

Pacific Northwest Rivers Study

Project Summary: Oregon

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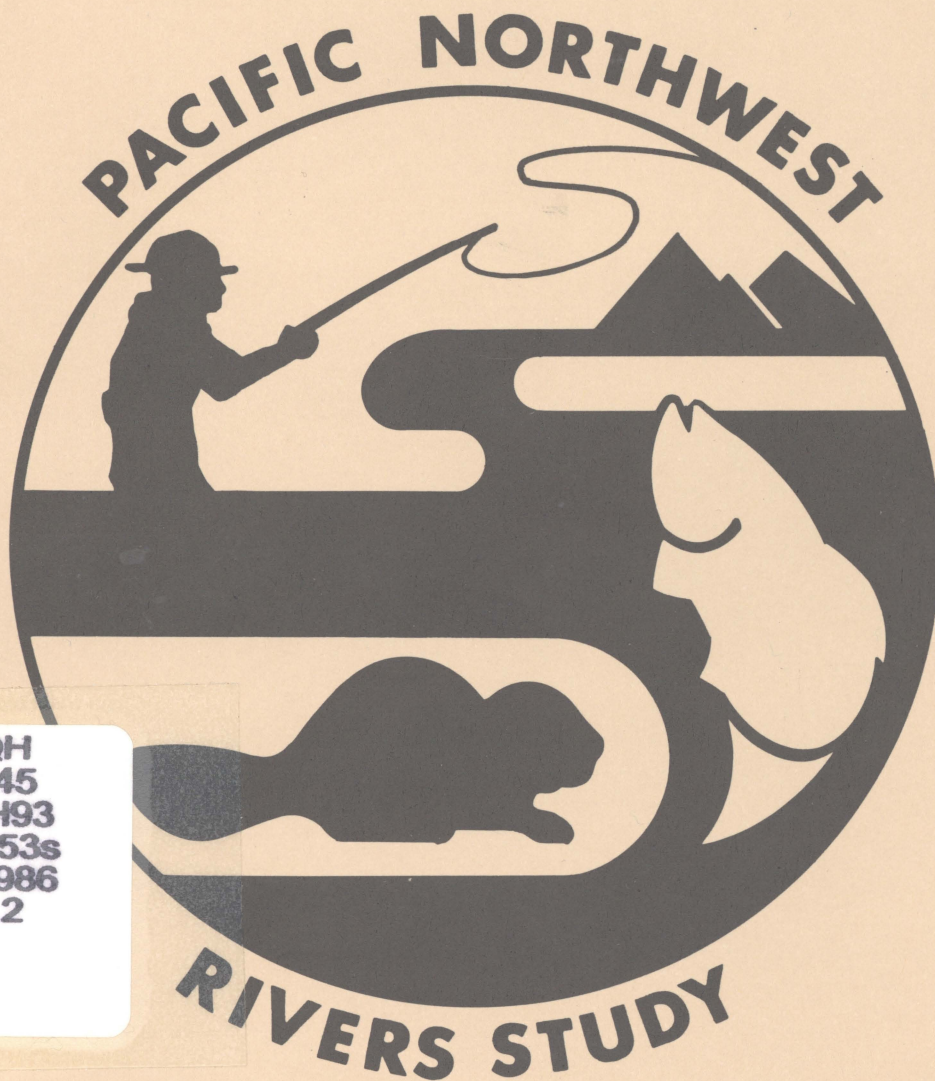
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State of Idaho
State of Montana
State of Oregon
State of Washington

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 1986



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Pacific Northwest Rivers Study

Project Summary:

State of Oregon

This report is a brief description of the rivers assessment process. It presents findings for each resource category in the Oregon portion of the Pacific Northwest Rivers Study.

The study's goal was to assess the significance of river segments for a variety of environmental values. It identified environmental and legal concerns which might affect hydropower development in the Northwest. The information will be used in regional and state planning and resource management activities.

This effort involved the four Northwest states, federal land management agencies, and Indian tribes. The State of Oregon conducted the study for rivers within the state. The Bonneville Power Administration coordinated and funded the study.

This report summarizes how the study was done. It also highlights early findings.

The first phase of the resource assessment (data gathering) began in June 1985 and was completed in January 1986. During the next phase, data were encoded and maps produced. These show value classes of resources associated with stream segments. These value classes are Outstanding, Substantial, Moderate, Limited, Unknown, or Not Present. Information was then put in a computer data base. A summary of this information is given for each resource category assessed:

- resident fish
- wildlife
- natural features
- historic features
- archeological features
- recreation

For more information, contact:

Gary Waltenbaugh, State Coordinator
Oregon Department of Energy
625 Marion Street NE
Salem, OR 97301

(503) 378-8327 or
1-800-221-8035 (toll-free in Oregon)

Resident Fish

Scope

Thirty-four major species in 13,359 stream segments in the state were assessed for resident fish values. These species included:

- game fish as defined by Oregon law;
- federal and state threatened and endangered species,
- non-game fish; and
- anadromous fish other than salmon and steelhead.

Participants

Ninety-seven biologists from the Oregon Department of Fish and Wildlife (ODFW), U.S. Forest Service (USFS), U.S. Bureau of Land Management (BLM), the Warm Springs and Nez Perce Indian tribes, and the Columbia River Inter-Tribal Fish Commission took part in the study.

Standards

Value classes for stream segments were driven by the major species of concern in the area. Cutthroat trout was the major species for 59 percent of the stream segments. Rainbow trout was the major species for 29 percent.

District biologists first determined the major species. Then, value classes were based on habitat productivity, level of concern about the species, abundance, and angler use within a stream.

Relationship to Previous Studies

This is the first study to use consistent standards in assessing resident fish throughout the state.

Biologists relied on their knowledge and on information in survey files and forest plans.

Summary of Findings

Surveyed Stream Segments

<u>Value Class</u>	<u>Percentage</u>	<u>Number</u>
Outstanding	6	757
Substantial	10	1275
Moderate	29	3893
Limited	<1	41
Unknown	30	3990
Not Present	25	3403
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Total	100	13,359

Geographic Distribution

The following value classes apply to most areas or stream types:

Main rivers	Outstanding
Meandering valley bottom streams	Substantial
Upper tributaries	Outstanding
Mid reach tributaries	Moderate
North and central coast	Outstanding or Substantial
South coast	Substantial or Moderate
Willamette Valley streams	Substantial
Eastern Oregon	Outstanding, Substantial, or Moderate

The main value state-wide was Unknown.

Project Evaluation

The data are broad and general. Decisions about specific sites or uses should not be based on these data alone.

Stream resources of one region should not be compared to resources in another. Although streams may have the same rating, the number and variety of resources may differ.

Wildlife

Scope

Fifty-one major species in 13,486 stream segments in the state were assessed for wildlife values.

Wildlife included:

- game and furbearing animals listed in Oregon law;
- Federal and State threatened and endangered wildlife species; and,
- non-game wildlife.

Participants

Ninety-seven biologists from ODFW, USFS, BLM, Warm Springs Indian Tribe, Nez Perce Indian Tribe, and the Columbia River Inter-Tribal Fish Commission took part in the study.

Standards

Value classes for stream segments were driven by the major species of concern in the area. Elk were the major species for 30 percent of the stream segments; Black-Tail deer for 28 percent; and, Mule deer for 22 percent.

District biologists first determined the major species. Then, value classes were based on habitat productivity, level of concern about the species, abundance, and recreation use within 1,000 feet of a stream.

Summary of Findings

Surveyed Stream Segments

<u>Value Class</u>	<u>Percentage</u>	<u>Number</u>
Outstanding	48	6507
Substantial	27	3705
Moderate	23	3094
Limited	<1	9
Unknown	1	170
Not Present	<1	1
Total	100	13,486

Geographical Distribution

These value classes apply to most areas or stream types:

Main rivers	Outstanding
Valley bottom streams	Outstanding
Mid and upper reach tributaries	Substantial or Moderate
North and central coast	Outstanding or Substantial
South coast	Substantial or Moderate
Lower reaches of Willamette Valley streams	Substantial
Northeastern	Outstanding
Southeastern	Substantial

Relationship to Previous Studies

This is the first study to use consistent standards in assessing wildlife resources throughout the state.

Biologists relied on their knowledge and on information in survey files and forest plans.

Project Evaluation

The data are broad and general. Decisions about specific sites or uses should not be based on these data alone.

Stream resources of one region should not be compared to resources in another. Although streams may have the same rating, the number and variety of resources may differ.

Natural Features

Scope

Natural features reviewed in this study are plants, geologic, and water-related features.

Plants in the study are found near river banks. They include rare, threatened, and endangered plants and outstanding native plant communities.

Geologic and water features in the study are waterfalls, gorges, thermal springs, undeveloped river segments, outstanding fossil sites, and unstable soils.

The study identified 1,840 features along 889 river and stream segments.

Participants

The Oregon Natural Heritage Data Base (ONHDB) has the lead in assessing the value of rivers' natural features. ONHDB compiled location data on rare plants found on river banks.

USFS and BLM provided data about their lands. Other experts throughout the state also gave data.

Standards

Value classes are based on four standards:

- scarcity;
- vulnerability;
- quality; and,
- value to science and education.

Summary of Findings

Surveyed Stream Segments

<u>Value Class</u>	<u>Percentage</u>	<u>Number</u>
Outstanding	24	210
Substantial	35	310
Moderate	37	332
Limited	4	37
Total	100	889

Geographical Distribution

There are important natural features in all parts of the state. Most of Oregon's major rivers have long stretches with outstanding natural features.

Some areas of the state were found to have few highly rated rivers. Most of these areas have not had thorough surveys for rare plants and other features.

Relation to Previous Studies

The National Park Service has compiled some data about natural features along rivers surveyed for Wild and Scenic status.

The Pacific Northwest River Study is the most complete review of natural features near Oregon's rivers.

Project Evaluation

Thousands of river and stream segments in the state have not been assessed for natural features. Data about these streams are not now available.

More information is needed about features:

- in remote areas in the southeastern part of the state;
- in the canyons of northeastern Oregon; and,
- along less well known or travelled streams throughout the state.

Historic Resources

Scope

Historic resources reviewed in this study are the buildings, sites, and structures from Oregon's early years. These resources reflect the state's development in industry, agriculture, commerce, transportation, and housing.

Four thousand, three hundred (4,300) sites have been surveyed. They include all national historic sites.

Archeological resources are addressed in a separate section of this study.

Participants

The Parks and Recreation Division of Oregon Department of Transportation compiled data from the land use plans of the 36 counties in Oregon. All cities and counties in the state must identify and assess their historic resources.

The State Historic Preservation Office (SHPO) supplied a list of sites that are on the National Register of Historic Places.

Standards

Value classes are based on designations from counties' land use plans.

All sites on the National Register are rated outstanding.

Historic sites within the Urban Growth Boundary of all cities are rated Outstanding.

Relation to Previous Studies

This study assessed data that already have been compiled.

Summary of Findings

Surveyed Sites

<u>Value Class</u>	<u>Percentage</u>	<u>Number</u>
Outstanding	88	3784
Substantial	9	387
Limited	3	129
Total	100	4,300

Geographical Distribution

Historic sites are in all parts of the state.

Project Evaluation

The significance of these sites to the area, region, or state can be made only by site specific judgments.

Archeological Features

Scope

Archeological sites included any known prehistoric sites in the state.

The study covered every township in the state. Each township (about 36 square miles) was used as a unit for counting the likely occurrence of sites.

The data base includes this information for each township:

- Township
- Range
- Number of Sites
- Percent Surveyed
- Value Class
- River Pattern

Participants

The State Historic Preservation Office (SHPO) archeologist and a graduate student did this study.

Standards

Value classes for archeological resources are based on the number of known and likely sites near a stream segment. Unknown areas near archeological sites may have been rated the same as known areas.

The importance of individual sites was not assessed.

Relation to Previous Studies

The study used data from SHPO. It did not update or alter this work.

Summary of Findings

Surveyed Townships

<u>Value Class</u>	<u>Percentage</u>	<u>Number</u>
Outstanding	25	723
Substantial	10	306
Moderate	7	200
Limited	1	32
Unknown	56	1,647
Not Present	1	4
Total	100	2,912

Of the 2,792 townships studied, some overlapped. Townships color-coded for this assessment totaled 2,912.

Geographic Distribution

Most land in the state has not been surveyed for archeological resources. Mapping reflects the likely occurrence of sites.

Most of the surveys to date have been related to timber sales. Most of these surveys have not been near rivers.

Project Evaluation

There are major gaps in the data. Most townships do not have completed surveys.

Patterns on the maps should not be used as models of prehistoric land use.

Recreation

Scope

The study team considered all of the rivers and streams in the state. This field was narrowed to 304 river segments that are well-known for recreation. The types of recreation reviewed in this study include:

Boating

Power boats, canoes and kayaks, drift boats, rafts and sail boats.

Fishing

Salmon and steelhead, resident trout, and warm water fish.

Other

Hiking, swimming, hunting, camping, and nature study.

Participants

Survey respondents included groups and persons who represent recreation interests. Staff and land managers from government agencies also took part in the survey.

Of the 400 surveys mailed, 165 were returned. Ninety-four were received from river users and 71 from government staff.

Standards

Value classes for recreation are based on ratings given by survey respondents. Respondents rated the importance of rivers for each type of recreation.

Summary of Findings

Surveyed Stream Segments

<u>Value Class</u>	<u>Percentage</u>	<u>Number</u>
Outstanding	77	235
Substantial	20	60
Moderate	2	7
Limited	1	2
Little or None	0	0
Unknown	0	0
Total	100	304

Three types of recreation most affected the river ratings. Rivers are rated high for salmon/steelhead and resident trout fishing, and for other recreation.

Most of the rivers studied are the mainstreams that are used extensively for fishing and boating.

Geographic Distribution

Most (208 out of 304) of the rivers studied are west of the Cascade Range. The recreation value of rivers is rated highly throughout the state.

Project Evaluation

The state's major rivers are reviewed in this study. Attention should be paid to the tributaries of these rivers. Much downstream recreation depends on them for such things as water flow and quality, and fish.

Legal Constraints

Scope

Legal constraints listed in this study are the federal and state laws and rules, and county land use ordinances that affect hydro projects in the state. Constraints were taken from the state river basin programs, state hydropower rules, and county zoning. This covers about 112,000 miles of streams and rivers.

Relation to Previous Studies

This is the first study of legal constraints on hydro projects in Oregon.

State and Federal Constraints

Participants

The State Water Resources Department (WRD) compiled data about state and federal legal constraints. USFS and BLM helped identify resource lands and proposed protected areas that they manage.

Standards

State and federal constraints were grouped into these classes:

- Class 1- state constraints prevent hydro projects
- Class 2- federal proposed protected area constraints prevent hydro projects
- Class 3- constraints restrict hydro projects
- Class 4- hydro projects allowed with specific conditions
- Class 5- no constraints

Summary of Findings

State and federal constraint classes below are in descending order of frequency in which they apply to streams rated in this study:

- Class 4
- Class 3
- Class 1
- Class 2

No class 5 areas occur in the state.

Constraints to hydro projects most often apply to areas with high recreation use, scenic values, and significant fish resources.

Geographic Distribution

State and federal constraints to hydro projects apply mostly to streams west of the Cascade Range. Much of the land under study for protection by BLM is in Southeast Oregon.

Project Evaluation

A new state law that limits hydro projects took effect in October 1985. (See Chapter 569, Oregon Laws, 1985). The rules to implement this law were not done in time for this study.

The law affects new hydro projects in all basins in the state. It protects fish, wildlife, water quality, scenic and recreation areas, and historical and archeological sites.

Local Legal Constraints

Participants

The State Department of Land Conservation and Development (DLCD) compiled data about local legal constraints based on land use plans and zoning ordinances. County planners have been asked to confirm findings.

Standards

Local constraints were grouped by the kind of local action needed to build a typical, small, run-of-the-river project. Zones which allow projects outright are rated class 5. Those which allow all projects conditionally are rated class 4. Zones which do not allow hydro projects are rated class 1.

Summary of Findings

Most zones either included major constraints (class 1), limited constraints (class 4), or no constraints (classes 5).

DLCD mapped zoning outside of urban growth boundaries for the entire state at 1:100,000. Because of the scale used, some zones could not be mapped separately. The number of acres in each class will be available when zoning maps are entered in a Geographical Information System computer.

Geographic Distribution

There are limited restrictions (class 4) for almost all land planned and zoned for farm use. Restrictions that apply to forest zoning are more varied. Many forest zones have major restrictions (class 1). Others have more limited restrictions (class 3 and 4).

Project Evaluation

The study is a broad review of county restrictions on hydro projects. Decisions about specific sites or uses should not be based on these data alone.

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