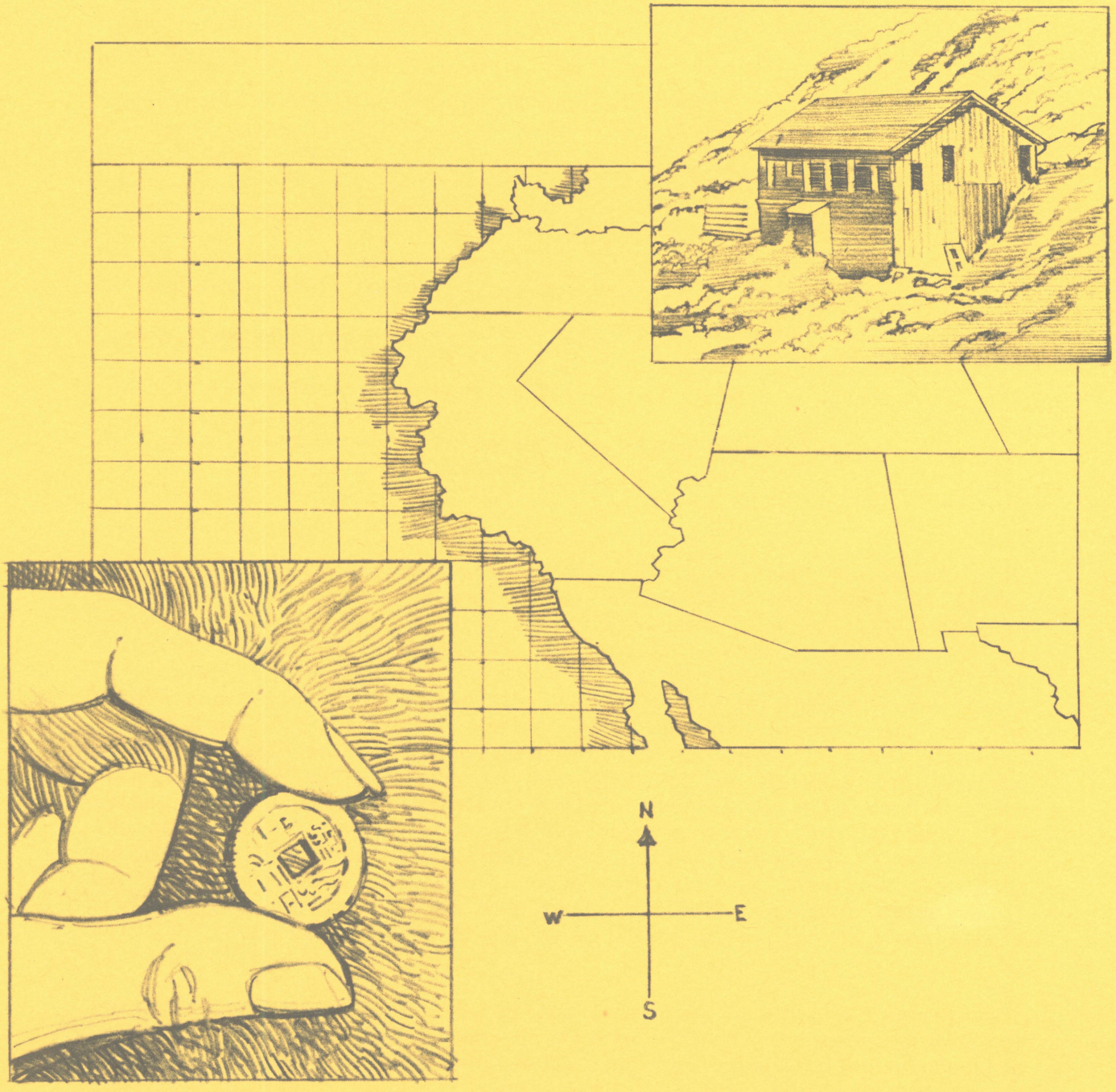
These are large in size and the most remote areas of all, where both interaction and evidence of other humans are slight. Often the settings are the central core of wilderness areas, completely away from the sights and sounds of people.

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 country 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.

Cultural Features



CULTURAL RESOURCES

Methods Used for Assessing the Significance of River Segments for Cultural Resources in Idaho

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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 resource values in order to identify environmental factors that could affect the future of hydropower in the region. The Idaho State Historic Preservation Office (SHPO) was designated to take the lead in assessing the value of rivers for cultural resources in Idaho. SHPO participation began in the spring of 1985 and concluded late that fall. Specific river segments were evaluated with regard to the presence or absence of recorded sites, factors such as National Register status or site density, and the presence or absence of cultural resource survey information. The subject of data limitations identified during the study is addressed. Certain assumptions underlying study methods and data use are also noted. The end results of the study reflect a general overview of cultural resource concerns based on existing data, for a given sample of river drainages in Idaho.

Data for the study were gathered and organized in a manner appropriate for broad based initial planning efforts. Study information was not intended as a substitute for permitting and consultating procedures required by law. Emphasis was placed on basic resource management concerns such as where resources have been identified, their importance, and where resource reconnaissance have and have not been

performed. Resource data expressed on study maps are a generalization of information taken from maps of significantly larger scale and should be used as an overview of a more detailed data base.

Category Description

For purposes of this study, the category of cultural resources was composed of river related historical, architectural, and archaeological properties. These separate but overlapping concerns were addressed both individually and collectively during the evaluation process using criteria from the National Register of Historic Places. Data from the archaeological files at the State Historic Preservation Office were the most compatable with study objectives and comprise the bulk of the information used for the evaluations. In addition, these files contained information of an historical or architectural nature. Initially it was intended that the study would draw more heavily from additional historical and architectural sources, however, organizing study data proved time consuming and for many of the segments historical or architectural information was not available in a form useful within the study scope.

Value Classes

Ratings of resource potential were expressed using five value class measures that formed a hierarchy of designations. This general hierarchy is the product of a consensus among resource representatives from Idaho, Washington, Oregon, and Montana as well as federal cultural resource managers and the National Park Service. Value class assignments represent minimum values, therefore the segment is believed to be at least as important as the assigned value indicates. Closer future investigation could produce a still higher value classification for the area. Managers often have a more thorough understanding of their resources than data files indicate; the study termed this understanding "expert opinion". For some segments, expert opinion proved a more useful guideline in assigning one of the five value class designations than the established value class descriptions. A description of the value class designations follows:

Value Class 1: Highest potential for cultural resources. These segments contain properties formally listed as eligible for the National Register of Historic Places. The National Register includes historic areas in the National Park System, National Historic Landmarks and significant properties nominated by State and Federal agencies or others. Registered properties have been evaluated according to uniform standards and found to posess integrity of location, design, setting materials, workmanship, feeling and association with regard to history, architecture, archaeology or culture at a national, regional, state or local level. In addition, specific qualities of significance are attributed to these properties either singularly (sites) or collectively (districts). Some properties are associated with events or lives of persons important to our past while others promise to contribute significant information to scientific research.

Value Class 2: Substantial potential for cultural resources. These segments contain sites recorded in the Idaho Archaeological Survey or the Idaho Historic Sites Survey but are not yet fully evaluated for inclusion on the National Register. Such segments are typically areas where field reconnaissance has identified three or more sites. Three sites were chosen as a significant amount because, using existing information on randomly chosen site forms, it was demonstrated that one out of three forms recorded a site considered eligible for the National Register.

Value Class 3: Medium potential for cultural resources. These segments contain less than three recorded sites and have usually been systematically surveyed to some degree.

Value Class 4: Limited potential for cultural resources. General information on file suggests sites will probably not occur. These segments are typically areas where substantial field reconnaissance has failed thus far to record sites.

Value Class U: Unknown potential for sites. These are segments in which there has been little or no reconnaissance activity. Typically, no sites have been recorded in the area. If a survey occurred, it encompassed an extremely small portion of the segment. This class also includes segments for which there has been a small amount of recorded site information but no survey information on record. Class 5 segments should be considered to be areas of high cultural resource concern because in general, areas are considered to have resources of significant quality until research or reconnaissance suggests otherwise.

With the exception of land designated as National Parks, Wilderness areas, or Wild and Scenic rivers, all river segments in the study were classified according to their expected resource value, and this information was recorded on maps. A worksheet was filled out in more detail for each river segment on the established list. There are data items for the river drainage of which the segment is a part, the segment name, and a brief description of the segment's boundaries. A river code and segment code also appear on the form for data retrieval purposes. River drainage data for the study was developed by the Idaho Department of Fish and Game. In order to facilitate future coordination of data among the different resources, it was decided that each resource category in the state - cultural included - would use this list in defining which rivers and segments thereof would be included in the study. The list provided an initial structure from which to work. When resources were encountered on an unlisted stream, their presence was taken into consideration when evaluating the closest listed segment and notation of the addition was made in the comment space of the worksheet form.

Resource data on the worksheet were broken down into archaeology, history, and architectural resources. For each category there are data items to note presence or absence of site and survey information and an assessed value of resource concern. An "x" denotes the presence of site or survey information for the segment and a blank, the absence of

it. The potential cultural value has been represented by the appropriate number from the developed value class scale. In the event that enough data were available to evaluate more than one category, the highest value among those evaluated (archaeology, history, or architecture) was assigned to the segment as an overall value and appears as a 'Composite Value' on the worksheet form.

The form also contains space for comments regarding segment boundaries (Comment 1) and one for remarks clarifying resource data (Comment 2). Participating federal agencies were also noted when segments fell within their administrative jurisdiction.

All of this resource and drainage information was keyed to 1:100,000 scale maps. Each river segment has been labeled with its corresponding segment code and marked with a color representing its value class. For cross referencing purposes, each map has been arbitrarily numbered and the number noted on the worksheet form.

Study data have been entered into a computerized data management system. Computerized mapping capabilities are also available.

Limitations to Data

During the course of the study, certain limitations were identified. As noted previously, an assessment of all the rivers and streams in Idaho was not possible within the scope of the study. Although the list of streams developed for use in the study was intended as a representative sample of rivers and streams in the state, it is somewhat biased to Fisheries management concerns. It is very possible that a certain number of streams with both hydropower potential and cultural resource potential exist outside the segment list used to structure this study.

Archaeological information formed the basis for many of the segment evaluations. While historical and architectural information exists for some segments, it was not available in a useful form for all the segments. To help clarify what kind of cultural resources formed the basis of each segment evaluation, resource information on the worksheet was broken into archaeological, historical, and architectural category entries.

FEDERAL AGENCY PARTICIPANTS

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Lee Bennett, Payette National Forest
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Panhandle National Forest (no comment)
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Pete Laudeman, Burley District
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