

Pacific Northwest Rivers Study

Project Summary: Washington

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

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PACIFIC NORTHWEST RIVERS STUDY: PROJECT SUMMARY

STATE OF WASHINGTON

This report presents a brief description of the assessment process and preliminary findings for each of the resource categories analyzed in the Washington component of the Pacific Northwest Rivers Study.

The Pacific Northwest Rivers Study was initiated to assess the significance of river segments for a variety of environmental values. The expressed purpose of the project is to identify environmental and institutional considerations which might have a bearing on hydropower development in the Northwest. Information produced through this project will provide input into a variety of regional and state power planning and resource management activities.

The State of Washington coordinated the assessment process within state boundaries. The project itself is a cooperative effort of the four Northwest states, federal land management agencies, and Indian tribes. The Bonneville Power Administration provided regional coordination and funding.

The resource assessment phase of the Rivers Study was initiated in June 1985, and completed in January 1986. This phase produced both tabular information regarding each river segment in the state and a series of maps identifying the location of river segments. Each segment was also assigned to one of a series of resource value classes depending on its relative significance within a given resource category. Subsequent to the initial assessment, information was encoded into computer format and made available for review by project participants.

Separate yet coordinated resource assessments were conducted for each of five resource categories. A summary is provided for each. They are presented in the following order:

1. Resident Fish
2. Wildlife
3. Natural Features
4. Cultural Features
5. Recreation

For further information regarding the Washington component of the Pacific Northwest Rivers Study, contact:

Steven Zubalik, State Coordinator
Washington State Energy Office
400 East Union
Olympia, Washington 98504
(206) 586-5028

PACIFIC NORTHWEST RIVERS STUDY

Washington Inventory of Resident Fish Resource

The Washington Department of Game (WDG) conducted the resident fisheries inventory, using information from WDG, US Forest Service, and tribal sources.

"Resident fish" included all non-anadromous game and non-game fish plus sea-run cutthroat and anadromous Dolly Varden. About 1,400 stream reaches with an estimated mean flow of 35 cfs or greater were considered in the study.

Each river reach received one of five overall value classes to denote its relative significance to the state's resident fishery: Outstanding, Substantial, Moderate, Limited, and Unclassified or Unknown. These overall values were based on two criteria: the Habitat and Species Value (the relative significance of species present in the reach and the quality of habitat) and the Sport Fishery Value (angler use and the relative abundance of game fish). Special consideration was given to non-game "species of concern", migrating corridors for sea-run cutthroat, quality of the angling experience, and potential changes in habitat quality or angler use.

River reaches within National Parks, tribal reservations, and Wilderness Areas were left unclassified. Of the remaining 1,140 reaches, 50.6% were rated Outstanding, 31% Substantial, 6% Moderate, and 0.2% Limited and 12.2% Unknown.

The Habitat and Species Values usually determined the overall value for most stream reaches. Since all game fish species were valued equally, habitat quality became the overriding factor in most of the assessments.

Despite its necessarily qualitative nature, the study gives a "broadbrush" picture of relative stream values that can be expanded over time into a more detailed and quantitative resident fish inventory.

PACIFIC NORTHWEST RIVERS STUDY

Washington Inventory of Wildlife Resources

The Washington Department of Game (WDG) conducted the wildlife investigation, obtaining information from more than 60 biologists from WDG, the Forest Service, US Fish & Wildlife Service, BLM, and Indian tribes.

The study focused on over 1,400 stream reaches in the state, identified by Claude Lomax, et al, in "An Assessment of Potential Hydroelectric Power and Energy for the State of Washington." These reaches possess certain hydrologic features, particularly a mean annual flow of at least 35 cfs and are potentially able to support hydropower projects rated at 200-300 kw or greater.

Each reach was placed in one of five value classes to denote its relative significance to wildlife within the state. The classes are: Outstanding, Substantial, Moderate, Limited, and Unknown or Unclassified. The designation of a reach as a particular value wildlife resource resulted from the evaluation of three criteria. These were the habitat value, species value, and recreational value.

Habitat values were based upon the type of habitat, quantity, quality, and importance to species of special concern. Species values were based upon rareness and sensitivity of the species, threatened and endangered species status, importance as a game species, and population sizes. The recreational value of a reach was based upon the amount of consumptive/non-consumptive wildlife use, and importance to local community economies. This latter criterion was the most difficult to accurately assess and consequently was regulated to the status of an additive value rather than assessment criterion. Therefore, the overall value classes were defined by the habitat value and species value.

River reaches that were found to be wholly, or in greater part within National Parks, Wilderness Areas, or tribal lands were left unclassified. Of the remaining 1,107 reaches, 56% were rated Outstanding, 31% Substantial, 10% Moderate and 3% as having limited value as a wildlife resource. The distribution of scores, by assessed stream miles varies from 98% Outstanding and 2% Substantial in the north central part of the state, to 19% Outstanding, 49% Substantial, 31% Moderate, and 2% Limited in southwestern Washington. The distribution of scores west of the Cascades was: 55% Outstanding, 33% Substantial, 10% Moderate, and 2% Limited; east of the Cascades 61% of the reaches were classified as Outstanding, 21% Substantial, 12% Moderate and 6% Limited. These differences will be re-evaluated in the future, and it must be stressed that all of these ratings should be considered preliminary, pending professional review.

The very nature of this type of study is that it is a "broadbrush" picture of relative stream values. While this fact is recognized, it is hoped that this rivers assessment will lay the foundation for a more thorough, detailed, and quantitative inventory and assessment of wildlife resource value in Washington State.

PACIFIC NORTHWEST RIVERS STUDY

Washington Natural Features Assessment

The Department of Natural Resources' Washington Natural Heritage Program (WNHP) conducted the inventory of natural features in Washington. Information was gathered from the WNHP data base, the US Forest Service, the National Park Service, the US Geological Survey, interested professionals and the general public.

Several types of natural features were assessed: endangered, threatened or sensitive plant species; exceptional native plant associations; geological features; undeveloped river reaches; and potential managed natural areas.

Features were assigned to one of four value classes: Outstanding, Substantial, Moderate, or Unknown. Criteria for ranking varied with the type of feature assessed, but four general criteria were always applied: scarcity, vulnerability, quality, and scientific or educational value. The overall natural features rank for a given river reach was determined by the number and ranking of features occurring along the reach.

The study identified 460 botanical features, 312 geological features, 16 potential managed areas and 163 undeveloped river reaches. Of the total number of reaches surveyed, 7.0% were considered Outstanding, 5.5% were considered Substantial, 12.3% were considered Moderate, and 75.2% were considered of Unknown value.

The botanical and ecological information reflected the lack of data for certain regions of the state. Plant community research by WNHP has generally focused on non-federal lands; this excludes much of the montane areas in western Washington. Rare plant research has been more extensive and wide ranging, and the coverage in some places is quite thorough. The geological information was derived entirely from secondary sources (primarily the Washington Environmental Atlas, published by the U.S. Army Corps of Engineers) or maps, and was generally of lower accuracy and quality than the botanical and ecological data.

Priorities for further study include: identification of remnant riparian communities; improvement of the geological data through field work and systematic literature searches; and continued updating of the natural features data base with new occurrences that result from fieldwork.

PACIFIC NORTHWEST RIVERS STUDY

Washington Inventory of Archeological/Historic Resources

The assessment of archeological/historical resources was conducted by the Washington State Office of Archeology and Historic Preservation (OAHP) with the assistance of a technical advisory group composed of cultural resource specialist from federal agencies, local historic preservation offices, Indian Tribes, universities, and OAHP.

Resources evaluated for this study were limited to sites, structures, or other physical objects which can be classified according to criteria for the National Register of Historic Places (36 CFR 60 & 36 CFR 63). Information on current cultural uses, such as the gathering of foods or medicinal plants by Native Americans, was not included in this assessment.

River reaches were characterized according to the significance of known sites and the degree of survey coverage. Values were assigned to the reaches according to the following criteria: Outstanding (1) - National Historic Landmarks; Substantial (2) - National or State Register sites, city/county landmarks, Native American burials, or reaches with three or more inventory properties; Moderate (3) - sites with inventory properties and more than 20% survey coverage; Limited (4) - sites with no inventory properties and more than 50% survey coverage; and Unknown (5) - sites with less than 20% survey coverage and either no site data or not more than two inventory properties.

River reaches within Wilderness Areas, National Parks, or on Indian Reservations were not inventoried due to the legal barriers to hydropower development in these areas. Approximately 24% of the reaches fell into this unranked category. The distribution of ranked values was as follows: 1 - .07%; 2 - 16.1%; 3 - .8%; 4 - .1%; and 5 - 58.9%.

The quality of the data is good where it exists. The principle drawbacks in this portion of the study data are the number of reaches for which no information is available, and the relatively low survey coverage on the majority of reaches where sites have been identified.

Future work should be directed toward means of gathering information on unranked river segments and integrating this information with planning efforts being conducted by other agencies. Finally, updating the information in the data base as more site data is collected by OAHP should be done on an annual basis.

PACIFIC NORTHWEST RIVERS STUDY

Washington Inventory of Recreation Resources

In 1985, the National Park Service designed and carried out an assessment of river-related recreation in the State of Washington as a Technical Assistance Project for the Washington State Parks & Recreation Commission, as authorized by the Wild and Scenic Rivers Act. The assessment was based on a survey of 39 recreational groups (boating, hiking, and other such groups) and a consensus-building process involving these groups and public agencies.

Recreation groups identified river reaches used for recreation, evaluated up to 15 characteristics for each reach, and recommended an overall evaluation (A, B, C, or D) for each reach. The characteristics included 1) specific resources, such as interesting hydraulics for boating; 2) scenic quality; 3) specific activities on or near the reach such as whitewater kayaking; and 4) amount of use. The staff recommended evaluations based primarily on the survey evaluations and then solicited comment from a review panel of recreation-group and agency representatives. A few adjustments upward were made as a result.

Some 232 reaches, including over 2,500 miles of rivers and streams, were identified and evaluated. Of these reaches, 37% (91) were rated as having high recreation value, 45 % (104) as above average, 15 percent (35) as average, and 1% (2) as below average.

The Puget Sound region contains 53% (91) of the evaluated reaches, the Coastal region, 11% (26), and the Columbia River region 35% (83). Of the reaches rated as having high recreational value, 50% (46) are in the Puget Sound Region, 9% (8) in the Coastal and 41% (37) in the Columbia River region.

Recreational groups identified and evaluated the reaches they knew best, presumably the better recreation reaches. The reaches rated high are therefore among the best in the state. Additional research and evaluation may add to the number of reaches in each category.

Recreation groups completed over 500 reach evaluation sheets, far more than had been anticipated. This response indicates considerable interest in and concern for protection of river-related recreation resources.

The recreation assessment is an important contribution to the process for minimizing the environmental impacts of hydropower development and for protecting environmental resources in other ways. We now have far more data than was available previously. However, because much of the data relates to boating, further documentation on reaches used for other activities would be appropriate.

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