Final Environmental Impact Statement
Land and Resource Management Plan
Olympic National Forest

Appendix F
Wild and Scenic Rivers

1990

APPENDIX F

WILD AND SCENIC RIVERS REVIEW

INTRODUCTION

As required in the Wild and Scenic Rivers Act of October 1, 1982, and USDA-USDI Guidelines for Eligibility, Classification and Management of River Areas (September 7, 1982), seventeen rivers that originate in or flow through or have a portion of the river corridor within the Olympic National Forest were evaluated for their potential for inclusion in the National Wild and Scenic Rivers System.

Three of these rivers were recommended for listing as Wild and Scenic Rivers in the Forest Plan Preferred Alternative. Three rivers were identified as ineligible for inclusion in the system and four rivers were deferred to the National Park Service for evaluation and recommendation because they are mostly within National Park jurisdiction. National Forest lands on rivers not recommended for Wild and Scenic River designation and segments of potential Wild and Scenic Rivers that may be designated by the National Park Service or others will be managed as River Corridors.

The Federal Register definitions of Wild, Scenic and Recreational river areas are listed below. The full text of the guidelines for the study of potential National Wild and Scenic Rivers is provided at the end of this appendix:

1. Wild river areas - Those areas or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

2. Scenic river areas - Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.

3. Recreational river areas - Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

In their responses to the Draft Plan many people expressed concern that more rivers were not recommended for designation while others were equally concerned that any rivers were recommended for the system. Considering these responses plus information suggesting additional information concerning "outstandingly remarkable" values that had been overlooked in our evaluation, we have reevaluated all of the rivers that appeared to have potential for Wild and Scenic Rivers designation.

EVALUATION PROCESS

PROCESS

Although this process was initiated due to the Olympic National Forest planning effort, the rivers identified were evaluated over their full length. This provided a better picture of the river, the resource and the landownership patterns that would be affected by designation.

Rivers identified for evaluation were included if they met any of the following criteria:

1. They were identified in the Heritage Conservation Recreation Service (HCRS), 1982 Nationwide Rivers Inventory.

2. They had been included in previously proposed Wild and Scenic Rivers Legislation.

3. They were identified in the Forest Planning or Draft Review process and had characteristics similar to other rivers being considered, and appeared to meet criteria in the joint Department of Agriculture- Department of the Interior Guidelines for Evaluating Wild, Scenic and Recreational Rivers. 1/

4. They had characteristics similar to the rivers identified by HCRS (now a branch of the National Park Service), and appeared to meet the criteria of the joint agency guidelines. These are referred to as Forest Inventory Rivers.

Each river was evaluated to determine its **eligibility**. If a river is free flowing and it and its adjacent land area possess an "outstandingly remarkable" scenic, recreational, geologic, fish, wildlife, historical or cultural value, it meets basic eligibility criteria. The determination of whether a river area contains "outstandingly remarkable" values is a professional judgement. With certain values, such as fish, this included the combined professional judgement of the Forest Service Fisheries Biologist, State of Washington Department of Fisheries, State of Washington Department of Wildlife, and Olympic National Park personnel. Other values, i.e.: cultural and historical for example, were based on the judgement of the Olympic National Forest Cultural Resource Coordinator or other trained, qualified persons.

Each river that was determined to be eligible was then evaluated to determine the appropriate **classification for each river segment.** This was done by applying the criteria to each river segment and determining its "highest" classification. Each river segment had to be of adequate length to provide a meaningful experience associated with that classification. Once a tentative classification was made based on the criteria, a composite classification was developed reflecting the combined criteria. If a river or river segment failed to meet the classification criteria, it was determined to be ineligible and dropped from further evaluation.

During the development of the list of eligible rivers, each river was subjected to the following administrative questions prior to developing the data base for the **suitability** analysis:

1/ Federal Register, Vol. 47, No. 173, Part VII, September 7, 1982.

1. Should the Forest Service be the lead agency in preparing the plan? If not, what agency should take the lead? If an agency other than the Forest Service should take the lead, then further evaluation/ study was deferred to that agency.

2. Did the National Forest acreage make up an insignificant percentage of the total river corridor acres? If so, further evaluation/study would be deferred to the agency with the preponderence of jurisdiction.

3. Was there time to do an adequate evaluation of the river(s) under consideration? If not, those where the deferring of a study would have the least impact on the management of the National Forest would be set aside for future evaluation/study.

4. Were there factors associated with the evaluation of a specific river, that would so complicate the evaluation and analysis process, that it would jeopardize implementation of Forest Plan? If so, the evaluation of that river and its corridor would be deferred until the next round of planning, or a separate river study.

For the rivers that remained after this set of administrative questions, a data base was compiled for use in the Forest Planning process. Emerging from the planning process will be a tentative determination of suitability, and a preliminary administrative recommendation for Wild and Scenic River designation.

Seventeen rivers and/or river systems made up the inventory of rivers in the evaluation process. Figure F-1 shows the relationship of these rivers to each other and to the Olympic Peninsula in general. Table F-1 summarizes the rivers.

Table F-1. Rivers Considered

River	How Identified
Duckabush	Nationwide Rivers Inventory
Dosewallips	Nationwide Rivers Inventory-Legislation
Big Quilcene	Forest Inventory
Dungeness	Public Interest
Gray Wolf	Public Interest
Elwha	Forest Inventory
Soleduck	Nationwide Rivers Inventory-Legislation
Calawah & 3 Branches	Legislation
Bogachiel	Legislation
Hoh	Nationwide Rivers Inventory-Legislation
Quinault	Forest Inventory
Humptulips & West Fork	Nationwide Rivers Inventory
East Fork Humptulips	Public Interest
Wynoochee	Forest Inventory
Skokomish	Forest Inventory
So. Fork Skokomish	Forest Inventory
Hamma Hamma	Public Interest

ELIGIBILITY DETERMINATION - VALUES

Based on our judgement, the following two rivers do not have an outstandingly remarkable value:

1. Big Quilcene
2. Calawah and 3 Branches

ELIGIBILITY DETERMINATION - CLASSIFICATION

Segments of seven rivers were found to be ineligible:

1. Dungeness, from the mouth to river mile (R.M.) 10.5 due to irrigation diversions and dewatering.
2. West Fork Humptulips, from R.M. 58.6 to R.M. 61, its source, due to the extensive timber harvesting within the river corridor and its inaccessibility for anadromous fish.
3. Elwha, from the mouth to the head of Lake Mills, due to two high dams and one irrigation diversion (R.M. 0.0 to R.M. 16.0).
4. Skokomish, from mouth to confluence of North and South Forks, due to extensive river bank modification.
5. East Fork Humptulips, from Stovepipe Creek (R.M. 24.5) to source, due to extensive timber harvesting within the corridor and being upstream of the outstandingly remarkable whitewater values.
6. Hoh, from mouth to river mile 1.5, within the Hoh Indian Reservation.
7. Wynoochee, from Clark Creek to source, due to extensive timber harvesting within the river corridor and from the fish collection facility at R.M. 47.8 to the head of Wynoochee Reservoir at R.M. 55.0.

ADMINISTRATIVE - LEAD AGENCY

Elwha - All of the eligible segment is within Olympic National Park. The National Park Service should be the lead agency.

It should be noted here that there is one major river system flowing out of the Olympic Mountains that does not flow through, or have a portion of its river corridor within Olympic National Forest. Therefore, it is not evaluated in this process. This river, the **Queets**, in all probability, meets the evaluation criteria for a Wild and Scenic River. As the vast majority of the river mileage and corridor lands are within Olympic National Park, the National Park Service should be the lead agency for any study.

ADMINISTRATIVE - INSIGNIFICANT NATIONAL FOREST ACREAGE

Bogachiel - Less than one percent of the corridor acreage is within Olympic National Forest. Defer to National Park Service as the logical lead agency.

Hoh - Less than one percent of the corridor acreage is within Olympic National Forest. Defer to National Park Service as the logical lead agency.

ADMINISTRATIVE - INADEQUATE TIME

None.

ADMINISTRATIVE - RISK

None.

SUITABILITY

The remaining ten rivers listed below will be included in the Forest Planning Process for determination of suitability, and potential recommendation for inclusion in the Wild and Scenic Rivers System:

1. Hamma Hamma - source to mouth.
2. Duckabush - source to mouth.
3. Dosewallips - source to mouth.
4. Dungeness - source to R.M. 10.5.
5. Gray Wolf - source to mouth.
6. Soleduck - source to mouth.
7. Humptulips and West Fork - R.M. 58.6 to mouth.
8. East Fork Humptulips - R.M. to Lake Quinault.
9. Wynoochee - Clark Creek, R.M. 59.7 to mouth, excluding the Wynoochee Dam and Reservoir segment R.M. 47.8 to R.M. 55.0.
10. South Fork Skokomish - source to confluence with North Fork.

SUITABILITY CRITERIA WERE:

1. Representation of the Puget Trough and Olympic Mountains sections of the Pacific Border province.
2. Compatibility with existing land uses.
3. Impacts on non-Federal lands.
4. Cost of land acquisition or rights in lands to be administered in the system.

5. Values foregone or foreclosed if the river is designated.

6. Public and governmental support for or opposition to designation.

7. Representation of the major ecosystems of the Olympic Peninsula.

Prior to the decision on designation, all recommended rivers will be managed to avoid or mitigate adverse effects on the river and river corridors affecting its eligibility reclassification.

Upon completion and approval of the Forest Plan, the National Forest segments of the rivers recommended for Wild and Scenic River designation, and those that were eligible but not addressed in the analysis, will be managed according to the Standards and Guidelines established in the plan. Non-recommended rivers and river corridor segments will be managed for a full range of resource values as displayed in the last section of this appendix and per Forest Plan decisions.

Segments of rivers within the Olympic National Park will be managed within the appropriate National Park strategy.

The determination of eligibility and suitability of a river segment that lies outside of the National Forest boundary will not require a change in the management of State, county, community or private lands within the river corridor. The determination of eligibility and suitability may provide a basis for consideration in drafting future Wild and Scenic River Legislation.

Table F-2. River Eligibility Summary Table

Name	Length	Description	Classification	Length	Description
Eligible:					
Hamma Hamma	17.8	Source to mouth	Wild	3.4	Source at Murdock Lk. to bridge on road 25 in NE1/4 of Sec.13, T.24N., R.5E.
			Scenic	5.5	Bridge on road 25 to Lena Ck.
			Recreational	8.9	Lena Ck. to mouth
Duckabush 1/	24.1	Source to mouth (Hood Canal)	Wild	16.9 *	Source to Brothers Wilderness boundary in NE1/4 of Sec. 9, T.25N., R.3W.
			Scenic	5.0	Brothers Wilderness boundary to Olympic NF boundary
			Recreational	2.2	Olympic NF boundary to mouth (Hood Canal)
Dosewallips	28.3	Source to mouth	Wild	12.5	Source at Claywood Lk. to Station Ck.
			Scenic	9.9 *	Station Ck. to Olympic NF boundary
			Recreational	5.9	Olympic NF boundary to mouth
Dungeness	17.6	Source to State Fish Hatchery (RM 10.5)	Wild	4.1	Confluence of Milk and Heather Cks. in NW1/4 of Sec. 23, T.27N., R.4W. to 2860 road bridge in NW1/4 of Sec. 36, T.28N., R.4W.
			Scenic	1.9	2860 road bridge to Silver Ck. in SW1/4 of Sec. 19, T.28N., R.3W.
			Wild	2.8	Silver Ck. to Sleepy Hollow Ck. in NW1/4 of Sec. 8, T.28N., R.3W.
			Scenic	5.9	Sleepy Hollow Ck. to Olympic NF boundary
			Recreational	2.9	Olympic NF boundary to State Fish Hatchery
Gray Wolf	17.4	Source to confluence w/Dungeness River	Wild	16.2 *	Source in SW1/4 of Sec. 18, T.27N., R.4W. to 2780 road bridge in NW1/4 of Sec. 31, T.29N., R.3W.
			Scenic	1.2	2870 road bridge to confluence w/Dungeness River.
Elwha	28.8	Source to head of Lake Mills (ONP)	Wild	28.8	Source to head of Lake Mills
Soleduck 1/	64.9	Source to confluence w/Bogachiel River	Wild	6.9	Source to end of Soleduck Road in SW1/4 of Sec. 33, T.29N., R.9W.
			Scenic	9.1 *	End of Soleduck Road to S. Fk. Soleduck R.
			Recreational	14.3 *	S. Fork Soleduck R. to Olympic NF boundary
			Recreational	34.6 *	Olympic NF boundary to confluence with Bogachiel River.

Table F-2. (Cont'd.)

Name	Length	Description	Classification	Length	Description
Bogachiel	47.0	Source to confluence w/Soleduck River	Wild Recreational	24.6 22.4	Source to Olympic NP boundary Olympic NP boundary to confluence w/Soleduck River
Hoh	54.5	Source to Hoh Indian Reservation (RM 1.5)	Wild Scenic Recreational	20.7 5.8 28.1	Source to Jackson Ck. in SE1/4 of Sec. 12, T.27N., R.10W. Jackson Ck. to Olympic NP boundary Olympic NP boundary to Hoh Indian Reservation boundary
Quinault	32.3	Source to Lake Quinault	Wild Scenic Recreational	15.9 6.5 9.9 *	Source to Graves Ck. Graves Ck. to Cannings Ck. Cannings Ck. to Lake Quinault
Humptulips & West Fork 1/	58.2	Campbell Ck. to mouth	Scenic Recreational Recreational Recreational	17.4 12.6 4.5 23.6	Campbell Creek to Olympic NF boundary Olympic NF boundary to E. Fork Humptulips River E. Fork Humptulips to Hwy 101 Bridge Highway 101 bridge to confluence w/West Fork Humptulips River.
East Fork Humptulips			Scenic Recreational	11.1 13.4	Stovepipe Ck. in NE1/4 Sec. 9, T.22N., R.8W. to Olympic NF boundary. Olympic NF Boundary to confluence w/West Fork Humptulips
Wynoochee 1/			Recreational Scenic Recreational	4.7 3.1 44.7	Clark Ck. to head of Wynoochee Reservoir Fish intake dam to Olympic NF boundary Olympic NF boundary to confluence w/Chehalis River.
South Fork Skokomish			Wild Scenic Recreational Wild Recreational	3.6 * 10.4 3.7 6.6 3.2 *	Source to Rule Ck. in SE1/4 of Sec. 8, T.23N., R.6W. Rule Ck. to LeBar Ck. in SW1/4 of Sec. 4, T.22N., R.5W. LeBar Ck. to upper end of gorge in NW1/4 of Sec. 22, T.22N., R.5W. Upper end of gorge to gauging station in NE1/4 of Sec. 2, T.21N., R.5W. Gauging station to confluence of N & S Forks Skokomish River.
Eligible & Suitable: (Recommended for Designation in the Preferred Alternative)					
Duckabush	9.4	Olympic NP boundary, RM 11.6, to exterior Olympic NF boundary, RM 2.2	Wild Scenic	4.4 5.0	Olympic NP boundary to Brothers Wilderness boundary in NE1/4 of Sec. 9, T.25N., R.3W. Brothers Wilderness boundary to Olympic NF boundary

Table F-2. (Cont'd.)

Name	Length	Description	Classification	Length	Description
Dungeness	14.7	Source to Olympic NF boundary	Wild	4.1	Confluence of Milk and Heather Cks. in NW1/4 of Sec. 23, T.27N., R.4W. to 2860 road bridge in NW1/4 of Sec. 36, T.28N., R.4W.
			Scenic	1.9	2860 road bridge to Silver Ck. in SW1/4 of Sec. 19, T.28N., R.3W.
			Wild	2.8	Silver Ck. to Sleepy Hollow Ck. in NW1/4 of Sec. 8, T.28N., R.3W.
			Scenic	5.9	Sleepy Hollow Ck. to Olympic NF boundary
Gray Wolf	8.0	Olympic NP boundary to confluence w/Dungeness River	Wild	6.8	Olympic NP boundary to 2870 road bridge in NW1/4 Sec. 31, T.29N., R.3W.
			Scenic	1.2	2870 road bridge to confluence w/Dungeness River.
Eligible, Classification Completed: (Further evaluation and recommendation deferred to Olympic NP.)					
Hoh			Wild	20.7	Source to Jackson Ck. in SE1/4 of Sec. 12, T.27N., R.10W.
			Scenic	5.8	Jackson Ck. to Olympic NP boundary
			Recreation	28.1	Olympic NP boundary to Hoh Indian Reservation boundary
Quinault			Wild	15.9	Source to Graves Ck.
			Scenic	6.5	Graves Ck. to Cannings Ck.
			Recreation	9.9 *	Cannings Ck. to Lake Quinault
Elwha			Wild	28.8	Source to head of Lake Mills
Bogachiel			Wild	24.6	Source to Olympic NP boundary
			Recreation	22.4	Olympic NP boundary to confluence with Soleduck

1/ Also, recommended by Washington State Parks as a State Scenic River.
* - Two or more segments of the same classification within the section.

LEGEND

——— **Eligible**

---------- **Ineligible**

Figure F-1. POTENTIAL WILD AND SCENIC RIVERS

INELIGIBLE RIVERS

INTRODUCTION

This section presents information and evaluation results for the Big Quilcene and Calawah and its three branches: the North Fork, South Fork and Sitkum. The eligibility process described earlier was used in determining that these rivers were not eligible. The General Setting, along with eligibility values and classifications, are discussed for both of these rivers.

BIG QUILCENE RIVER

GENERAL SETTING

With a total length of 18.9 miles, the Big Quilcene is one of the shortest rivers on the Olympic Peninsula to be evaluated for its Wild and Scenic River potential. Over three-quarters of its length, 14.7 miles, is within Olympic National Forest. The remaining 4.2 miles flows over private land except for a very short segment associated with the Big Quilcene Fish Hatchery at R.M. 2.8.

Within the river corridor, the approximate mileage and acreage by ownership is as follows:

Ownership	Miles	Acres
Olympic National Forest (ONF)	14.7	4,700
U.S. Fish Hatchery	0.1	40
Private	4.1	1,300
TOTAL	18.9	6,040

The Big Quilcene River rises near Marmot Pass, which is located in the mountain ranges along the northeastern flank of the Olympic Mountains. Dropping rapidly out of the open meadow country, the Big Quilcene tumbles and cascades its way into the Douglas-fir, western hemlock forests typical of the east side of the Peninsula. Flowing through the narrow valley on its way to Quilcene Bay, the river is within the Buckhorn Wilderness. From its source to R.M. 14.7 water quality is excellent.

A resident trout fishery exists to near R.M. 11. Anadromous fish are basically restricted to the lower three miles of the river, due to the steep gradient beyond that point. There is a passage barrier at R.M. 7.6, however, it is doubtful if anadromous fish reach this point due to numerous cascades and rapids below it. Below R.M. 3, coho and chinook salmon utilize the main stem of the river.

Recreational use of, and along, the river is primarily associated with hiking and backpacking within the Buckhorn Wilderness. The Big Quilcene Trail is one of the primary access routes. Two enroute destination points are Shelter Rock Camp and Camp Mystery. Neither site has any developed improvements. Day use hiking and limited camping also occurs along the Lower Big Quilcene Trail. Fishing and hunting are minor activities. The Big Quilcene River, above R.M. 9.3, is the watershed for the City of Port Townsend. Up to 26 cubic feet per second (cfs) are diverted for Port Townsend's use.

The Big Quilcene was evaluated as a potential Wild and Scenic River because the issue surfaced during the early phases of Forest Planning, and because of its recognition as a significant river on the Olympic Peninsula.

ELIGIBILITY DETERMINATION - VALUES

Scenic - Open meadows, seasonal snowfields, vistas of Olympic peaks, cascading water and old-growth Douglas-fir, western hemlock and true fir forests. Generally typical of rivers and river valleys in the flanks of the Olympic mountains. **Above average.**

Recreational - Serves as a major access route to the interior of the Buckhorn Wilderness. Use is along the Big Quilcene Trail and campsites at Shelter Rock, Camp Mystery and near Marmot Pass. Limited fishing and hunting. The river is not suitable for rafting or canoeing, except in its very lower reaches. **Average.**

Geologic - The river rises in mountain meadows, similar to most rivers of the Olympic Mountains; typical narrow, steep river valleys with cascading water. **Average.**

Fish - Anadromous fishery to R.M. 3, of local significance. Resident trout fishery. **Average.**

Wildlife - Typical of eastern Olympic valleys. Deer, black bear, mountain goats and numerous small game and nongame species. Old-growth habitat for northern spotted owl, marten and pileated woodpecker. **Average.**

Historical - The Big Quilcene trail was an initially used access route to Buckhorn and Iron Mountain and the mining activity referred to as the "Tubal Cain" mines. A more favored route to Tubal Cain utilized the Little Quilcene route and became the principal access route to haul equipment and supplies. The Big Quilcene route was not utilized very much, except early on, because the river needed to be crossed often and two passes in the headwaters were susceptible to lingering snows. The present day trail follows this route. No structures, improvements or sites associated with the mining effort are likely to be found along this trail. **Average.**

Cultural - Some fishing for salmon and other anadromous fish by American Indians occurred in the lower reaches of the Big Quilcene. Use in the upper reaches was probably limited to incidental hunting and gathering forays. **Average.**

Conclusion - While there are significant resource values within the Big Quilcene River and its adjacent forests, none are "outstandingly remarkable." The Big Quilcene River **is not** eligible for Wild and Scenic River consideration. Classification of the river segments and determination of suitability is not necessary.

CALAWAH AND 3 BRANCHES: NORTH FORK, SITKUM AND SOUTH FORK

GENERAL SETTING

The main stem Calawah and South Fork total 31.1 miles in length. The North Fork is 21.1 miles and the Sitkum, 12.8 miles in length.

The mileage by landownership is as follows:

	Miles		
Ownership	Calawah & S. Fork	North Fork	Sitkum
Olympic National Park	14.9	--	--
Olympic National Forest	3.8	7.7	12.8
State of Washington DNR			
within National Forest boundary		2.0	
outside National Forest boundary	1.0		
Private			
within National Forest boundary		11.3	
outside National Forest boundary	11.4	0.1	
TOTAL	31.1	21.1	12.8

The acreage within the river corridor, one-quarter mile on each side of the river, is listed below by ownership:

	Acres		
Ownership	Calawah & S. Fork	North Fork	Sitkum
Olympic National Park	4,770		
Olympic National Forest	1,220	2,460	4,100
State of Washington DNR			
within National Forest boundary		640	
outside National Forest boundary	320		
Private			
within National Forest boundary	--	3,620	
outside National Forest boundary	3,650	30	
TOTAL	9,960	6,750	4,100

Originating in the rugged foothills of the northwest corner of the Olympic Peninsula, this river system drains westerly and flows into the Bogachiel River at R.M. 8.5. The upper reaches of the South Fork and Sitkum are similar, with relatively steep river gradients and steep, forested slopes to the river edge. The Sitkum lies completely within the Olympic National Forest. The South Fork, above the confluence of the Sitkum, is in the Olympic National Park.

The North Fork flows through a broad river valley that was burned in the Forks Fire in 1951. A stand of young timber now blankets the slopes above the river. Vegetation along the banks has not reached a size to enclose the river. The middle reach of the North Fork often goes dry during late summer. Anadromous fish species utilize the North Fork up to Pistol Creek at R.M. 17.

The South Fork is utilized by fish to a point between R.M. 26 and 27, where falls and cascades block further passage. A low percentage of the main stem of the Sitkum River is suitable for spawning and receives limited use.

Recreational use within the river corridors consists of fishing, limited white water kayaking and a limited amount of camping and day use. Hunting, primarily for elk, occurs in all areas outside Olympic National Park.

The Calawah and its three tributaries, the North Fork, Sitkum and South Fork, were evaluated because of the identification of Wild and Scenic Rivers as an issue during the early stages of the planning process. Also, the State of Washington Department of Ecology has identified the Calawah as a river of Statewide significance.

ELIGIBILITY DETERMINATION - VALUES

Scenic - Rain forest, timbered peaks, cascading waters. Typical of drainages within the lower mountains of the Olympics. Common visual variety. 2/ **Average.**

Recreational - Drift fishing and some recreational boating in lower river. Limited white water kayaking in the Sitkum and South Fork Calawah. Limited camping and day use. Little hiking. **Average.**

Geologic - Valleys vary from narrow with fixed river channels to wide with meandering river channels with sections of narrow river canyons. Lesser peaks of Olympics. **Average.**

Fish - Main stem, North Fork, and South Fork significant fish production. Major tributaries to the Bogachiel. Three species of salmon, steelhead, and sea-run cutthroat. **Above average.** Sitkum--limited production, limited potential. **Average.**

Wildlife - Elk, deer, bear, bald eagles, numerous smaller and nongame species typically found throughout west side Olympic drainages. **Average.**

Historical - In lower reaches, homesteading and early settlement occurred that was typical of the west side Olympics. But most of this use occurred outside of the National Forest. Some hunting, fishing, and trapping occurred in these drainages, but none of these activities were particularly noteworthy. **Average.**

Cultural - Prior to the arrival of European man and for some time thereafter, American Indians had established fishing camps and stations along the Calawah, North Fork and lower Sitkum. There are documented accounts of this use but no evidence of any kind has been found to date. **Above average.**

Conclusion - The Calawah and its three tributaries do not have an "outstandingly remarkable" value. The most significant value is the fishery. This will receive protection within the appropriate management strategy.

2/ USDA Forest Service, National Forest Landscape Management, 1973, 1974.

WYNOOCHEE RIVER

GENERAL SETTING

In the original evaluation of the Wynoochee it was felt that it did not have an outstandingly remarkable value, therefore was not eligible for further consideration for designation. Responses to the Draft EIS led us to reconsider the river's fishery values. It is now considered eligible for further evaluation in this part of the Forest Planning process and is reviewed in the "Suitability Analysis" section of this appendix.

SKOKOMISH AND SOUTH FORK

GENERAL SETTING

The South Fork of the Skokomish is another river that was reevaluated as a result of responses received following issuance of the Draft EIS. The South Fork is now considered to be eligible. The evaluation of the stream follows in the "Suitability Analysis" section of this appendix. The main Skokomish is still considered ineligible.

EAST FORK HUMPTULIPS

GENERAL SETTING

The East Fork of the Humptulips has been reevaluated as a result of additional information received in response to the Draft EIS and was found to be eligible for consideration for designation as a Wild and Scenic River under the Act. Refer to the "Suitability Analysis" section for the review of this river.

ELIGIBLE RIVERS, OTHER AGENCY

INTRODUCTION

This section includes four rivers that were deemed eligible with the lead agency other than the Forest Service. The process described previously was used in determining eligibility. The description of the General Setting, along with eligibility values and classifications are presented for the Elwha, Bogachiel, Quinault and Hoh Rivers. These rivers are recommended for more complete analysis and recommendation by the National Park Service.

ELWHA RIVER

GENERAL SETTING

Flowing out of the interior of the Olympic Mountains, the Elwha is one of the major rivers on the Olympic Peninsula with a main stem length of 44.8 miles. Slightly over 35 miles of this length, source to R.M. 9.6, is within Olympic National Park. From R.M. 9.6 to 7.2, (2.4 miles), the river is within the boundaries of Olympic National Forest. However, within this area there is only one segment of 0.6 mile in length where the river flows over National Forest lands. The remaining distance, 7.2 miles, flows through 6.1 miles of private ownership and 1.1 miles of the Lower Elwha Indian Reservation.

Mileage and acreage by ownership is summarized below. Acreage is based on a corridor one-quarter mile wide on each side of the river.

Ownership	Miles	Acres
Olympic National Park	35.2	11,260
Olympic National Forest	0.6	190
Lower Elwha Indian Reservation	1.1	350
Private		
within National Forest boundary	1.8	580
outside National Forest boundary	6.1	1,950
TOTAL	44.8	14,330

Rising near the heart of the Olympics, the Elwha River begins its journey to the sea from the highest regions of the Olympics with Mt. Barnes to the north and Mt. Queets to the south. This area provides some of the truly remarkable scenery in the United States. Glaciers, snowfields, rugged Olympic Peaks and mountain meadows are visible. The stream gradients are extremely steep in the first miles with nearly continuous cascades and waterfalls. Near Delabarre Creek, R.M. 40.4, the gradient moderates. From this point to Lake Mills the river gradient varies from moderate to steep. The entire reach, up to R.M. 40.3, was probably utilized by anadromous fish prior to the construction of the Lower Elwha Dam at R.M. 4.9. Between the Glines Canyon Dam, R.M. 13.4, and the upper end of Lake Aldwell, R.M. 8.4, the river is free flowing for about five miles. Below the Elwha Dam, the river is accessible to chinook, coho, pink, and chum salmon. Despite limited access and spawning material, important runs of these species are produced in this short segment.

Recreational use along this river corridor is regionally significant. The trail up the Elwha is the most known route through the Olympic Mountains. Its use dates back to the initial crossing by the Press Expedition in 1889-1890. Much of the existing trail follows their route.

ELIGIBILITY DETERMINATION - VALUES

Scenic - Major Olympic peaks, snowfields, glaciers, waterfalls, expanses of pristine forests, mixed forest river bottoms, narrow canyons. **Outstandingly remarkable.**

Recreational - Regional attraction, premier recreational trail, developed sites, lake and river-associated use. **Well above average.**

Geologic - Major Olympic Mountain peaks, glaciers, glaciated valley, canyons, waterfalls, cliffs. **Outstandingly Remarkable.**

Fish. Significant run of four salmon species in lower 4.9 miles. Resident fisheries. Current--**Above average.** Potential, if fish passage can be established to the reaches above the dams. **Outstandingly Remarkable.**

Wildlife. Elk, deer, bear, cougar and many other large and small species can be found in an unhunted state in the mid and upper reaches of the valley. Key winter range. **Outstandingly remarkable.**

Historical - Route of the Press Expedition, which established a major route through the heart of the Olympics and named many of the peaks, river, and features within the Olympic Mountains. The Lower Elwha was also a main entry portal and activity area associated with early day Forest Service Management. Several early Ranger Stations and Guard Stations were located in the drainage and primary extent CCC structures are located at the present day Elwha Guard Station. These properties are all under the jurisdiction and management of the National Park Service. The construction and operation of Glines Canyon Dam also offers some fascinating and interesting historical perspectives to the Elwha Drainage, not the least of which are the associated impacts and effects on Wild and Scenic River values. **Above average.**

Cultural - Fishing, hunting, gathering of roots, herbs and berries was the typical use by the Klallam Indians. The use of the mid and upper reaches appeared to be quite limited. **Above average.**

ELIGIBILITY DETERMINATION - CLASSIFICATION

Water Resources Development - Two major impoundments, Lake Aldwell and Lake Mills, were created by the construction of the Lower Elwha Dam at R.M. 4.9, and the Upper Elwha (Glines Canyon) Dam at R.M. 13.4. A low diversion dam exists at R.M. 3.4.

Shoreline Development - From its source to R.M. 16, the shoreline is essentially primitive with little or no evidence of human activity. An occasional trailside camp or trail bridge may be seen. While the shoreline is undeveloped along Lake Mills, R.M. 16 to R.M. 13.4, presence of the lake itself creates an awareness of man's influence. Between Lake Mills and Lake Aldwell, the presence of the two dams, developed recreation sites (Elwha and Altaire campgrounds), the Highway 101 bridge and residences along the river create a feeling of extensive human activity. Downstream from Lake Aldwell (R.M. 4.9 to R.M. 3.0), the river flows through a canyon area with limited evidence of human activity. From R.M. 3.0 to the mouth, scattered housing, fields and pastures can be seen. Evidence of past or current timber harvesting is occasionally seen.

Accessibility - From its source to R.M. 16.5, the river is accessible only by trail. From R.M. 16.5 downstream to its mouth, the river is readily accessible from Highway 101, other State, county, private or National Park roads.

Water Quality - The Elwha meets the criteria for a Class AA "extraordinary" water. This meets or exceeds the Federal criteria for aesthetics, propagation of fish and wildlife, and primary contact recreation.

Conclusion - With the two major dams and associated reservoirs, the only free-flowing water downstream from R.M. 16.0 is the five-mile segment between Lake Aldwell and the Upper Elwha Dam, and the 4.9 miles from the Lower Elwha Dam to the river mouth. Within this lower section, there is a low diversion dam at R.M. 3.4. Based upon the classification criteria, this segment of the Elwha River is deemed ineligible for addition to the Wild and Scenic Rivers System.

From the head of Lake Mills, R.M. 16 to its source, the Elwha River meets the classification criteria for a Wild and Scenic River. As this upper segment of the river is totally within Olympic National Park, any recommendations for this segment shall rest with the National Park Service.

BOGACHIEL

GENERAL SETTING

The main stem of the Bogachiel is 46.7 miles in length, from its headwaters in the heart of the Olympics to its confluence with the Soleduck River where the Quillayute River begins.

Over half of the Bogachiel, 24.3 miles, is within the Olympic National Park. Although none of the Bogachiel River flows through the Olympic National Forest, about one-half mile of the river corridor is within the National Forest boundary. State of Washington Department of Natural Resources lands border the river on one side for 1.5 miles, and Washington State Parks for one-half mile on one side. For the remaining distance the river flows through (20.4 miles) or adjacent to (2.0 miles) private lands.

River mileage by landownership is summarized below. Acreage within the river corridor basically correlates river miles by ownership, except for the Olympic National Forest acreage.

Ownership	Miles	Acres
Olympic National Park	24.3	7780
Olympic National Forest	(0.5)	80
State of Washington DNR	1.5	240
State Parks	0.5	80
Private	20.4	6760
TOTAL	46.7	14940

The Bogachiel rises in the central Olympics, between Bogachiel Peak and Mt. Misery. Flowing westerly, the river quickly drops into the dense rain forest of the western Olympics. Stream reaches above the confluence of the main stem and North Fork (R.M. 33.7) are extremely steep with numerous cascades and waterfalls. Downstream from this point, the stream gradient becomes low to moderate as the river generally flows through a broad river valley.

The Bogachiel River system is one of the most productive anadromous fish rivers in the Region. Spring and fall chinook, coho, chum and pink salmon, as well as steelhead and sea-run cutthroat utilize the river.

Recreational use on and along the Bogachiel is predominantly linked to the fisheries in the form of drift fishing, fisherman camps, and hiking into the upper reaches of the river to fish. Hiking and camping along the Bogachiel, enroute to the high country, is a minor use of the river corridor.

Western hemlock, western redcedar and scattered hardwoods are major components of the forest within the Bogachiel Valley.

The Bogachiel is being evaluated at this time, as it was identified in the Nationwide Rivers Inventory.

ELIGIBILITY DETERMINATION - VALUES

Scenic - Old-growth rain forest, rugged mountains, snowfields, cascades, rapids and waterfalls. **Outstandingly remarkable.**

Recreational - Drift fishing, camping, hiking. **Above average.**

Geologic - Typical Olympic Mountains and river valleys. **Above average.**

Fish - Major anadromous stream system. Regionally significant. **Outstandingly remarkable.**

Wildlife - Elk, deer, bear. Bald eagle habitat. **Above average.**

Historical - Nothing of significance, especially in the context of National Forest land. **Average.**

Cultural - Lower reaches fished extensively by Indians. Greater use than the typical major rivers of area. Probable sites along the river. **Above average.**

ELIGIBILITY DETERMINATION - CLASSIFICATION

Water Resources Development - The Bogachiel River is entirely free of impoundments and diversions. Riprap and other bank stabilization have been used, on a limited basis, to protect improvements such as the Highway 101 bridge and Highway 101.

Shoreline Development - The upper 24.3 miles is essentially primitive with little evidence of human activity. Riverside hiker camps may be seen occasionally. Downstream from R.M. 22.4, the Olympic National Park boundary, to just upstream from the Highway 101 bridge (R.M. 15.6), there has been limited development along the shoreline. Evidence of timber harvesting can be seen on the slopes beyond the river. Fields and pastures are seen periodically.

A small development and the Bogachiel State Park are located in the vicinity of the Highway 101 bridge at R.M. 15.6. From the State Park to the mouth, the shoreline has few dwellings or structures. Evidence of past and ongoing timber harvesting is not readily apparent, due to the relatively flat topography and forested area along the river. A Washington State Department of Wildlife steelhead hatchery is located near R.M. 9.

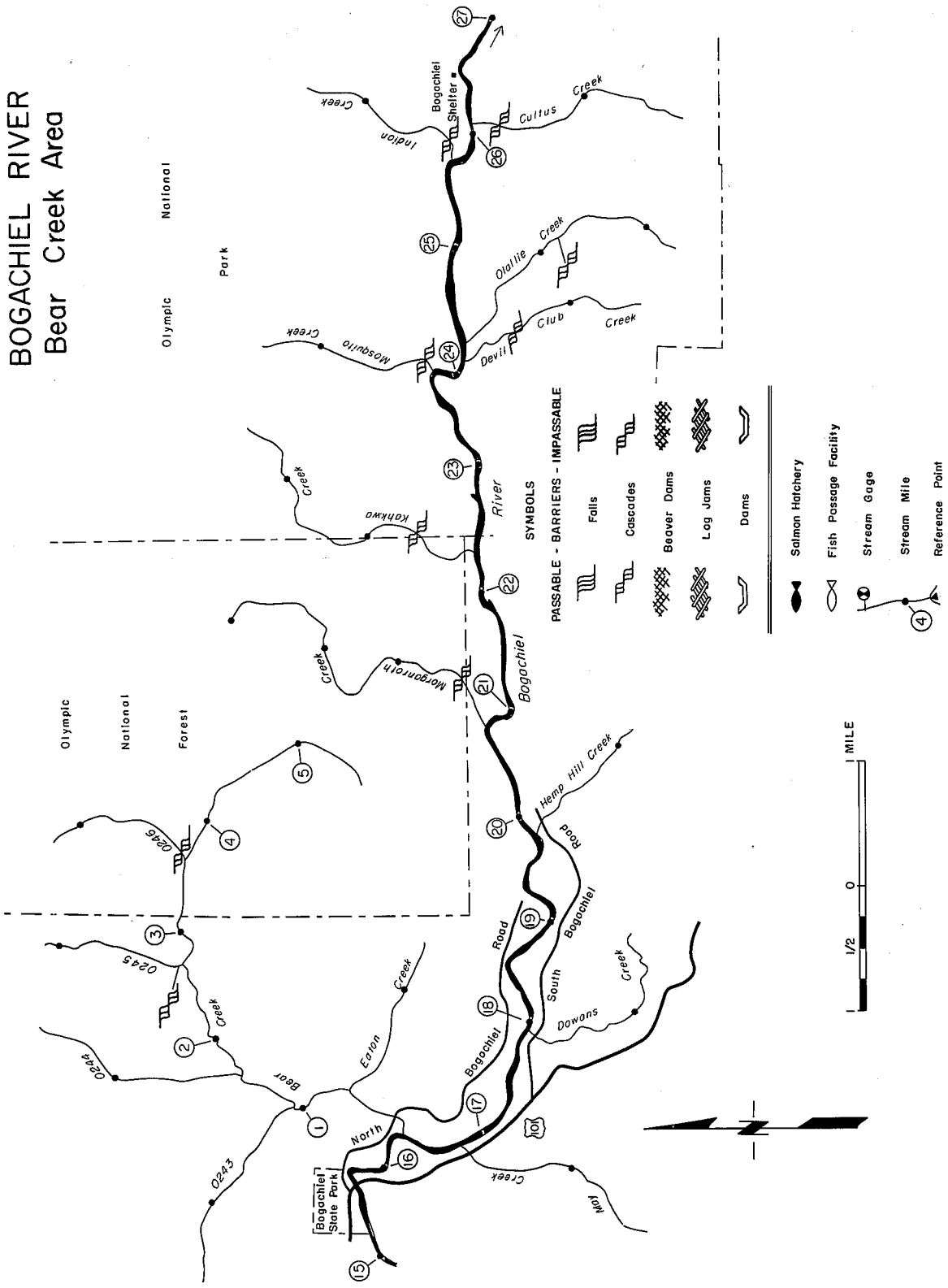
Accessibility - From its source to R.M. 33.8, the main stem of the Bogachiel is accessible only by cross-country travel. Downstream from the confluence of the North Fork and the main stem (R.M. 33.8), the Bogachiel trail is located along the north bank of the river to the trailhead near the Olympic National Park boundary (R.M. 22.4). From the Park boundary to Highway 101 (R.M. 22.4 to R.M. 15.6), there is a road immediately adjacent to, or near the river on each side of the river. Highway 101 follows the river on the north side to approximately R.M. 10.5. Easy access to the lower river (R.M. 10.5 to R.M. 0) is through a network of State, county, and private roads that approach or cross the river.

Water Quality - The Bogachiel and its North Fork meet Class AA **"extraordinary"** water standards. This meets Federal criteria for aesthetics, fish and wildlife propagation, and primary contact recreation (swimming).

Conclusion - The Bogachiel meets classification criteria for Wild and Scenic Rivers. It has an **"outstandingly remarkable"** fish value. This river system should be further evaluated for its suitability as an addition to the Wild and Scenic Rivers System.

Recommendations - The lead agency for this suitability analysis/study should be other than the Forest Service, which has less than one percent of the area within the river corridor. With just over 50 percent of the river corridor acres within Olympic National Park, the Park Service would appear to be the logical lead agency.

Interim management of National Forest lands within the Bogachiel corridor should meet, or exceed the criteria for the classification of Recreational River.


BOGACHIEL RIVER
Bear Creek Area
Olympic National Park
Olympic National Forest
Bogachiel River
Bogachiel Shelter
Indian Creek
Cultus Creek
Olallie Creek
Devil Club Creek
Mosquito Creek
Kohkwa Creek
Morgan Creek
Hemp Hill Creek
Road
South Bogachiel Road
Dowans Creek
Eaton Creek
Bear Creek
North Creek
Bogachiel State Park
0243
0244
0245
0246
SYMBOLS
PASSABLE - BARRIERS - IMPASSABLE
Falls
Cascades
Beaver Dams
Log Jams
Dams
Salmon Hatchery
Fish Passage Facility
Stream Gage
Stream Mile
Reference Point
1/2
0
1 MILE

HOH RIVER

GENERAL SETTING

Totalling slightly over 56 miles in length, the Hoh flows through 26.5 miles and along 1.5 miles of the Olympic National Park, and borders Olympic National Forest lands for 2.0 miles. The river also flows adjacent to 1.5 miles of Hoh Indian Reservation lands, through or adjacent to 3.0 miles of Washington State DNR lands and through nearly 24.0 miles of private lands.

Mileage, along with estimates of acreage by ownership, is summarized below. Acreage is based on a corridor one-quarter mile wide on each side of the river.

Ownership	Miles	Acres
Olympic National Park	27.2	8,700
Olympic National Forest	1.0	320
Hoh Indian Reservation	0.8	250
State of Washington DNR	3.0	960
Private	24.0	7,690
Other State and Count	0.1	30
TOTAL	56.1	17,950

Located on the west side of the Olympic Peninsula, the Hoh River is known world wide for its rain forest and regionally for its fisheries resource. Rising from Hoh Glacier on Mt. Olympus and its other tributaries on the Bailey Range, the Hoh drops quickly into the densely timbered rain forest of the Hoh River Valley. Above Glacier Creek, R.M. 48.6, the stream gradient is steep, with numerous cascades constituting a barrier to upstream migration of fish. Below Glacier Creek the river gradient moderates and the stream valley broadens. Chinook and coho salmon reach as far upstream as Glacier Creek, while chum and pink salmon are found in the river below Mt.Tom Creek, R.M. 38. The natural instability of the river channel below Mt.Tom Creek is a major factor limiting spawning success in the river.

Recreational use in the Hoh Valley is associated with the rain forest (camping and hiking), or fishing. The Hoh River Trail is the primary access route for climbers on Mt. Olympus and adjacent peaks.

The giant trees and lush growth of vegetation drew early timber industry attention to the lower Hoh drainage.

The Hoh is being considered for Wild and Scenic River status as it is currently on the HCRS inventory, because of past legislative proposals and because of its characteristics.

ELIGIBILITY DETERMINATION - VALUES

Scenic - With its source on Mt. Olympus, vistas of numerous Olympic peaks, its internatioinally significant rain forest, glaciers and snowfields, waterfalls and cascades, and its meandering river course the river's scenic values are **Outstandingly remarkable.**

Recreational - Mountaineering, hiking, camping, day use, salmon viewing, drift boat fishing, national recreation destination. **Outstandingly remarkable.**

Geologic - Glaciers, major Olympic peaks, waterfalls, cascades and meandering river course. **Outstandingly remarkable.**

Fish - Four species of salmon, noted winter steelhead run, cutthroat trout. Over 48 miles of the Hoh River utilized by anadromous fish. **Outstandingly remarkable.**

Wildlife - Elk are the most notable wildlife in the Hoh River Valley. Deer, bear, eagles and numerous other game and nongame species also can be seen. **Average or slightly above average.**

Historical - The Hoh was one of the last river drainages to be settled and developed. One of the first settlers was Peter Huelsdonk, the lengendary "iron man of the Hoh." The Huelsdonk Ranch still exists along the Hoh River road. **Above Average.**

Cultural - Prior to white man's entry into the Hoh Valley, Indians camped along the river while they fished and hunted. Year-round residence was close to the mouth of the river. No sites have been discovered on adjacent National Forest land. **Average or somewhat above average.**

ELIGIBILITY DETERMINATION - CLASSIFICATION

Water Resources Development - The entire length of the Hoh River is free of impoundments, diversions or significant modification of the waterway.

Shoreline Development - From its source to near R.M. 36, there is little or no evidence of human activity. A few riverside hiker campsites may be seen.

Just below R.M. 36, the Park Service Hoh River recreation site is located along the north bank of the river. From there to just below R.M. 30, where the river leaves the National Park, there is little evidence of human activity except for a limited number of day-use sites adjacent to the Hoh River road. There is little, if any, evidence of past or ongoing timber harvesting. From the National Park boundary downstream to its mouth, there is significant evidence of human activity.

Evidence of past and present timber harvesting is nearly always visible. Rural homes and small acreage farms may be seen periodically. Six State Department of Natural Resources campgrounds are located along the river in this section, plus numerous informal sites.

Accessibility - From its headwaters downstream to the Park Service Hoh Visitor Center and campground, the access to the river is by trail only. From that point, near R.M. 36 to the Park boundary, the Hoh River road parallels the river along its north bank. While seen rather infrequently, it does provide easy access to the river. From the Park boundary to Willoughby Creek, R.M. 19.5, the Hoh River road continues to parallel the river with easy access to the river. Access from the south side of the river is over a series of private and State Department of Natural Resources roads, as is the north side from Willoughby Creek to U.S. Highway 101.

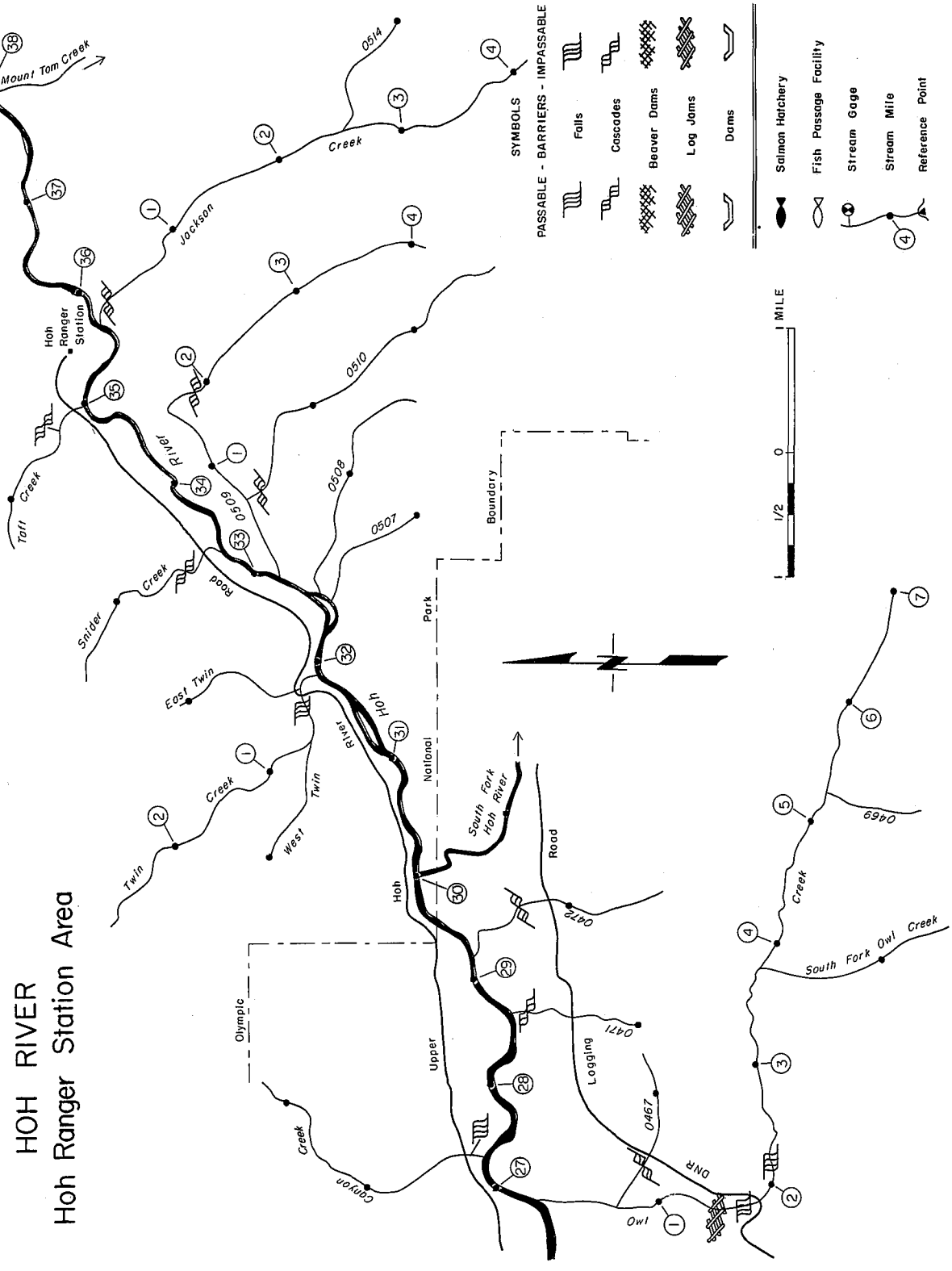
Downriver from the Highway 101 bridge to its mouth, the river is readily accessible from Highway 101 along the south bank, and the Oil City road along the north side.

Water Quality - Water quality meets State Class AA "extraordinary" water quality criteria for propagation of fish and wildlife and for primary contact recreation.

Conclusion - The Hoh River meets the classification criteria from source to mouth. Scenic, recreational, geologic, and fish values are **"outstandingly remarkable."** This river fully meets the criteria for eligibility as a Wild and Scenic River.

Recommendations - As the Forest Service has less than one percent of the river corridor acres, it would be inappropriate to take the lead agency role in a suitability analysis. The Park Service, with nearly 50 percent of the corridor acres, appears to be the logical lead agency.

During the interim, prior to a suitability analysis, the management of National Forest lands within the corridor should avoid or mitigate any adverse effects on the river or its immediate environment.


HOH RIVER
Hoh Ranger Station Area
SYMBOLS
PASSABLE - BARRIERS - IMPASSABLE
Falls
Cascades
Beaver Dams
Log Jams
Dams
Salmon Hatchery
Fish Passage Facility
Stream Gage
Stream Mile
Reference Point
1 MILE
0
1/2
Mount Tom Creek
Jackson
Creek
0514
Hoh Ranger Station
0510
0509
0508
0507
Tolt Creek
Snider
Creek
Road
East Twin
Creek
Twin
West
Twin
River
Hoh
Boundary
Park
National
South Fork Hoh River
Road
0472
Hoh
Olympic
Upper
Logging
0471
0467
DNR
Owl
Creek
Canyon
0469
Creek
South Fork Owl Creek

QUINAULT RIVER

In evaluating the Quinault River system, it has been considered as two separate, but linked systems. Quinault Lake and the lower river are within the Quinault Indian Reservation and access to, and use of this system is controlled by the Quinault Indian Nation. The upper river, from Quinault Lake to its source, flows through Olympic National Forest and Olympic National Park. This is the segment to be evaluated here.

GENERAL SETTING

Located on the west side of the Olympic Mountains, the Quinault River Valley is one of the three major rain forest valleys of the Olympic Peninsula. As defined by the Heritage Conservation Recreation Service, the Quinault River is entirely within the Olympic Mountain section of the Pacific border province.

Flowing out of the interior of the Olympics, the Quinault River is one of the major rivers on the Olympic Peninsula, with a length of slightly over 32 miles from its source to Quinault Lake. Over 23 miles of this length, source to R.M. 44.8, is within the Olympic National Park. From the Park Boundary at R.M. 44.8, to the point where it flows into Quinault Lake at R.M. 36.2, the river forms the boundary between Olympic National Park and Olympic National Forest with the north side; right bank within Olympic National Park and the south bank within Olympic National Forest. Intermingled private land is located along both sides throughout this section of the river.

Mileage and acreage by ownership is summarized below. The acreage is based on a corridor one-quarter mile wide on each side of the river.

Ownership	Miles	Acres
Olympic National Park - Both Riverbanks	23.7	7,580
Olympic National Park - One Riverbank	8.3	1,320
Olympic National Forest - One Riverbank	2.4	380
Private		
within National Park Boundary - One Bank	0.3	50
within National Forest Boundary - One Bank	6.2	990
TOTAL	32.3	10,320

Rising near Anderson Pass and Anderson Glacier, the Quinault River is one of the major rivers flowing out of the heart of the Olympics. Glaciers, open meadows, waterfalls, and mountain peaks dominate the view that surrounds the headwaters of the Quinault River. The stream gradient is very steep as the waters tumble and cascade down the valley. With the stream gradient moderating somewhat below Anderson Creek, the river becomes a mixture of rapids, cascades, riffles and pools. Near Fire Creek, R.M. 56, the river enters a deep canyon with numerous falls and cascades. This canyon extends to just above Graves Creek, R.M. 52.6. Few, if any salmon, pass through this canyon area. Steelhead do pass through the canyon and utilize the upper river to approximately O'Neil Creek.

Downstream from Graves Creek, the river makes the transition from a fixed channel to a meandering course, which becomes more accentuated as it approaches Quinault Lake. The vegetation along the river edge is dominated by alder, black cottonwood, and big leaf maple, rather than the nearly pure coniferous forest found in much of the upper reaches. Coho, chinook and sockeye salmon utilize this section of the Quinault, as well as its tributaries. Steelhead and sea-run cutthroat trout also utilize the river and its tributaries.

The Quinault Rain Forest and the Quinault River are Regional recreation destinations. Developed campgrounds and resorts around Quinault Lake provide a "home base" for many recreationists using the upper river. Graves Creek campground, at the end of the road, is a jump-off point for hikes into the Enchanted Valley and Anderson Pass.

ELIGIBILITY DETERMINATION - VALUES

Scenic - Major Olympic peaks, snowfields, glaciers, mountain meadows, expanses of pristine forests, hardwood river bottoms, cascading water. **Outstandingly remarkable.**

Recreational - Regional attraction, major recreation trail through the Olympics, river-associated use, limited white water canoeing and kayaking. **Above average.**

Geologic - Major Olympic Mountain peaks, glaciers, glaciated valleys, river canyons, cliffs and waterfalls. **Above average.**

Fish - Three species of salmon (including a unique sockeye population), steelhead, sea-run cutthroat trout. Significant reaches of the river and its tributaries utilized for spawning and rearing. **Outstandingly remarkable.**

Wildlife - Elk, deer, bear, mountain goats, cougar and many other game and nongame species are found along the river and its corridor. **Above average.**

Historical - From Lake Quinault to the North Fork, the river and river corridor was the route of the Press Expedition; also, it was traversed by the O'Neil party. Much of the privately owned land above Lake Quinault remains as testimony of the early pioneering and homesteading in this area. **Above average.**

Cultural - Quinault Lake and the Quinault River at least to the North Fork, was utilized extensively by Indians as a transportation route and for fishing. River-side camps were known to have existed, but the meandering course of the river has likely had negative impacts. Actual evidence of these sites have remained undiscovered. While the historical/cultural values of this river corridor may hold significance, less than 5% of the land is administered by the Forest Service. **Above average.**

Conclusion - Having two **"outstandingly remarkable"** values, scenic and fish, the Quinault River **does** qualify for eligibility as a Wild and Scenic River.

ELIGIBILITY DETERMINATION - CLASSIFICATION

Water Resources Development - There are no existing or proposed water resource development projects on the upper Quinault River.

Shoreline Development - From its source near Anderson Pass to Graves Creek, R.M. 52.6, there is little or no evidence of human activity except for the Chalet in the Enchanted Valley and the trail along the river. An occasional riverside hiker campsite may be seen.

Graves Creek Campground, in Olympic National Park, is located at R.M. 52.5. From that point to Cannings Creek, R.M. 46.1, the road accessing the upper Quinault Valley is adjacent to the south (left) bank of the river. At R.M. 46.1, a bridge spans the river connecting the North Fork and upper Quinault Valley roads. While the two roads roughly parallel the river from this point to Quinault Lake, they are generally out of sight from the river. Limited evidence of past and present timber harvesting can be seen downstream from the Park boundary, R.M. 44.8.

Rural homes, small acreage farms and an isolated gravel extraction site may be seen in the lower reaches of the river, R.M. 40-36.2. There are a few dispersed campsites along the river. The most notable is the cottonwood site near R.M. 44.5.

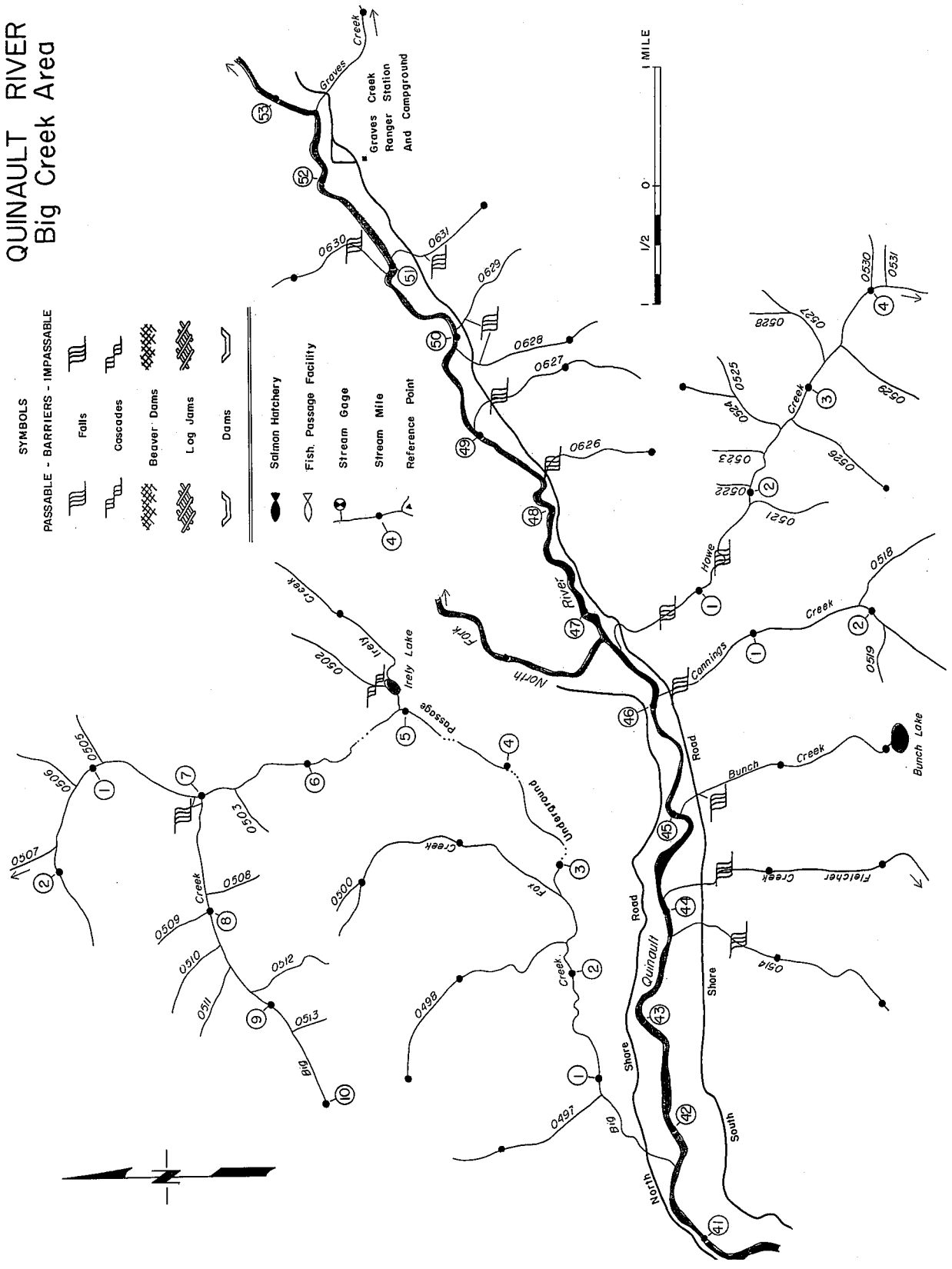
Accessibility - From its source downstream to Graves Creek Campground at R.M. 52.6, access is by trail only. From that point downstream to Cannings Creek, R.M. 46.1, the road along the south bank provides either direct or indirect access to the river. From R.M. 46.l to 36.2, there is abundant access from the main roads along each side of the river and short access roads leading to the river.

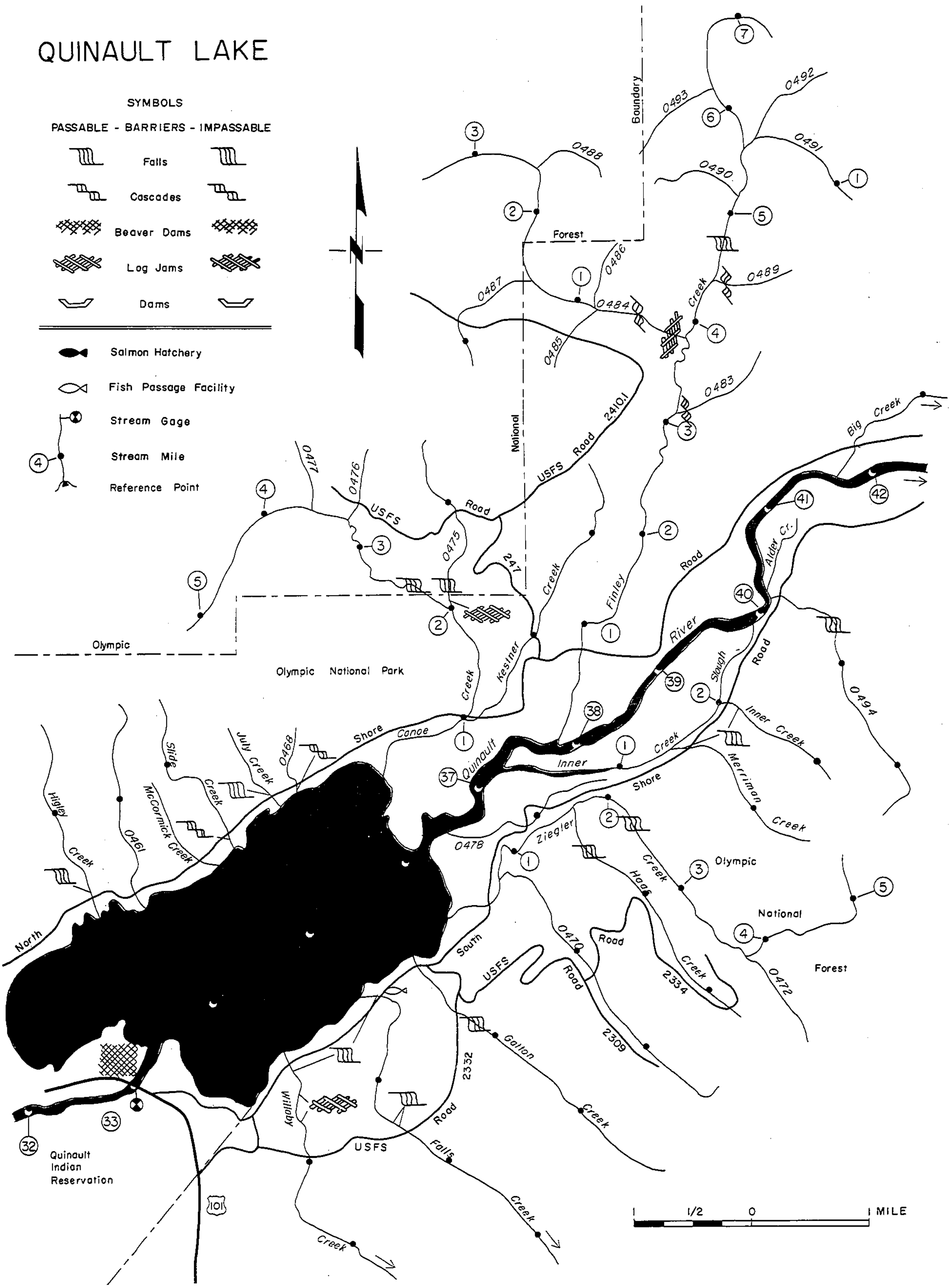
Water Quality - Water quality meets State Class AA, "extraordinary" water quality criteria for propagation of fish and wildlife and for primary contact recreation.

Conclusion - The Quinault River, from its source to Quinault Lake, meets the classification criteria for a Wild and Scenic River. Scenic and fish values are **"outstandingly remarkable"**. This river fully meets the criteria for eligibility as a Wild and Scenic River.

Recommendations - With slightly less than five percent of the river corridor acres administered by the Olympic National Forest and almost 85% of the area in the Olympic National Park, it is considered logical that the National Park Service should be the lead agency for any further evaluation and recommendation of Wild and Scenic River status for the Quinault River.

In the interim it is recommended that management of National Forest lands in the corridor should protect their qualities for inclusion in the Wild and Scenic Rivers system if so designated.


QUINAULT RIVER
Big Creek Area
SYMBOLS
PASSABLE - BARRIERS - IMPASSABLE
Falls
Cascades
Beaver Dams
Log Jams
Dams
Salmon Hatchery
Fish Passage Facility
Stream Gage
Stream Mile
Reference Point
Graves Creek Ranger Station And Campground
1 MILE
1/2
0
Graves Creek
North Fork Quinault River
Howe Creek
Cummings Creek
Irely Lake
Irely Creek
Passage Creek
Underground Creek
Fox Creek
Big Creek
Bunch Creek
Bunch Lake
Fletcher Creek
Quinault Road
North Shore Road
South Shore Road


QUINAULT LAKE
SYMBOLS
PASSABLE - BARRIERS - IMPASSABLE
Falls
Cascades
Beaver Dams
Log Jams
Dams
Salmon Hatchery
Fish Passage Facility
Stream Gage
Stream Mile
Reference Point
Boundary
Forest
National
Olympic
Olympic National Park
USFS Road 2410.1
USFS Road
Road 247
Big Creek
Alder Cr.
Finley Creek
Kestner Creek
Canoe Creek
Quinault River
Inner Creek
Slough
Inner Creek
Merriman Creek
Shore
North Shore Road
South Shore Road
Ziegler Creek
Hoas Creek
USFS Road 2334
Road 2309
0470
0472
0478
0461
0468
0475
0476
0477
0483
0484
0485
0486
0487
0488
0489
0490
0491
0492
0493
0494
Higley Creek
McCormick Creek
Slide Creek
July Creek
Gallon Creek
Willaby Creek
Falls Creek
Creek
2332 Road
USFS
Olympic National Forest
Quinault Indian Reservation
101
1/2 0 1 MILE

ELIGIBLE RIVERS, NATIONAL FOREST

DOSEWALLIPS

GENERAL SETTING

The main stem of the Dosewallips River originates in the high lakes and meadow country near Mt. Claywood and Sentinel Peak. Flowing easterly from there, the Dosewallips River drops nearly 6,000 feet in its 28.3 miles to Hood Canal. Slightly over half of this distance, 14.3 miles, is within Olympic National Park. Of the remaining 14 miles, 8 are within Olympic National Forest, with the last 5.9 miles flowing through a number of private ownerships before it reaches Hood Canal, near the community of Brinnon. Near its mouth, the river forms the north boundary of the Dosewallips State Park, except for the final 0.3 miles which is State Park on both sides of the river.

Acreage and mileage by ownership are summarized below. Acreage is based on a one-quarter mile corridor each side of the river on a Forest Plan map. The National Forest acreage was extracted from the map data base.

Ownership	Miles	Acres
Olympic National Park	14.3	4,580
Olympic National Forest	7.2	2,300
Private		
within National Forest	0.9	290
outside National Forest		
one side of river	(0.5)	80
both sides of river	5.1	1,630
State Parks		
both sides of river	.3	100
one side of river	(.5)	80
TOTAL	28.3	9,060

The Dosewallips is similar to a number of the rivers flowing into Hood Canal off the east flank of the Olympic Mountains. It rises from small lakes at, or above timberline. Stream gradients are very steep, sometimes precipitous. In the upper reaches, the valley is very narrow with many ravines and short canyons. The valley begins to broaden a little below the confluence of the West Fork (R.M. 17.6). Once below timberline, the side slopes are densely forested with western hemlock, Pacific silver fir, Douglas-fir, and western redcedar. The Dosewallips is recognized regionally for its fisheries, with anadromous fish utilizing the lower 14 miles. Chinook, coho, chum and pink salmon inhabit this segment. The entire section is accessible to chinook and coho, while pink salmon use areas downstream from a series of cascades at R.M. 11.5. Chum salmon spawn in the lower 4.5 miles.

Recreationists throughout the Puget Sound basin come to the Dosewallips for fishing, hiking and camping. Dosewallips campground in Olympic National Park is a major trailhead accessing the interior of the Olympics.

The Dosewallips is being evaluated as a potential addition to the Wild and Scenic Rivers System because of its inherent qualities, the identification through the HCRS inventory, previous legislation, and the identification as an issue early in the planning process.

ELIGIBILITY DETERMINATION - VALUES

Scenic - Mountain meadows, lakes, snowfields, mountain peaks, tumbling water, river canyons, dense forests. **Outstandingly remarkable.**

Recreational - Hiking, camping, mountaineering, day use. **Above average.**

Geologic - Mountain peaks, cliffs, river canyons. **Above average.**

Fish. Four salmon species, steelhead and cutthroat trout. Very high adult production. Regionally significant. **Outstandingly remarkable.**

Wildlife - Deer, elk, bear, eagles. Typical of Olympic drainages. **Above average.**

Historical - Early trail through to west side of Olympics and Quinault River via Anderson Pass. Railroad logging in lower valley. Also some mining activity at Bull Elk Creek. **Above average.**

Cultural. Likely use by prehistoric people, especially near the river mouth. No known sites on river or within corridor. **Average.**

ELIGIBILITY DETERMINATION - CLASSIFICATION

Water Resources Development - The entire length of the Dosewallips is currently free of impoundments.

Shoreline Development - From its point of origin to near R.M. 15.8, the river corridor is free of any evidence of human activity. Exceptions to this are the Dosewallips trail which parallels the river, and an occasional campsite adjacent to the river.

The end of the Dosewallips road and Dosewallips Campground occur at R.M. 15.7. From this point downstream to the National Forest boundary at R.M. 5.9, the Dosewallips road is located along the north bank of the river and is frequently seen from the river. Elkhorn Campground (R.M. 12) and a number of dispersed use areas, accessible by short access roads, can be seen from the river. Little evidence of timber harvesting activities can be seen within this section of the river.

Downstream from the National Forest boundary, the level of activities and shoreline development increases significantly. Housing seen from the river is similar to that in a rural setting typical of tracts from one to five acres or larger. This changes to the density of a small unincorporated community in the vicinity of Highway 101 and the community of Brinnon. Evidence of timber harvesting is seen in the background and occasionally in the foreground.

Accessibility - Upstream from Dosewallips Campground, R.M. 15.7, access to the Dosewallips River is by trail. Downstream from Dosewallips Campground to Elkhorn Campground, R.M. 12.0, the road parallels the river on the north bank but does not provide ready access due to topography and its position on the slope. From R.M. 12 to R.M. 5.9, the topography is much more gentle. The road continues to parallel the river along the north bank providing numerous access points directly to the river. Additional access is provided by secondary roads; one which bridges the river at R.M. 11.5, a bridge at R.M. 6.7, and a road

up slope of the south side of the river from R.M. 6.7 to R.M. 9.0. User-developed roads and logging spur roads from past salvage logging and thinning activities, provide additional access to the river. From R.M. 5.9 to its mouth, the Dosewallips road is somewhat distant from the river with access existing, but often closed to the general public by the individual landowners. Access within 0.8 mile of Hood Canal is available from Dosewallips State Park.

Water Quality - Water quality is classified AA, "extraordinary" for the entire river.

Conclusion - The Dosewallips River meets the classification criteria over its entire length and has two **"outstandingly remarkable"** values; scenic and fish. The determination of suitability should proceed.

GENERAL DESCRIPTION OF RESOURCES

The Dosewallips River originates in the Sentinel Peak-Mount Claywood vicinity of the Olympic interior. Principal upstream tributaries include Deception and Silt Creeks, and the West Fork Dosewallips River. The only major tributary in the lower reach is Rocky Brook, which has a steep gradient and a spectacular waterfall at R.M. 0.3.

Over the upper 11 miles, the Dosewallips cuts through a very narrow, steep-sloped valley with many ravines and short canyons. The terrain of the lower 12 miles ranges from precipitous slopes and canyons to a short, alluvial valley before it flows into Hood Canal. A very steep one-half mile section, basically a cascade, is located from R.M. 11.1 to 11.6.

In the upper 25 miles, the river has an average fall of 230 feet per mile. In the lower five miles, the Dosewallips River flows through lowlands that are subject to flooding with a gradient of three feet per mile.

Vegetation in the headwaters and upper reaches is typical of the Olympic high country, consisting of meadows with clumps of subalpine fir. As the river descends, it passes through the Pacific silver fir zone and finally into the western hemlock zone. Hardwoods, such as red alder and big leaf maple are common, especially in the lower reaches. Understory vegetation ranges from lush herb-dominated meadows to vine maple, and salmonberry in the lower reaches.

The lower reach of the Dosewallips, outside the National Forest is accessed by U.S. Highway 101 and a county road that parallels the north (left) bank. Forest Service 2610 continues along the north (left) bank up to Olympic National Park. Finally, the road continues in the Park for about 1.5 miles to its end at the Park Ranger Station. A trail follows the north (left) side of the Dosewallips River in the Park, from the Ranger Station up to Dose Meadows.

Brinnon is located just north of the river near its mouth. It is a small, timber products orientated community which recently has drawn some retirees and recreation-oriented people. 3/

Located about 60 miles from Seattle and approximately 90 miles from Tacoma, the Dosewallips River is within a two to three-hour drive from the State's largest metropolitan areas. Three other major cities are also within a two-hour drive: Olympia (60 miles), Bremerton (70 miles), and Port Angeles (60 miles).

Hiking, fishing, picnicking and camping are the primary uses. Gathering oysters and clams is a popular sport near the Dosewallips' mouth along Hood Canal.

3/ Adelman 1980.

The upper reaches, R.M. 14 to 28.3, lie within Olympic National Park. Management goals in the Park seek to maintain the natural ecosystem.

The middle reaches, R.M. 5.9 to 14, are managed by Olympic National Forest. The Brothers Wilderness boundary is along the south bank of the Dosewallips from R.M. 14.0 to the bridge downstream from Elkhorn Campground, R.M. 11.6, and again between about R.M. 10 and 11. Between R.M. 13.5 and 14, the Wilderness boundary is 200 feet south of the river to allow for the Dosewallips hydropower project. A few commercial thinnings have taken place within the river corridor. These thinnings meet the requirements for Scenic River corridor management.

Lands downstream from the Forest boundary to its mouth is owned predominantly by private individuals, with the exception of the portion in Dosewallips State Park. Houses are generally not seen from the river.

Water - Water quality in the Dosewallips River is presently classified AA, "extraordinary," by the State Water Pollution Control Commission. Except during heavy rains, the water is extremely clear. In the summer, snowmelt and glacial flour create a slightly milky gray-green color.

Water temperature is cool (actually cold) year round, thus restricting primary contact use by visitors.

The average annual discharge, measured at R.M. 0.4, is 475 cfs. The total drainage area above the gauging station is 116 square miles.

Two peak flow periods occur on the Dosewallips River; one from winter precipitation and the other, which is higher, from snowmelt and spring rains. Minimum flows generally occur in August and September. The maximum flow recorded on the Dosewallips was 13,200 cfs on November 26, 1949. Typical high flows are generally around 4,000 cfs. 4/.

The State Department of Ecology has allocated about six cfs of the Dosewallips River for use by the National Forest Elkhorn Campground (.6 cfs), private backyard fish production (5 cfs), and minor domestic use (.4 cfs). In addition, 40 cfs are allocated to a power project constructed on Rocky Brook.

The National Forest portion of the river is estimated to have a hydropower production potential of 406 Gigawatts per year at the 30% exceedance level.

The steep gradient of the Dosewallips River contributes to this hydroelectric potential. Jefferson County PUD #1 has filed a license application for the Dosewallips project located between R.M. 13.5 and 14. This area was specifically placed outside the Brothers Wilderness by the Washington Wilderness Act. This project, named Elkhorn, could produce 13.3 MW (megawatts) through a run-of-the-river type system. The Federal Energy Regulatory Commission (FERC) has put a "hold" on the license application until after the release of the Forest Plan.

Fish and Wildlife - Chinook, chum, coho and pink salmon utilize the Dosewallips River. While all species do utilize the reach between the cascades at R.M. 11.1 - 11.6 to R.M. 14.0, the predominate users of this upper reach is chinook and
coho. Pink salmon use areas downstream from the cascades at R.M. 11.1, with

4/ Pacific Northwest River Basins Commission, 1971.

heaviest spawning in the lower 3.5 miles. While chum salmon may be found up to R.M. 14, they are found, and spawn, predominately in the first 4.5 miles of the river.

The chinook runs occur in late summer or early fall. Two distinct chum salmon runs occur in the river; one extremely early (September) and the other very late (late December-early January). Salmon do not use the upper portion of the Dosewallips above R.M. 14.0 due to the very steep cascades and falls at that point. The Dosewallips is considered a good steelhead stream. There is also a good anadromous cutthroat trout population in the river. Both species inhabit the lower reaches below the cascades.

Based on the existing anadromous fish habitat, the Dosewallips River has the potential to produce annually, approximately 152,000 adult fish. About 39 percent of this habitat capability is on the eight river miles within the National Forest boundary. The following table summarizes the estimated annual production in the Dosewallips. The fisheries in the Dosewallips River have regional significance.

Table F-3. Estimated Annual Habitat Production Capabilities for Anadromous Salmonids

Species	Landownership	Spawning Population	Smolt Production	Total Adult Production
Chinook	NF	140	19,600	840
	Other	220	30,660	1,310
	TOTAL	360	50,260	2,150
Coho	NF	610	30,500	4,940
	Other	950	47,710	7,730
	TOTAL	1,560	78,210	12,670
Chum	NF	1,740	391,500	5,090
	Other	2,720	612,350	7,960
	TOTAL	4,460	1,003,850	13,050
Pink 1/	NF	16,960	2,035,200	44,770
	Other	26,530	3,183,260	70,020
	TOTAL	43,490	5,218,460	114,790
Steelhead	NF	1,270	21,680	1,890
	Other	1,990	33,910	2,960
	TOTAL	3,260	55,590	4,850
Cutthroat	NF	1,270	21,680	1,890
	Other	1,990	33,910	2,960
	TOTAL	3,260	55,590	4,850
All	NF	21,990	2,520,160	59,420
	Other	34,400	3,941,800	92,940
	TOTAL	56,390	6,461,960	152,360

1/ Olympic Peninsula pink salmon spawn only during odd years, and, as such, the annual estimates shown are odd year numbers divided by two.

Generally, wildlife species common in the eastern Olympics would utilize the Dosewallips River corridor. Common large mammal species include black-tailed deer, Roosevelt elk, black bear, cougar, coyote and bobcats. Smaller mammals include raccoon, mink, river otter, beaver, mountain beaver, rabbit, skunk and marmot.

The river bottom, below 1,500 feet elevation, provides winter range for deer and elk.

With the exception of the northern bald eagle, no threatened wildlife species are known to inhabit the river corridor.

Riparian habitat is generally in a natural condition, with the exceptions of the thinnings on the National Forest, and the private development along the lower reaches.

Recreation - Three developed recreation sites occur along the Dosewallips River. These are Dosewallips State Park near the mouth, Elkhorn Campground near R.M. 12 and the Dosewallips Campground near R.M. 16. Day use and overnight camping are permitted in all three facilities.

The information on these sites is summarized in Table F-4.

Table F-4. Developed Recreation Sites

National Forest Sites					
Site	ROS Class	Capacity PAOT	Managed Season Days	1988 Use RVD's	Projected Capacity PAOT
Elkhorn	Semi-Primitive Motorized	100	110	12,200	175
Other Agency Sites					
Site	Managing Agency	Acres	Camping Units	Managed Season Days	1988 Use Visits
Dosewallips	State Parks	424	127	N/A	40,500
Dosewallips	O.N.P.	17	33	N/A	5,610

Elkhorn Campground (O.N.F.) is planned for expansion as use increases and when funding is available. A new campground, Lower Dosewallips, is programmed for the latter part of the planning period. The river and river use will be the "theme" of the site. If "designated" as a Wild and Scenic River, additional public access to the river in the vicinity of R.M. 3.6 would be desirable.

Major activities at these sites include picnicking, fishing, hiking, and camping. Opportunities for rafting or other forms of river floating are very limited due to the river's steep gradient and cascades.

The Dosewallips trail begins at the Dosewallips Campground and follows the north (left) side of the river to Dose Meadows. Approximately 2,600 people enter the trail from the trailhead near the campground. An Olympic National Park seasonal ranger station is open during the summer near the campground.

A distinctive value along the Dosewallips, particularly on the Forest and especially in the Park, is its scenery. Mount Claywood, Mt. Fromme and Lost Peak exemplify the rugged Olympic high country with snowfields,

rocky peaks and lush meadows. The cascades and pools midst the old-growth in the middle reaches, are also of scenic value. Opportunities for risk and solitude abound. Dispersed recreational use is common along the river for hiking, fishing and solitude. Use within the National Forest segments of the river corridor has been estimated and is shown in Table F-5.

Table F-5. Recreational Activities (Estimated Recreational Use - RVDs and Trends)

	1988	2000
National Forest Developed Sites	12,200	14,200
Undeveloped Recreation	41,500	47,400
Boating (flatwater, whitewater)	Light	Light
Water Play (swim, wade)	Light	Moderate
Fishing	Moderate	High
Hunting	Moderate	Moderate
Camping	Moderate	High
Hiking	Moderate	High
Picnicking	Light	Moderate
Viewing Scenery	Moderate	Moderate
TOTAL	53,700	61,600

Historical/Cultural - Prehistoric use is well documented for the areas near the mouth of the Dosewallips River. A National Register Site is located at nearby Seal Rock. Inland use of the Dosewallips River no doubt occurred, but to this day, no evidence has been found.

Documented evidence and in some cases remains of old homesteads, trappers' or miners' cabins, old railroad logging, and an old guard station occur in the river corridor. None of the sites are considered significant.

Minerals/Energy - No significant mining has occurred within the Dosewallips River corridor. The "Bull Elk" mining claim which was patented lies just north of the river corridor between Bull Elk and Miners Creek. Manganese was the principal mineralization. Little, if any, ore was removed on a commercial basis. National Forest lands are open to mineral exploration and leasing, except for the area within the

Wilderness and in administrative sites. The Olympic's potential for mineral, oil or gas deposits is low. It is unlikely any significant mineral or energy deposits occur in the river corridor.

Timber - The following tables summarize acreage allocation and the tentatively suitable acres' characteristics.

Table F-6. Summary of National Forest Acres

Wilderness	550
Unsuitable	177
Tentatively Suitable	1,573
TOTAL	2,300

5/ Adelman 1980.

Table F-7. Tentatively Suitable Acres by Age Class and Site

Site/Productivity	BG Bare Ground (0.1"-2.9" DBH)	SS Seedling-Sapling (3"-4.9" DBH)	PL Poles (5"-8.9" DBH)	MS Small Saw Timber (9"-20.9" DBH)	LS Large Saw Timber (21+" DBH)
High				83	
Medium		121	86	751	514
Low				12	
Low, Natural			6		
TOTAL		121	92	846	514

Table F-8. Tentatively Suitable Standing Volume by Site and Age Class

	Large Sawtimber				Small Sawtimber				Young Stands			
Site/ Productivity	Acres	MCF/ Acre	MCF	MBF	Acres	MCF/ Acre	MCF	MBF	Acres	MCF/ Acre	MCF	MBF
High					83	6.09	505	2,197				
Medium	514	8.98	4,616	20,080	751	6.09	4,574	19,897	86	3.09	266	1,157
Low					12	6.09	73	318	6	3.84	23	88
TOTAL	514		4,616	20,080	846		5,152	22,412	92		289	1,245

Summary: 10,057 MCF or 10.1 MMCF
43,737 MBF or 43.7 MMBF

Table F-9. Tentatively Suitable Land Potential Yield by Site and Elevation

	<1,500' Elevation (Winter Range)				>1,500' Elevation (Summer Range)			
Site/ Productivity	CF/Acre/ Year	Acres	MCF/Year	MBF/Year	CF/Acre/ Year	Acres	MCF/Year	MBF/Year
High	176.88	83	14.68	63.86				
Medium	130.74	1,466	191.66	833.72	121.24	6	.73	3.18
Low	74.56	12	.89	3.87				
Low, Natural					39.75	6	.24	1.04
TOTAL		1,561	207.23	901.45		12	.97	4.22

Summary: 208.20 MCF/Year
905.67 MBF/Year

There are no significant insect or disease problems within the corridor, based on the 1987 Insect and Disease Survey. Potential for a significant outbreak is low.

Early logging in the East Fork Drainage (about 1909), utilized splash dams to assist in transporting logs down the East Fork and Humptulips River. Little evidence remains of these structures. 20/

Transportation - Access to the Dosewallips River corridor is via county road, National Forest Road 2610 and a short stretch of National Park road. The county road is a narrow two-lane road. The National Forest Road 2610 is a gravel, single-lane road with turnouts. The latter portion of the Forest road and the Park road is a very narrow, gravel road with limited turnouts. The majority of use on these roads is recreation oriented with some logging traffic interspersed at times.

NON-FEDERAL LANDOWNERSHIP AND USES

The first 5.9 miles of the Dosewallips is outside of the National Forest. Approximately 90% of this is in private ownership. Acreages by ownership varies from individual lots to large tracts. Residential development has had little impact on the river. The existing and projected landownership and use pattern is consistent with the classification of Recreational River. Acquisition of the privately owned timber lands within the National Forest would be desirable.

FUNDING NEEDS IF DESIGNATED AS A WILD AND SCENIC RIVER (NATIONAL FOREST SEGMENTS ONLY)

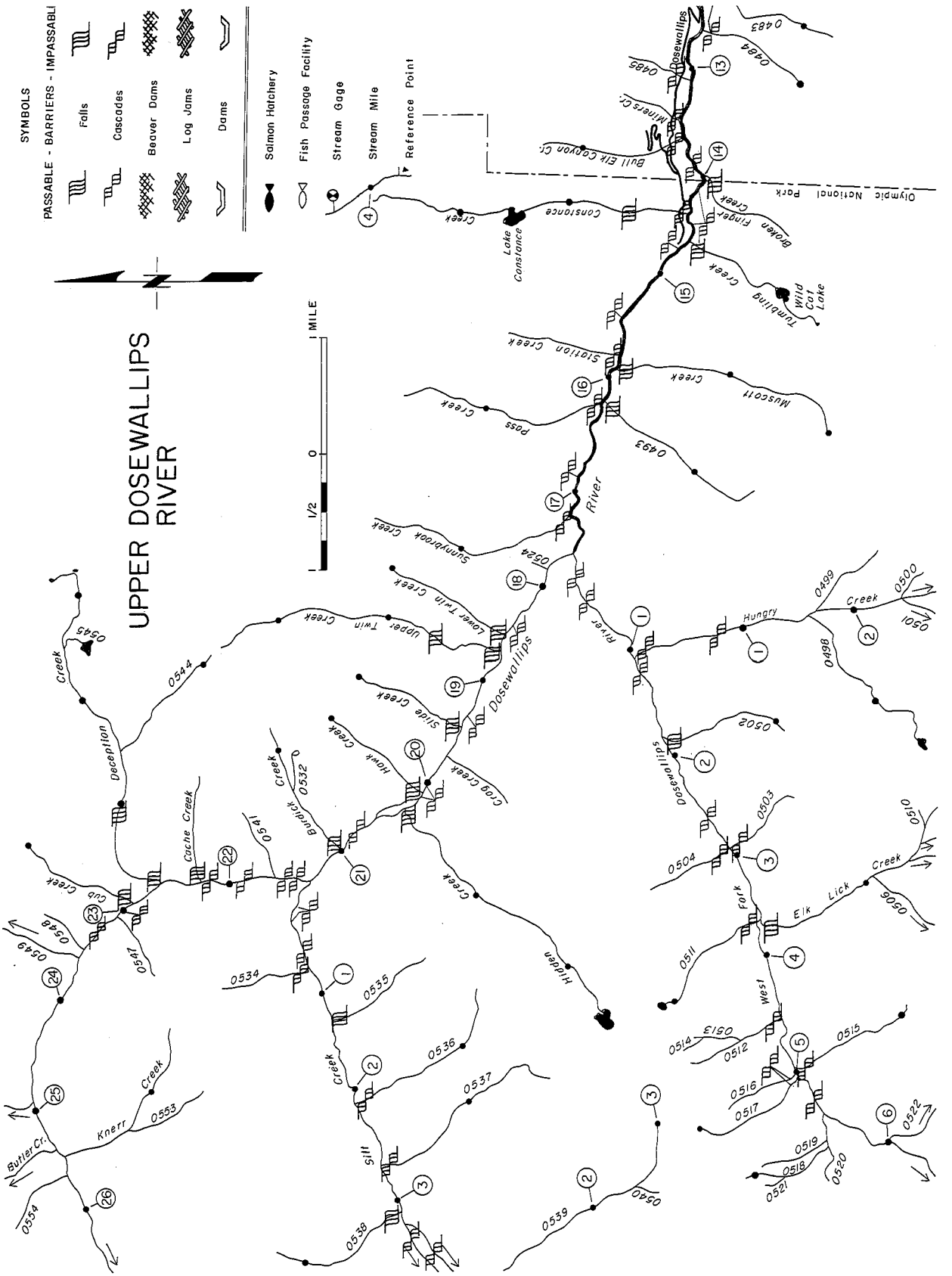
The following are expected funding needs for the Dosewallips for the first five years following a designation as a Wild and Scenic River:

Table F-10. Estimated Cost of Management if Designated as a Wild and Scenic River

Annual Costs	General Administration Operation and Maintenance	$17,600 72,800
	TOTAL	$90,400
Non-Recurring Costs	Cost of implementation 1/ Preparation of Management Plan Acquisition and development costs	$15,000 31,000 87,000
	TOTAL	$133,000
	TOTAL COST--FIRST FIVE YEARS	$223,400

1/Costs primarily in years 1 and 2.

The projected annual general administration, and operation and maintenance cost would continue at an estimated $7,800 per year.


UPPER DOSEWALLIPS RIVER
SYMBOLS
PASSABLE - BARRIERS - IMPASSABLE
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Cascades
Beaver Dams
Log Jams
Dams
Salmon Hatchery
Fish Passage Facility
Stream Gage
Stream Mile
Reference Point
1 MILE
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Olympic National Park
Dosewallips
Lake Constance
Wild Cat Lake
Broken Finger Creek
Bull Elk Canyon Cr.
Miners Cr.
Tumbling Creek
Station Creek
Muscott Creek
Pass Creek
Sunnybrook Creek
Lower Twin Creek
Upper Twin Creek
Deception Creek
Cache Creek
Cub Creek
Butler Cr.
Knerr Creek
Slide Creek
Howk Creek
Crag Creek
Burnbrook Creek
Hungry Creek
Elk Lick Creek
West Fork Dosewallips River
Hidden Creek
Mills Creek
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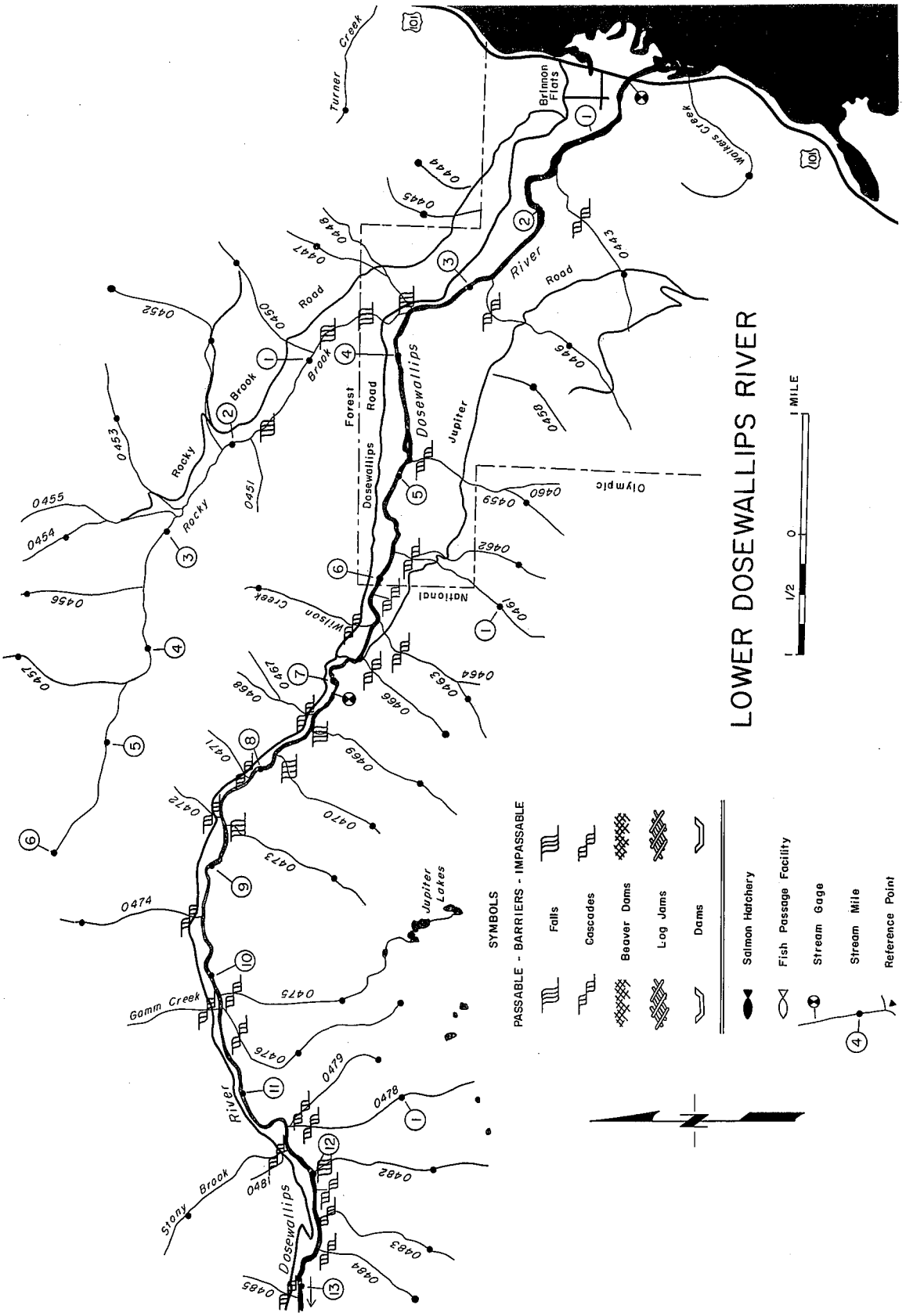
LOWER DOSEWALLIPS RIVER
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SYMBOLS
PASSABLE - BARRIERS - IMPASSABLE
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Cascades
Beaver Dams
Log Jams
Dams
Salmon Hatchery
Fish Passage Facility
Stream Gage
Stream Mile
Reference Point
Turner Creek
Brinnon Flats
Wolkers Creek
Dosewallips River Road
Forest Road
Dosewallips
Jupiter
Olympic
National
Rocky Brook
Wilson Creek
Jupiter Lakes
Gamm Creek
Stony Brook
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DUCKABUSH RIVER

GENERAL SETTING

From the point of its origin near O'Neil Pass and Hart Lake, the Duckabush River flows easterly for 24.1 river miles to Hood Canal. Of this distance, slightly over one-half, or 12.5 miles, is within Olympic National Park. Of the remaining mileage, 9.4 miles is within Olympic National Forest. The lower 2.2 miles flows through private land outside of the Forest boundary.

Mileage and acreage by ownership is summarized below. Acreage is based on a corridor one-quarter mile each side of the river on a Forest Plan map base. The National Forest acreage was extracted from the map data base.

Ownership	Miles	Acres
Olympic National Park	12.5	4,000
Olympic National Forest	7.8	2,500
State of Washington, DNR		
within National Forest boundary	0.2	60
outside National Forest boundary	0.1	30
Private		
within National Forest boundary	1.4	450
outside National Forest boundary	2.1	670
TOTAL	24.1	7,710

The Duckabush River is one of a series of rivers which rises on the eastern flank of the Olympic Mountains and flows easterly to Hood Canal within the Puget Sound Basin. Most of the land that the river flows through is heavily forested, with significant evidence of human activity being evident only in the lowerreaches. The river gradient is steep with numerous cascades. Water quality is excellent. The Duckabush is known regionally for its fisheries, especially in the lower reaches. Recreationists throughout the southern Puget Sound Basin come to the Duckabush drainage for the camping and hiking opportunities.

The Duckabush is being evaluated as a potential addition to the Wild and Scenic Rivers System because of its inherent qualities, the identification as an issue early in the planning process, and its listing on the Nationwide Rivers Inventory.

ELIGIBILITY DETERMINATION - VALUES

Scenic - Mountain meadows, snowfields, major Olympic peaks, waterfalls, cascading water, river gorges, old-growth forests. **Outstandingly remarkable.** This river was evaluated by Washington State Parks for inclusion in the State's Scenic Rivers system.

Recreational - Major access to interior of the Olympics, hiking, fishing, camping, day use, very limited rafting or canoeing due to hazards. **Above average.**

Geologic - Major Olympic peaks, numerous river gorges, extensive cliffs. **Outstandingly remarkable.**

Fish - Four species of salmon, steelhead, and sea-run cutthroat to R.M. 7.0. Regionally significant. **Outstandingly remarkable.**

Wildlife - Deer, elk; midsection of river wintering area for elk. Numerous smaller game and nongame species. **Above average.**

Historical - Considerable evidence of early railroad logging has been inventoried and evaluated. Interrorem Guard Station has been evaluated and is eligible for the National Register of Historic Places. **Above average.**

Cultural. Prehistoric use along Hood Canal is well documented. Inland use along the Duckabush no doubt occurred, but no sites have been discovered despite fairly intensive professional surveys. **Average.**

ELIGIBILITY DETERMINATION - CLASSIFICATION

Water Resource Development - The full length of the Duckabush is currently free of impoundments, diversions, or major channel modifications. A diversion of water had occurred in the past for a fish hatchery near river mile 2.3. This hatchery has been discontinued for more than 30 years. Diversions for the proposed development of Jupiter City was anticipated. However, this never occurred as planned.

A minor channel modification was made in the vicinity of "Ranger Hole," river mile 2.7, to improve fish passage.

Shoreline Development - From its source to river mile 7.2 there is little evidence of man's activity. The Duckabush Trail and trailside camps may be seen occasionally. Between Little Hump and Big Hump a trained eye may see evidence of logging railroad grades dating back to the 1920's and 1930's.

Downstream from Little Hump to the Forest boundary, Forest Road 2510 can be seen where it is adjacent to the river near Collins Campground, river mile 5.3. A few residences are located on private land within the National Forest and may be seen from the river. Evidence of past and current timber harvesting is not readily apparent, except for recent cutting on private land.

From the Forest boundary, river mile 2.2, to the the mouth, there is an increase in residential homes and adjacent buildings. Recent subdivision and home development has occurred in this segment. A major power transmission line crosses near river mile 1.0. Highway 101 crosses the river near its mouth. Evidence of timber harvesting is seen occasionally.

Accessibility - From its source to river mile 7.2, the river corridor is accessed only by trail. From Little Hump to the Forest boundary, R.M. 2.2, there is access from the Duckabush Road via a limited number of access roads leading towards the river. From the Forest boundary to the mouth, access becomes more common.

Water Quality - Water quality is "extraordinary," meeting State class and standards.

Conclusion - The Duckabush River and its adjacent corridor have three "outstandingly remarkable" values; scenic, fish, and geological. The entire river meets the classification criteria. The following sections provide more specific information on the Duckabush.

GENERAL DESCRIPTION OF RESOURCES

From its source at the base of Mt. Duckabush, the Duckabush River flows through a narrow river valley with extremely steep side slopes laced with cliffs, rock outcrops and ledges. Feeder streams tumble down the side slopes, cascading over ledges in their descent from the ridges that parallel the river. Elevations range from near 6,000 feet at its source, to sea level at its mouth. In its midsection near the National Forest-National Park boundary, the sidewalls of the valley rise to elevations more than 4,000 feet above the river. Only after flowing through the gorge at Little Hump, do the valley walls pull away, and the valley broaden. Within the Pacific border physiographic province, this approximates the transition from the Olympic Mountains section to the Puget trough section.

Open mountain meadows, clumps of subalpine fir, and huckleberry are typical within the headwaters of the Duckabush. Dropping rapidly in elevation, the river enters a Pacific silver fir-western hemlock forest. Vine maple and huckleberry are typical understory vegetation. In the middle and lower reaches, Douglas-fir, western hemlock and western redcedar are the predominant species. Cottonwood and red alder flourish along the river's edge and larger tributaries. Vine maple, salmonberry, and salal are typical understory vegetation. Devilsclub is often found in wet, marshy areas.

Forest Road 2510 roughly parallels the Duckabush River from Highway 101 to the trailhead on the east side of Little Hump. From that point to the head of the Duckabush River near O'Neil Pass, the Duckabush Trail closely follows the river except where it climbs over Little Hump and Big Hump. Public access to the river outside of the National Forest boundary, is somewhat limited due to private ownership of the lands adjacent to the river. Access is readily available from the Duckabush road up to the Little Hump area. Upstream from this point, the river and its corridor are accessed via the Duckabush Trail which parallels the river for 22.5 miles to O'Neil Pass.

Located 55 miles from Seattle and 86 miles from Tacoma, the Duckabush River is within a two-hour drive from either city. Olympia (54 miles), Bremerton (68 miles), and Port Angeles (64 miles) are also within a two-hour drive of the river.

Hiking, fishing, and camping are the primary uses within the Duckabush corridor. Deer and elk hunting are seasonal and secondary uses. There is very little floating of the Duckabush due to its steep gradient and numerous hazards.

The Canal Front Plan allocated the area between Little Hump and the National Park boundary as "Further Planning for Wilderness." 6/ In 1984, the Washington Wilderness Act included this within The Brothers Wilderness.

The existing developed recreation sites at Collins Campground and the Interrorem day-use site are reserved for developed recreation use.

The lands within Olympic National Park are, and will be managed for preservation of the ecosystem.

The State Department of Natural Resources and private lands downstream from the Forest boundary, are being managed primarily as timberlands. Residential housing on small acreages are scattered along the lower river.

6/ USDA Forest Service 1979

Water - Based on a long-term record (over 40 years), the average annual discharge as measured at the U.S. Geological Survey (USGS) gauging station at R.M. 4.5, is 300, 700 acre-feet per year, or 415 cubic feet per second (cfs). 7/ The drainage area above the gauging station is 66.5 square miles.

The Duckabush has two distinct periods of high flows. The maximum flows are often associated with early snows followed by warm "chinook" rains. The second high flow is associated with the spring snowmelt. The maximum flow recorded on the Duckabush occurred on November 26, 1949, with a flow of 8,960 cfs. This has been classed as a 50-year flood. Low flows occur in late summer or early fall with a direct relationship to the "drought period." The lowest recorded flow at the USGS gauging station was 45 CFS on October 28, 1942.

While these represent the extremes, the typical high flow is in the 5,000-6,000 cfs range. Low flows of less than 100 cfs are experienced nearly every year.

There are limited uses of the Duckabush at this time. In an alternate basin plan (Pacific Northwest River Basins Commission, Appendix VI 1970), the Duckabush River has been identified as a potential source of water for the City of Bremerton. While this proposal has surfaced periodically, there is little evidence that it may become a reality. If this should occur, it would require an allocation of 150 cfs. The current allocations/applications are as follows: 8/

Domestic Use/Single	0.01 cfs - Allocation
Domestic Use/Municipal	100.00 cfs - Application
Commercial/Industrial	100.00 cfs - Application
TOTAL	200.01 cfs

Typical of the rivers flowing down the east flank of the Olympics, the steep gradient of the Duckabush contributes to its potential for hydropower development. The hydropower potential of the National Forest portion of the river is estimated to be 240.4 Gigawatts per year at the 30% exceedance level. Power sites near R.M. 4.5, 8.0, and 10.0 were identified by the USGS. 9/ Recent proposals by Mason County Public Utility District (PUD) #1, evaluated a number of alternatives for a hydropower project in the vicinity of Little Hump and Big Hump. Alternatives varied from one high dam to two run-of-the-river projects. These proposals were dropped following passage of the Washington Wilderness Bill which included, within The Brothers Wilderness, those National Forest lands upstream from Little Hump (approximately R.M. 7.2). At this time, there are no projects being proposed on the Duckabush River.

Water quality in the Duckabush is "extraordinary" (State Class AA) throughout its length. Normally, the waters are so clear that the river bottom can be seen except in the deepest pools. As temperatures rise during the summer months, this changes to a milky gray-green as the waters from the glaciers and snowfields feed the river. This provides a pleasant visual contrast to the extremely clear water of the cooler months. Water temperatures are on the cool side even during the warmest days of summer.

7/ Pacific Northwest River Basins Commission, Appendix XII, 1971.
8/ Department of Ecology, November, 1988.
9/ Geological Survey Circular 109, 1952.

Because the water quality is so good and free of pollutants, fish and wildlife dependent upon the Duckabush and its environment thrive, and are often seen by visitors to the area.

Primary contact use by the recreationist is limited not by the quality of the water, but by its temperature. Only during the warmest days of late summer will any significant use occur.

Fish and Wildlife - The Duckabush is occupied by four species of salmon, steelhead, sea-run cutthroat trout plus resident cutthroat trout.

Pink and chum salmon are of primary importance in the Duckabush. Although these species utilize only the lower few miles of the river, the exceptional gravel quality and production rate overshadow other anadromous fish usage. This segment contains some of the most highly productive salmon spawning areas in the State. Fall chinook also utilize this lower river area and coho are distributed throughout the river to R.M. 7.0. Steelhead and sea-run cutthroat trout are also found throughout this segment. The cascades, in the vicinity of R.M. 7.0, block the passage of all anadromous fish. 10/

Based on the anadromous fish habitat, the Duckabush and its tributaries have the potential annual production of nearly 84,000 adult fish. Approximately 58 percent of this habitat capability is within the National Forest. Table F-11 depicts production capabilities.

A good resident cutthroat trout fishery exists in the river well into the Olympic National Park.

Generally, all of the wildlife species found along the east flank of the Olympics will appear within the Duckabush drainage, and probably visit the river corridors. Some of the more common larger animals are Roosevelt elk, black-tailed deer, black bear, cougar, coyote, mountain goats and bobcats. Smaller mammals include raccoon, mink, beaver, mountain beaver, rabbit, skunk and porcupines.

The river bottoms and lower south slopes provide winter range for big game, mainly deer and elk, to near R.M. 14.

Blue grouse and ruffed grouse are two common game birds found along the river. Ducks, ospreys, eagles, kingfishers and a variety of water birds inhabit the river edge.

The northern bald eagle is the only threatened wildlife species known to inhabit the area. The habitat of the area upstream from Little Hump contains suitable habitat for the northern spotted owl, a sensitive species, but none have been located.

The riparian habitat along the river is generally in excellent condition, with the exception of a few small areas in the lower valley, where development has modified the riparian vegetation.

10/ Washington Department of Fisheries stream catalog, 1975.

Table F-11. Estimated Annual Habitat Production Capabilities for Anadromous Salmonids

Species	Landownership	Spawning Population	Smolt Production	Total Adult Production
Chinook	NF	90	12,600	540
	Other	70	9,120	390
	TOTAL	160	21,720	930
Coho	NF	380	19,000	3,080
	Other	280	13,760	2,230
	TOTAL	660	32,760	5,310
Chum	NF	6,150	1,384,000	17,990
	Other	4,450	1,002,210	13,030
	TOTAL	10,600	2,386,210	31,020
Pink 1/	NF	9,570	1,148,000	25,260
	Other	6,930	831,310	18,290
	TOTAL	16,500	1,979,310	43,550
Steelhead	NF	620	10,600	920
	Other	450	7,675	670
	TOTAL	1,070	18,275	1,590
Sea-run Cuthroat	NF	620	10,600	920
	Other	450	7,675	670
	TOTAL	1,070	18,275	1,590
All 1/	NF	17,430	2,584,800	48,710
	Other	12,620	1,871,750	35,280
	TOTAL	30,050	4,456,550	83,990

1/ Olympic Peninsula pink salmon spawn only during odd years and, as such, the annual estimates shown are odd year numbers divided by two.

Recreation - Within the river corridor, the recreation use tends to fall within three groups; fishing-hunting, camping-picnicking associated with the existing road system, and hiking-camping in the unroaded areas.

The camping-picnicking occurs within the Recreation Opportunity Spectrum (ROS) classification of Roaded Natural. 11/ The hiking-camping occurs within two classification zones; Semi-Primitive Non-Motorized, and Primitive.

11/ ROS Users Guide, USDA Forest Service, Washington D.C.

Two developed recreation sites are found along the river. Interrorem picnic site (three units) with a trailhead to the popular fish viewing site at Ranger Hole. Collins Campground (16 units) is located at R.M. 5.3, within one mile of the Duckabush Trailhead. Developed site recreation use, capacity and potential are shown in Table F-12.

Table F-12. Developed Recreation Sites

Site	ROS	Capacity PAOT	Managed Season Days	1988 Use RVDs	Projected Capacity
Interrorem	Semi-Primitive Motorized	15	90	200	15
Collins	Semi-Primitive Motorized	80	110	2,900	80

The projected increase in Clallam and Jefferson Counties are shown below. 12/ These may be somewhat conservative in the high use Hood Canal drainages.

Activity	1983-1990	1990-2000
Picnicking	9	8
Developed Site Camping	7	13

Opportunities for rafting or any other types of river floating are minimal. The extensive areas of cascades, boulder-strewn channels, steep river gradients, and other hazards with only short stretches of smooth water, make any floating of this river extremely hazardous.

There are no new campgrounds proposed along the Duckabush. Upgrading of the facilities at Collins Campground will be programmed as use increases and funding is available. Interpretation of the historic guard station at Interrorem will enhance the experience at that site.

Because of the limited opportunities along the Duckabush road, very few undeveloped recreation sites exist.

The primary trail within the river corridor is the Duckabush Trail, which generally follows the river from the trailhead to the head of the drainage, a distance of 22.5 miles. Approximately 6.2 miles of this is within Olympic National Forest; the remainder within Olympic National Park. The National Forest portion of this trail has been upgraded to accommodate horse use and adequate parking at the trailhead.

12/ Washington Statewide Comprehensive Outdoor Recreation Plan (SCORP), Fifth Edition, 1979, and Sixth Edition, 1985.

Other trails are the Ranger Hole Trail (0.8 mile at Interrorem Guard Station), short segments of the North Fork Skokomish, and the LaCrosse Pass trails linking into the Duckabush in the headwaters of the drainage. No additional trails are planned within the river corridor at this time. Upon designation as a Wild and Scenic river, a riverside trail may be constructed from Collins Campground to the Duckabush trailhead.

Table F-13. Recreational Activities (Estimated Recreational Use - RVDs and Trends)

	1988	2000
National Forest Developed Sites	3,100	3,600
Undeveloped Recreation	38,000	43,800
Boating (flatwater, whitewater)	--	Light
Water Play (swim, wade)	Light	Light
Fishing	Moderate	High
Hunting	Moderate	Moderate
Camping: Undeveloped	Light	Moderate
Hiking	Moderate	Moderate-High
Picnicking	Light	Moderate
Viewing Scenery	Moderate	Moderate
TOTAL	41,100	47,400

A distinctive value along the Duckabush are the scenic qualities. Many of these are associated with the geology of the Olympics, of which the Duckabush is an outstanding example. Snowfields and glaciers upon and below Mt. Duckabush, Mt. Steel, Mt. Hopper, The Brothers, Mt. LaCrosse, Mt. Elk Lick, White Mountain, and numerous lesser peaks flank the Duckabush Valley. Cascading water and waterfalls are typical of the upper Duckabush and its tributaries. As the river drops into the lower elevations, major river gorges occur at Big Hump and Little Hump. From the top of Big Hump, the vista of cliffs, canyons and the Big Hump Gorge is spectacular. The trail itself passes over, under, and around rock ledges, cliffs and rock outcrops. Old-growth forests of Douglas-fir, western hemlock and Pacific silver fir are found along the trail and river. The river itself has an ever-changing character made up of waterfalls, cascades, riffles, and deep, still pools.

Historical/Cultural - Prehistoric use is likely to have occurred. Fishing for salmon in the lower 2.5 miles probably took place, as it was easily accessible from the mouth of the river. No sites have been found in this stretch of the river.

Early settlement along the lower river was typical of many valleys; small homesteads with a limited agriculture base, followed by logging of the virgin forests. The Forest Service Guard Station at Interrorem, a log structure, was built in 1907 as the "Rangers" residence, and is the original Administrative Headquarters for the Olympic Forest Reserve. It is the oldest extent structure on the Olympic National Forest and, ostensibly in the Pacific Northwest Region. It remains in use to this day as a "working" example of a historical structure. It meets the criteria for listing as a National Historic structure, and nomination is in progress.

Minerals/Energy - There is no history of mining within the Duckabush River corridor. The National Forest lands are open to mineral exploration and leasing, except for the area within the Wilderness and administrative sites.

Based on the limited mineralization of the Olympics, and a low oil and gas potential, it is unlikely that any significant mineral or energy deposits occur within the river corridor.

Timber - Timber types, standing volume, and potential yield on all National Forest land tentatively suitable within the river corridor, are displayed in the following tables.

Based on the most recent Insect and Disease Survey (1987), there were no significant insect and disease problems within the river corridor. The potential for any significant outbreak is low.

Table F-14. Summary of National Forest Acres

Wilderness	1,440
Tentatively Suitable	1,048
Unsuitable	81
TOTAL	2,569

Table F-15. Tentatively Suitable Acres by Site and Age Class

Site/Productivity	BG Bare Ground (0.1-2.9"DBH)	SS Seedling-Sapling (3.0-4.9"DBH)	PL Poles (5.0-8.9"DBH)	MS Small Saw (9.0-20.9"DBH)	LS Large Saw (21+"DBH)
High					201
Medium			24	726	
Low				97	
Low, Natural					
TOTAL			24	823	201

Table F-16. Tentatively Suitable Volume by Site and Age Class

	Large Sawtimber				Small Sawtimber				Young Stands			
Site/ Productivity	Acres	MCF/ Acre	MCF	MBF	Acres	MCF/ Acre	MCF	MBF	Acres	MCF/ Acre	MCF	MBF
High	201	8.98	1,805	7,852								
Medium					726	6.09	4,421	19,231	24	3.09	74	322
Low					97	3.84	372	1,618				
TOTAL	201		1,805	7,852	823		4,793	20,849	24		74	322

Summary: 6,672 MCF or 6.7 MMCF
29,023 MBF or 29.0 MMBF

Table F-17. Tentatively Suitable Land Potential Yield by Site and Elevation 1/

Winter Range (<1500')				
Site/Produtivity	CF/Acre/Year	Acres	MCF/Year	MBF/Year
High	176.88	201	35.55	154.64
Medium	130.74	750	98.06	426.56
Low	74.56	97	7.23	31.45
TOTAL		1,048	140.84	612.65

1/ No summer range involved.

Transportation/Roads - The major access to the Duckabush River Valley from Highway 101 is via County Road 3 to Interrorem Guard Station and its extension, Forest Road 2510. The county road is a narrow, two-lane paved facility. Forest Road 2510 is a gravel-surfaced, one-lane road with turnouts. Limited access to the river can be made from the continuation of this road, which roughly parallels the south bank of the river from R.M. 6.3 to 2.5.

The use of these roads is about equally divided between timber haul and recreational use. The existing road is adequate to accommodate the existing and projected use without any unacceptable conflicts. No additional road crossing of the river is anticipated. Additional temporary roads may approach the river in conjunction with harvesting timber from private lands.

NON-FEDERAL LANDOWNERSHIP AND USES

Within the National Forest boundary, State Department of Natural Resources lands are being managed for timber production with the required constraints and mitigation adjacent to the Duckabush River. These State lands are scheduled for acquisition by the Forest Service through land exchange. Private lands within the National Forest boundary are a mixture of small residential acreages and larger tracts of lands owned by timber companies. Timber management is practiced on these lands within requirements of the Washington State Forest Practices Act. 13/

Outside of the National Forest, the lands are predominantly privately owned. Acreages by ownership varies from individual lots to large tracts owned by a large timber company. Within the river corridor, individual residences are located primarily within the river segment up to R.M. 1. This residential development was accomplished with moderate impact on the river edge.

The existing and projected landownership and use pattern is consistent with the classification of Recreational River.

13/ State of Washington 1974.

FUNDING NEEDS IF DESIGNATED AS WILD AND SCENIC RIVER (NATIONAL FOREST SEGMENTS ONLY)

The following are expected funding needs for the Duckabush River for the first 5 years following a designation as a Wild and Scenic River:

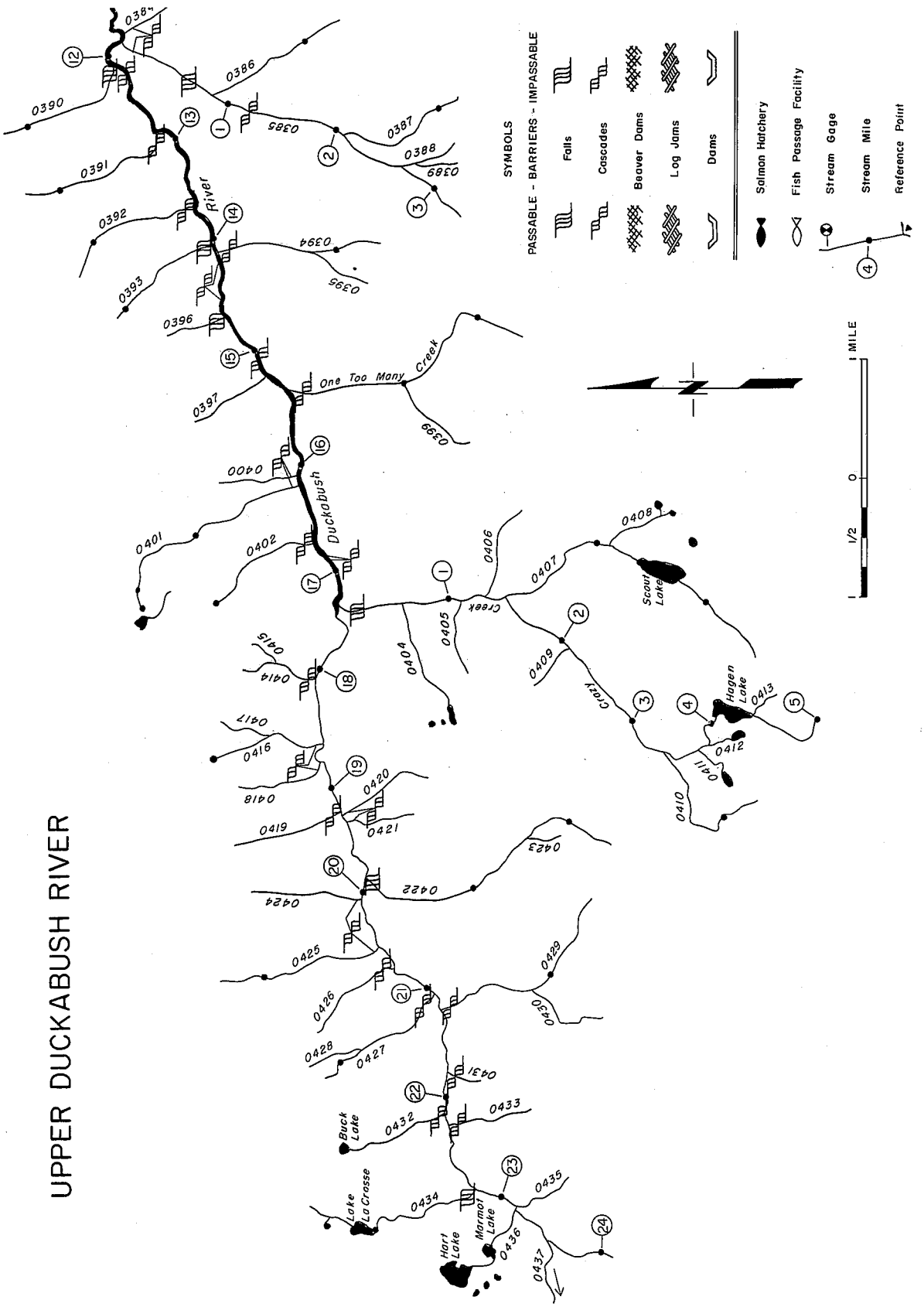
Table F-18. Estimated Cost of Management If Designated as a Wild and Scenic River

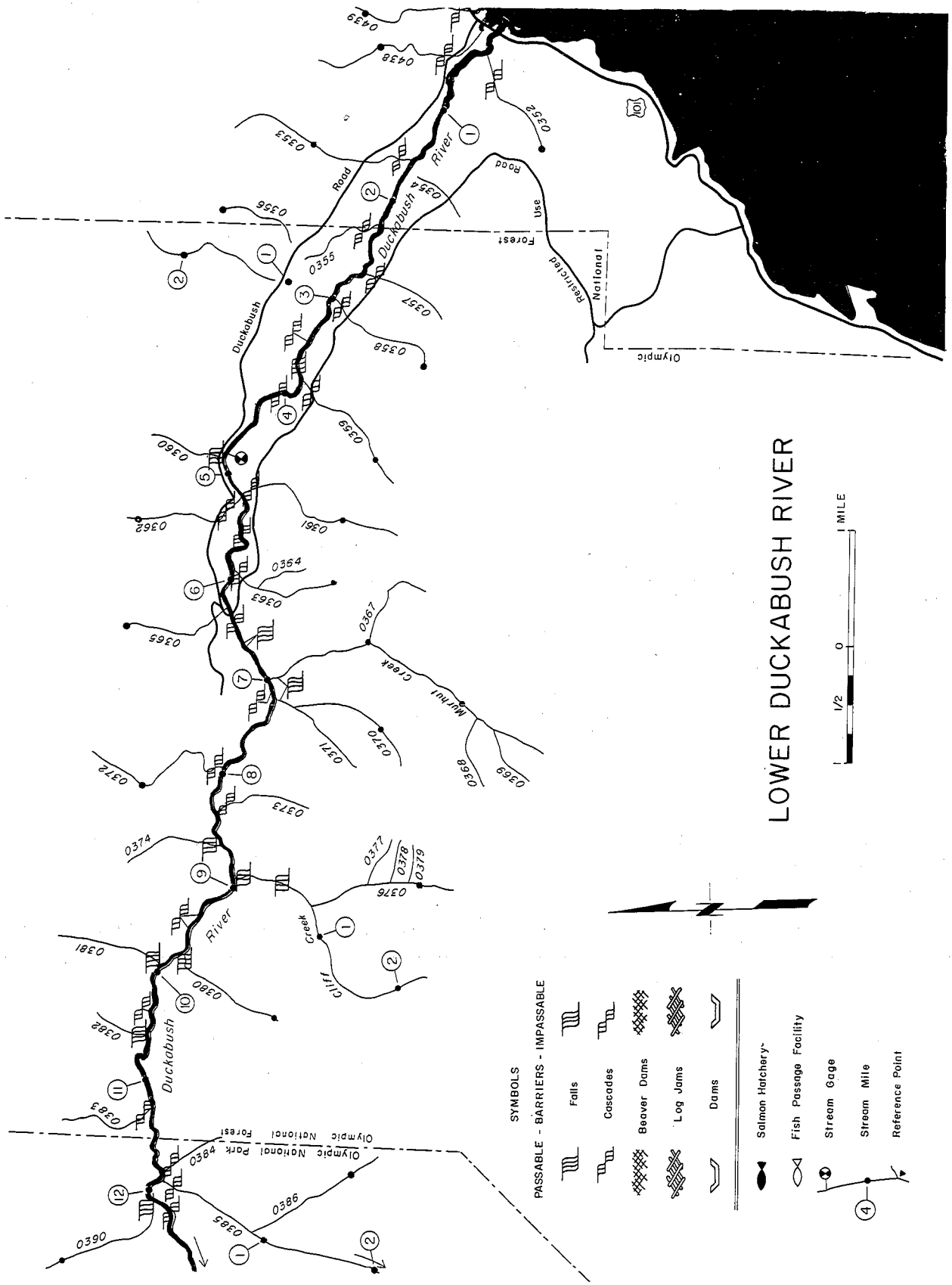
Annual Costs	General Administration Operation and Maintenance	$17,500 72,500
	TOTAL	$90,000
Non-Recurring Costs	Cost of implementation 1/ Preparation of Management Plan 1/ Acquisition and development costs	$13,000 30,000 55,000
	TOTAL	$98,000
	TOTAL COST--FIRST FIVE YEARS	$188,000

1/ Costs primarily in years 1 and 2.

General administration, and operation and maintenance costs are estimated to continue at $16,300 annually.

Note: If all eligible segments were designated, the total five-year funding requirements expected would be $271,000. Annual general administration, and operation and maintenance costs would be $26,000.


UPPER DUCKABUSH RIVER
SYMBOLS
PASSABLE - BARRIERS - IMPASSABLE
Falls
Cascades
Beaver Dams
Log Jams
Dams
Salmon Hatchery
Fish Passage Facility
Stream Gage
Stream Mile
Reference Point
1 MILE
1/2
0
Duckabush River
One Too Many Creek
Scout Lake
Hagen Lake
Buck Lake
Lake La Crosse
Hart Lake
Marmot Lake


LOWER DUCKABUSH RIVER
1 MILE
0
1/2
SYMBOLS
PASSABLE - BARRIERS - IMPASSABLE
Falls
Cascades
Beaver Dams
Log Jams
Dams
Salmon Hatchery
Fish Passage Facility
Stream Gage
Stream Mile
Reference Point
Duckabush River
Road
Use
Forest
National
Restricted
Olympic
Olympic National Park
Olympic National Forest
Murhut Creek
Cliff Creek
0352
0353
0354
0355
0356
0357
0358
0359
0360
0361
0362
0363
0364
0365
0367
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0390
0438
0439

DUNGENESS

GENERAL SETTING

The main stem of the Dungeness River from the confluence of Milk Creek and Heather Creek to the mouth, is 28.1 miles.

Slightly over one-half of this distance, 14.7 miles, is within the Olympic National Forest boundary. Except for one-half mile, which flows through private land, the entire distance within the boundary flows over National Forest land.

Outside the National Forest boundary, the river flows for 1.8 miles within State Department of Natural Resources land, and 11.3 miles within private land.

Acreage and mileage by ownership are summarized below. Acreage is based on a one-quarter mile corridor each side of the river on a Forest Plan map. The National Forest acres were extracted from the map data base.

Ownership	Miles	Acres
Olympic National Forest	14.2	4,540
State of Washington - DNR	1.8	580
State of Washington - Fisheries	0.3	100
Private		
within National Forest boundary	0.5	160
outside National Forest boundary	11.3	3,610
TOTAL	28.1	8,990

The Dungeness River is one of the principal river systems on the Olympic Peninsula. Flowing north from the point of it origin in the high country which divides the Dosewallips and Dungeness drainages, this system enters the Straits of Juan de Fuca at Dungeness Bay. The area is mountainous with coniferous forests covering the valley walls (sparsely near timberline), becoming dense in the lower valleys. Stream gradients are steep in the upper reaches with numerous sections of cascades and rapids. The Dungeness is accessible to anadromous fish, coho, spring chinook, early-run pink salmon, and steelhead. The upper mainstream is blocked to anadromous fish by a falls near R.M. 18.8, just above the mouth of Gold Creek.

The Dungeness pink salmon are unique in the Puget Sound Basin. Typical stocks approach maturity while in saltwater, and migrate through main stem or lower stream reaches requiring little strenuous swimming. Spawning normally commences upon arrival in the stream. In contrast, early Dungeness pink salmon enter the stream while still in prime condition. They move rapidly upstream to their spawning destination, where they remain in pools up to one month while completing maturity. The excellent condition of these fish permits them to ascend barriers that would stop many others.

From the confluence of the Gray Wolf and Dungeness to near R.M. 10, the gradient on the river is still rather steep and the river valley remains narrow with many canyon-like sections. Side slopes continue to be

heavily forested. Near R.M. 10, the valley opens abruptly into a broad lowland which has been farmed and is rapidly being developed with housing and small communities.

The Sequim Valley of the lower Dungeness lies in the "rain shadow" of the Olympic mountains, and has an extremely dry climate. This has resulted in extensive use of water from the lower Dungeness to irrigate the fields and pastures in the Sequim Valley. While the upper reaches of the Dungeness receives more rain than the Sequim Valley, it remains in the "rain shadow." High ridges are open, with sparse vegetation.

Recreationists from the Puget Sound Basin visit the Dungeness Valley to camp, hike, fish, view the scenery, and during the fall to hunt deer and mountain goats.

The Dungeness is being evaluated as a potential Wild and Scenic River as a result of public input during the identification of issues, concerns and opportunities.

ELIGIBILITY DETERMINATION - VALUES

Scenic - High, open ridges, excellent views of Olympics, snowfields, cascading water, narrow river canyons. **Outstandingly remarkable.**

Recreation - Hiking, camping, fishing, deer and goat hunting. **Above average.**

Geologic - Mountain peaks, narrow canyons, rock-faces, "rain shadow." **Above average.**

Fish - Chinook, coho and pink salmon. Unique early pink salmon run. Steelhead, sea-run cutthroat, resident fishery. **Outstandingly remarkable.**

Wildlife - Deer, mountain goats, elk, numerous smaller animals. **Average.**

Historical - Tubal Cain Mine located along Copper Creek, a tributary to the Dungeness. Well outside of river corridor. Early settlement of Sequim Valley was typical of the region. **Average.**

Cultural - Probable limited use by prehistoric man. No sites found within corridor. Sites have been located at nearby Slab Camp and at Deer Park and use use in the Dungeness Corridor was likely. **Average.**

ELIGIBILITY DETERMINATION - CLASSIFICATION

Water Resources Development - The river is free of dams and diversion structures from its source to near R.M. 11.2. From that point to near R.M. 2.7, there are a series of diversions and irrigation ditches constructed to provide water to the Sequim Valley. The City of Sequim also diverts water from the Dungeness for its municipal water supply. As a result, flows in the lower Dungeness may be quite low during the summer and fall months.

Shoreline Development - From the confluence of Heather and Milk Creeks (R.M. 28.1) which forms the Dungeness, to the road bridge near R.M. 24, the evidence of man's presence is limited to an occasional riverside trail camp or footbridge across the river.

Between the bridge at R.M. 24 and Silver Creek (R.M. 22.1), the shoreline of the Dungeness rapidly takes on a primitive setting. There is little evidence of human activity, except for occasional views of adjacent roads.

Just below Gold Creek, the Dungeness flows under a road bridge, passing East Crossing Campground at R.M. 17.5. Below R.M. 17.5 the river flows through a series of narrow canyonlike areas until it opens into the Sequim Valley near R.M. 10.5. Evidence of past and ongoing timber harvests can occasionally be seen in the background to R.M. 13.4. The river edge generally appears natural, with only limited evidence of human activity. From R.M. 13.4 to the State Fish Hatchery, evidence of past and ongoing timber harvest is readily apparent. From R.M. 10.5 to the mouth, the shoreline becomes increasingly more developed. Initially, this was pastureland and fields. However, with the Sequim Valley becoming known as a "retirement" community, residential development along the river has flourished.

Accessibility - The upper reaches of the Dungeness above R.M. 24 is accessible only by trail. From this point downstream to R.M. 13.4, the river is occasionally crossed by bridges and accessed by roads that approach the river. One short segment of the Dungeness (R.M. 22.1 to R.M. 19.3) is not readily accessible from existing roads, although there is a trail that parallels the river through this segment. From R.M. 13.4 to its mouth, the river is easily accessed by State, county and private roads.

Water Quality - From its mouth to Canyon Creek (R.M. 10.8), the Dungeness River is rated as a Class A, "excellent" water. Above Canyon Creek, the Dungeness and its tributaries are rated as Class AA, "extraordinary" waters by the State. Both classifications meet or exceed the criteria for aesthetics, use by fish and wildlife, and primary contact recreation (swimming).

Conclusion - The Dungeness meets the eligibility criteria from R.M. 10.5 to its source, a distance of 17.6 miles. The Dungeness has "outstandingly remarkable" scenic and fish values.

GENERAL DESCRIPTION OF RESOURCES

The Dungeness River originates from the interior of the Olympic Mountains. Its upper tributaries are fed from snowfields. Heather Creek and Milk Creek join in the upper Dungeness Valley to form the Dungeness River. The main stem of the Dungeness has a number of significant tributaries, the four largest being the Gray Wolf River, Gold, Silver and Royal Creeks.

Watershed cover, valley configuration, stream gradient and terrain are similar in the upper and middle reaches of the Dungeness. These areas are mountainous with dense coniferous forest cover which becomes sparse near timberline. The Douglas-fir-western hemlock zone is predominant. The upper Dungeness has minor amounts of the Douglas-fir plant association on steep, dry, well-drained slopes. The mountain hemlock-subalpine fir zone is found in the headwater areas of the Dungeness.

Stream gradient in the upper main branches and tributaries is steep and often precipitous above, approximately, the 2,500-foot elevation. Below this, the gradient remains steep, although patches of gravel are interspersed among the rubble and boulder substrate. The Dungeness River flows from 3,450 feet to sea level.

The Dungeness River enters the Strait of Juan de Fuca at Dungeness Bay. The deep, steep-walled upper section opens up at R.M. 10 into a broad, fertile lowland. Conifers, with hardwoods intermixed, line the river. The adjacent land has been farmed or settled by retirees. A transition from agriculture to residential use is occurring.

The upper reaches of the Dungeness are accessible by trail. The middle reach of the Dungeness is accessible by trail, and in places by a Forest Road. The lower Dungeness is accessed by State, county and private roads.

The lower Dungeness Trail is accessed from Forest Road 2860 in two places; near Gorge Camp, and the main trailhead near the mouth of Mueller Creek. The trail between Gorge Camp and the main trailhead is generally within the one-quarter mile corridor, with Forest Road 2860 paralleling about one mile to the west. The upper Dungeness trail is within the river corridor up to Camp Handy, about three miles from the trailhead, and then climbs away from the river up to Boulder Shelter. The trail then climbs northeasterly to Marmot Pass. From Boulder Shelter the Home Lake Trail contours above Home Lake to Constance Pass.

Forest Road 2860 follows the Dungeness River from Gorge Camp to East Crossing Campground, then ascends to the break above the river. The four miles of the river, within the National Forest below East Crossing Campground, has limited access and not easily accessible by road or trail.

North of the Forest Service boundary, the river is easily accessed by State, county and private roads. The river is crossed by five bridges.

The City of Sequim lies about two miles east of where the Dungeness River flows under U.S. Highway 101. The population of Sequim is 3,180. However, an additional 22,600 were counted in unincorporated areas in Clallam County.

Sequim and the Dungeness Valley lie in the Olympic "rain shadow," causing the area to be the driest coastal region north of southern California. The "rain shadow" is caused by the area's position with respect to the mountains and prevailing winds. As a result, the average annual precipitation in Sequim is only about 15 inches. This favorable climate, combined with spectacular scenery, has made the area a focal point for recreation and retirement. In fact, The Sequim Press, the area's weekly newspaper, proclaims that "The Sequim-Dungeness Valley is the Retirement Center of the Great Northwest." 14/

Water - The Dungeness River meets or exceeds the criteria for aesthetics, use by fish and wildlife, and primary contact recreation as defined in Water Quality Criteria, Federal Water Pollution Control Administration, April 1, 1968. The Dungeness above Canyon Creek and its tributaries are rated Class AA, "extraordinary." Below Canyon Creek, R.M. 10.8, to its mouth, the Dungeness River is rated Class A, "excellent."

As is characteristic for Western Washington, the Dungeness River exhibits minimum flows during the summer months when precipitation is least and snowpacks are depleted. Streamflow begins to increase in October, reaches a maximum base flow in December, and gradually decreases from January through the middle of March. Due to rising temperatures and snowmelt, runoff begins to increase in the latter part of March, and reaches a maximum in early June.

The total drainage area at the mouth of the Dungeness River is 197 square miles. The drainage area above the USGS Gauging Station at R.M. 11.8 is 156 square miles. Average annual flow is 388 cfs. Maximum flow recorded was 6,820 cfs on November 27, 1949; minimum flow recorded was 65 cfs on January 31, 1979.

The Dungeness River's water is used for irrigation, Sequim's water supply, individual domestic use and by a State fish hatchery.

Rights to the use of the water of the Dungeness River, and its tributaries, were adjudicated by the Superior Court of Washington on March 7, 1924. All adjudicated rights are irrigation rights. 15/

14/ Adelman 1980.
15/ Bergstrom 1985.

At least five diversion ditches exist between the Olympic National Forest (R.M. 13.4) and U.S. Highway 101 (R.M. 6.4). They are the Agnew Ditch at R.M. 11.2, the Highland & Eureka Ditch at R.M. 10.7, the Independent Ditch at R.M. 8.1, the Cline, Clallam & Dungeness Ditch at R.M. 7.3, and the Sequim Prairie Ditch at R.M. 6.8. All diversions, except the Agnew Ditch, consist of a wing dam and open ditch. The Agnew Ditch diverts water by means of a siphon tube.

Eleven irrigation companies and/or districts utilize the water. A head of each of these entities forms the Dungeness Water Users Advisory Board. The irrigation districts were adjudicated 576 cfs, which if used, could dry up the river much of the irrigation year. However, the Advisory Board coordinates use so that flow is maintained throughout the summer. The river is closed to future allocations.

The Dungeness River is a water supply for the City of Sequim, serving 3,300 people. The system's intake is across from the fish hatchery. Water is taken directly out of the river into the ground infiltration and then gravity fed. The city is allowed up to five cfs. Chlorination is the only treatment. 16/

Dungeness State Fish Hatchery is located at R.M. 10.5, as well as a satellite station at Hurd Creek (right bank at R.M. 2.9). Production includes spring and fall chinook and coho. The hatchery diverts as much as 25 cfs that bypasses the river for almost three-quarters of a mile.

The current allocations, November 1988, of water from the Dungeness River are as follows:

Irrigation, Stock Watering, Domestic Use	578.96 cfs
Power	150.00 cfs
Fish Propagation	40.00 cfs
Domestic, Municipal	1.40 cfs
Domestic, Single	0.01 cfs
TOTAL	770.37 cfs

The hydropower potential of the National Forest portion of the river is estimated at 330.6 Gigawatts per year at the 30% exceedance level. In September 1987 three hydroelectric proposals on the Dungeness River within the National Forest were either denied or dismissed. License applications had been filed with FERC by Olympus Energy, Inc., for two projects: Silver Creek and Tyler Peak. Hydro Resources had filed one license application for the Dungeness River. The projects are as follows:

FERC	Site	Applicant	Power-Megawatts	Status
5495	Dungeness	Hydro Resources	12.00	License application denied by FERC.
6617	Silver Creek	Olympus Energy	3.45	Dismissed by FERC due to lack of requested information.
6845	Tyler Peak	Olympus Energy	4.88	License application denied by FERC.

16/ Parker, Sequim Water System Superintendent.

A power withdrawal occupies a one-quarter mile strip on both sides of the Gray Wolf River.

Fish and Wildlife - The Dungeness River supports spring and fall chinook, coho and pink salmon. Pink salmon are the predominant species. Within Puget Sound, the pink salmon runs are unique, since they include an extremely early run and a normally-timed late run. The early run spawns are in the upper river above R.M. 9. The late run spawns are in the lower four miles of the river. Little or no overlap occurs in the timing or spawning area. Salmon access in the upper Dungeness is blocked at a falls just above the mouth of Gold Creek at R.M. 18.8.

Early-run pink, coho and spring chinook utilize the upper main stem to the falls. The pink salmon are unique in Puget Sound. It is a native wild stock with no hatchery influence. Fish migrate through main or lower stream reaches requiring little strenuous swimming. Normally, spawning occurs upon arrival in the stream. In contrast, these pink salmon enter the river in prime condition, move rapidly upstream to their spawning destination and remain up to one month in the pools. They negotiate rapids and small falls that would be barriers for other fish.

Based on the anadromous fish habitat, the Dungeness River and tributaries, including the Gray Wolf River, has an estimated annual production of approximately 137,100 adult fish. Approximately 52 percent of this habitat capability is within the Forest. Table F-19 summarizes the fisheries potential.

Resident trout occur in the Dungeness River well into its upper reaches.

Wildlife species typical of the east side of the Olympics are assumed to frequent the river corridors. Deer utilize the drainage bottoms for summer range. Areas below 1,500 feet in elevation and south slopes at higher elevations provide winter range. Bear, cougar and bobcats have been observed over most of the area. Mountain goats and the Olympic marmot may be seen in the headwater areas of these rivers. The northern bald eagle is the only threatened wildlife species known to inhabit the area.

Recreation - Developed recreation sites north of the National Forest are located near the mouth of the Dungeness River. None are actually within one-quarter mile of the river. They are located near, or on the Dungeness spit. The facilities are summarized in Table F-20.

Table F-19. Estimated Annual Habitat Production Capabilities for Anadromous Species

Species	Landownership	Spawning Population	Smolt Production	Total Adult Production
Chinook	NF	150	20,920	900
	Other	190	27,140	1,160
	TOTAL	340	48,060	2,060
Coho	NF	560	27,750	2,780
	Other	720	36,000	3,600
	TOTAL	1,280	63,750	6,380
Chum	NF	310	70,440	700
	Other	410	91,380	910
	TOTAL	720	161,820	1,610
Pink 1/	NF	15,720	1,887,000	41,510
	Other	20,400	2,448,000	53,850
	TOTAL	36,120	4,335,000	95,360
Steelhead	NF	1,620	27,840	2,420
	Other	2,100	36,110	3,140
	TOTAL	3,720	63,950	5,560
Sea-run Cutthroat	NF	1,620	27,840	2,420
	Other	2,100	36,110	3,140
	TOTAL	3,720	63,950	5,560
All	NF	19,980	2,061,780	50,720
	Other	25,920	2,674,740	65,810
	TOTAL	45,900	4,736,520	116,530

1/ Olympic Peninsula pink salmon spawn only during odd years. As such, the annual estimates shown are odd year numbers divided by 2.

Two developed recreation sites, East Crossing and Dungeness Forks Campground, are located along the Dungeness River within the National Forest. Both campgrounds are popular fishing spots. These facilities are summarized in Table F-20.

Table F-20. Developed Recreation Sites

National Forest Sites					
Site	ROS Class	Capacity PAOT	Managed Season Days	1988 Use RVD's	Projected Capacity PAOT
Dungeness Forks Campground	Roaded	50	110	10,800	135
East Crossing Campground	Roaded	50	110	6,300	150
Other Agency Sites					
Site	Managing Agency	Acres	Camping Units	Boat Launch Site	1988 Annual Visits
Dungeness Recreation Area	Clallam Company	216	66		150,000
Dungeness Boat Launch	Port District	20		2	79,600
Cline Spit	Clallam Company	1		1	No Estimate
Dungeness National Wildlife Refuge	U.S. Fish & Wildlife	631			65,000

No new campgrounds are proposed within the National Forest portion of the river corridor. Both Dungeness Forks and East Crossing campgrounds are planned for expansion.

Trails accessing the Dungeness River on National Forest and National Park lands:

The main Dungeness trailhead is located on Forest Road 2860. The trail follows the river for about three miles to a shelter at Camp Handy. From there, it climbs to Boulder Shelter and then branches to Marmot Pass and Constance Pass. This trail is within the Buckhorn Wilderness. About one mile from the trailhead, a trail branches to Royal Basin in Olympic National Park. Hiking, hunting, and fishing access are the major uses of this trail system.

The lower Dungeness Trail generally follows the west side of the river for nearly 6 miles between Gorge Camp and the upper crossing of Forest Road 2860.

The scenery along the trail in the Wilderness is outstanding. The lower portions provide excellent examples of old-growth forests. The rivers are in a clean, natural state. The upper reaches of the trail provides spectacular mountain views.

Existing use estimates are summarized in Table F-21.

The Fifth Edition, 1979, and Sixth Edition, 1985, of SCORP, projects recreation use by counties. The Dungeness River lies in District One which includes Clallam and Jefferson Counties. Table F-22 lists the projected percent increase for selected activities based on data listed in SCORP. Please consider these figures with a "grain of salt." The east half of these counties differ considerably from the west half. 17/ An "activity occasion" is a standard unit of recreation use, consisting of one individual participating in one recreation activity, during any reasonable portion or all of one day. One individual participating in three different activities during the day is recorded as three "activity occasions." The percent increases listed below are based on "activity occasions" listed in SCORP.

17/ Adelman 1980.

Table F-21. Recreation Trail Use, 1988

Trail	Miles	RVDs	ROS
Dungeness	8.1 - trailhead to Marmot Pass	900	Semi-Primitive, Non-Motorized
Lower Dungeness	5.8 - Gorge Camp to upper trailhead	100	Roaded Modified

Table F-22. Recreational Activities (Estimated Recreational Use - RVDs and Trends)

	1988	2000
National Forest Developed Sites	17,100	19,700
Undeveloped Recreation	33,100	37,200
Boating (flatwater, whitewater)	Light	Moderate
Water Play (swim, wade)	Light	Moderate
Fishing	Light	Moderate
Hunting	Moderate	High
Camping: Undeveloped	Moderate	High
Hiking	Moderate	High
Picnicking	Light	Moderate
Viewing Scenery	Light	Moderate
TOTAL	50,200	56,900

Historical/Cultural - There are no known historical or cultural sites along the Dungeness River. A prehistoric site has been inventoried and evaluated near Slab Camp.

Minerals/Energy - National Forest lands are open to mineral exploration and leasing, except within the Buckhorn Wilderness and administrative sites. No significant mining has occurred in the Dungeness River corridor with the notable exception of Tubal Cain on the Copper Creek Tributary. It is unlikely that any significant mineral or energy deposits occur within the river corridor.

Previous land allocation and use on the National Forest segments are described in the Canal Front Final Environmental Statement, 1979. In 1984, the Washington Wilderness Act allocated areas to the Buckhorn Wilderness. Land allocation from the Canal Front Plan is summarized below.

Table F-23. Land Allocation (Canal Front Plan)

Segment	Management
Confluence of Heather/Milk Creek to Royal Creek	Buckhorn Wilderness
Royal Creek to Cougar Creek	Special Management Area
Cougar Creek to Forest boundary	40% Timber Yield within the Streamside Management Unit

Timber/Land Allocation - Timber harvest is not permitted in the Buckhorn Wilderness. The Canal Front Plan placed the lands in the Dungeness River Special Management Area is in the marginal cut component, and it was not programmed for timber harvest. Management direction for this area is designed to protect resource values. This is done by permitting activities only when the area's response to that activity can be

reliably predicted, and that response is favorable. There are no disease or insect problems within the river corridors. The potential for significant outbreaks is low.

The following tables summarize acreage allocation and tentatively suitable acres characteristics.

Table F-24. Summary of National Forest Acres

Wilderness	1,060
Unsuitable	1,255
Tentatively Suitable	2,225
TOTAL	4,540

Table F-25. Tentatively Suitable Acres by Age Class and Site

Site/Productivity	BG Bare Ground (0.1"-2.9"DBH)	SS Seedling-Sapling (3"-4.9"DBH)	PL Poles (5"-8.9"DBH)	MS Small Saw (9"-20.9"DBH)	LS Large Saw (21+" DBH)
High		21	65	40	
Medium	52	136	145	277	878
Low		46		40	175
Low, Natural			30	188	132
TOTAL	52	203	240	545	1,185

Table F-26. Tentatively Suitable Volume by Site and Age Class

	Large Sawtimber				Small Sawtimber				Young Stands			
Site/ Productivity	Acres	MCF/ Acre	MCF	MBF	Acres	MCF/ Acre	MCF	MBF	Acres	MCF/ Acre	MCF	MBF
High					40	8.98	359	1,562	65	4.56	296	1,288
Medium	878	8.98	7,884	34,295	277	6.09	1,687	7,338	145	3.09	448	1,949
Low	307	7.45	2,187	9,948	228	6.09	1,389	6,042	30	3.84	115	500
TOTAL	1,185		10,071	44,243	545		3,435	14,942	240		859	3,737

Summary: 14,465 MCF or 14.5 MMCF
62,922 MBF or 62.9 MMBF

Table F-27. Tentatively Suitable Land Potential Yield by Site and Elevation

	Elevation: < 1500' (Winter Range)				Elevation: > 1500' (Summer Range)			
Site/ Productivity	CF/Acre/ Year	Acres	MCF/Year	MBF/Year	CF/Acre/ Year	Acres	MCF/Year	MBF/Year
High	176.88	126	22.29	96.96				
Medium	130.74	194	25.36	110.32	121.24	1,294	156.88	682.43
Low					67.35	261	17.58	76.47
Low, Natural					39.75	350	13.91	60.51
TOTAL		320	47.65	207.28		1,905	188.37	819.41

Summary: 236.02 MCF/Year
1,026.69 MBF/Year

NON-FEDERAL LANDOWNERSHIP AND USES

Approximately 580 acres of the lower Dungeness River are managed by the State of Washington Department of Natural Resources. Between the Forest boundary and the State Fish Hatchery, most of the private lands are being managed for timber production. Timber Management practices on these private lands are governed by the State Forest Practices Act. Other uses were discussed in previous sections.

These are costs that are anticipated with designation of Segments 1-4, all within the National Forest, and are in addition to the existing costs associated with managing the river under the existing Canal Front Plan.

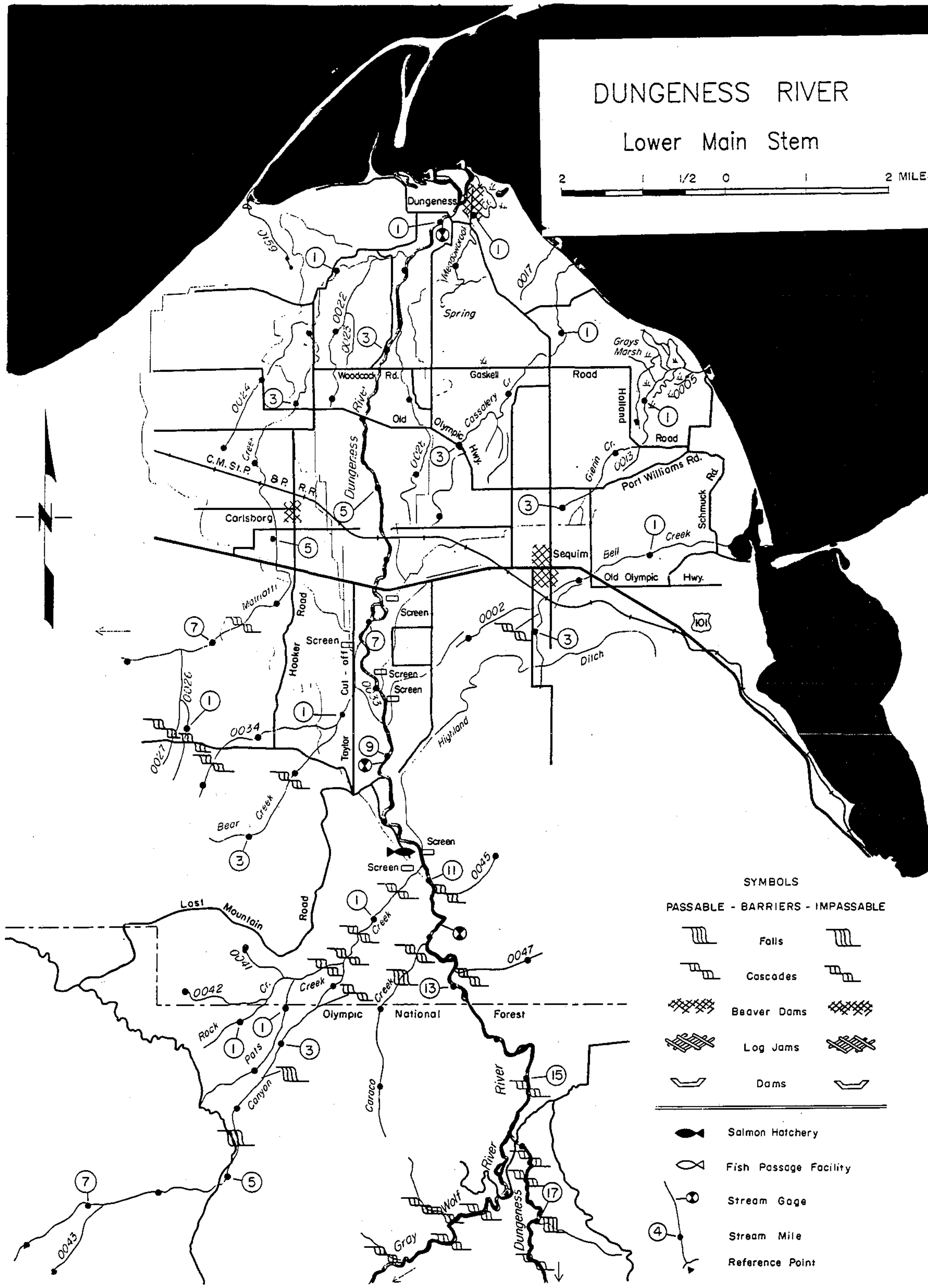
FUNDING NEEDS IF DESIGNATED AS A WILD AND SCENIC RIVER (NATIONAL FOREST SEGMENTS ONLY)

The following are expected funding needs for the Dungeness River for the first 5 years following a designation as a Wild and Scenic River:

Table F-28. Estimated Cost of Management if Designated as a Wild and Scenic River

Annual Costs	General Administration Operation and Maintenance	$26,000 68,800
	TOTAL	$94,800
Non-Recurring Costs	Cost of Implementation 1/ Preparation of Management Plan 1/ Acquisition and Development Costs	$14,000 30,000 95,000
	TOTAL	$139,000
	TOTAL COST--FIRST FIVE YEARS	$233,800

1/Costs primarily in years 1 and 2.


DUNGENESS RIVER
Lower Main Stem
2 1/2 0 2 MILES
Dungeness
Spring
Grays Marsh
Woodcock Rd.
Gaskell
Road
Holland
Old
Olympic
Hwy.
Cassalery Cr.
Dungeness
River
C.M.St.P. & P. R.R.
Carlsborg
Port Williams Rd.
Schmuck Rd.
Bell
Creek
Sequim
Old Olympic Hwy.
101
Screen
Hooker Road
Cut-off
Ditch
Highland
Taylor
Bear Creek
Lost Mountain Road
Olympic National Forest
Rock
Pats
Canyon
Caraco
River
Wolf
Gray
Dungeness
SYMBOLS
PASSABLE - BARRIERS - IMPASSABLE
Falls
Cascades
Beaver Dams
Log Jams
Dams
Salmon Hatchery
Fish Passage Facility
Stream Gage
Stream Mile
Reference Point

EAST FORK HUMPTULIPS

GENERAL SETTING

The East Fork of the Humptulips, from its source to the confluence with the West Fork to form the main stem of the Humptulips, is nearly 31 miles in length. The upper 17.5 miles, from its source to R.M. 13.4, is within the boundary of Olympic National Forest. Throughout this section, the river is bordered entirely by National Forest lands. From the National Forest boundary downstream to the confluence with the West Fork, the river is bordered by private and Grays Harbor County lands; nearly all of which is being managed for timber production.

Acreage and mileage by ownership are summarized below. The acreage is based on a corridor one-quarter mile wide on each side of the river. The National Forest acres were extracted from the planning map data base.

Ownership	Miles	Acres
Olympic National Forest	17.5	5,600
Grays Harbor County	2.6	830
Private land	10.8	3,460
Total	30.9	9,890

Located in the southwest corner of the Olympic Peninsula, the East Fork of the Humptulips is a major tributary to the Humptulips-West Fork System. The East Fork of the Humptulips rises within the Olympic National Forest. It is similar to other rivers along the flanks of the Olympic Mountains in that it does not have a major snowfield or glacier at its source. For nearly all of its length, the slopes adjacent to the river are forested with dense stands of coniferous vegetation. Occasional flats and gravel bars will be covered with hardwoods, predominately alder, big leaf maple and black cottonwood. Over the first two miles, the river drops rapidly through narrow canyons, cascading down over waterfalls and steep gradients. By R.M. 28, the stream gradient has moderated, and a pattern of riffles and pools interspersed with sections of steep gradients becomes the norm. Occasional coho salmon and steelhead are found as far upstream as R.M. 26. Coho salmon and steelhead gain access to the river above R.M. 17.1 with the laddering of the falls below Flatbottom Creek.

The lower reaches of the East Fork (below R.M. 17) contain a good balance of pools and riffles; stream cover contains a higher percentage of hardwoods than found in the upper reaches. Below the National Forest boundary, R.M. 13.4, the slopes are predominately forested with a young, coniferous forest.

Chinook salmon are known to spawn in the main channel as far upstream as R.M. 15.0. They are not known to spawn in any of the tributaries. Chum salmon useage is probably confined to the lower nine miles on the East Fork and the lower reaches of the tributaries. The anadromous fish runs in the East Fork of the Humptulips, are a contributor to the regionally significant runs in the greater Humptulips system.

Recreational use within the river corridor is primarily fishing and hunting. There are no developed campgrounds or trails within the corridor. Response to the Pacific Northwest Rivers Study 18/ gave the river a high rating for resource characteristics (hydraulics, challenge, solitude), and rated sections of the river above average for white water boating and high for white water kayaking. The "Paddlers Guide to the Olympic Peninsula" rates the East Fork Humptulips as A+, "the white water gem of the Olympic Peninsula." Little white river boating or kayaking is currently being done due in part to the very limited and difficult access, except at road crossings. For the skilled and determined kayaker, the East Fork provides runs through "super-natural fantasy gorges."

The East Fork Humptulips was evaluated as a potential Wild and Scenic River because the issue was surfaced by the public during the scoping process, and its recognition as a significant river on the Olympic Peninsula.

ELIGIBILITY CONSIDERATION - VALUES

Scenic - Cascading water, deep pools, river canyons, and old-growth Douglas-fir, western hemlock, and true fir forests. Generally typical of the rivers and river valleys along the flanks of the Olympic Mountains. **Above average.** This river was evaluated by Washington State Parks for inclusion in the State's Scenic Rivers system.

Recreational - For experienced kayakers, the whitewater gem of the Peninsula. Beautiful gorge sections. Chutes and rapids. Limited steelhead and salmon fishing. No developed, and few undeveloped, recreation sites. **Outstandingly remarkable.**

Geologic - Similar to many other rivers on the outer flanks of the Olympic Mountains, the river rises from springs and wet meadows within the Pacific silver fir forest. Limited areas of canyons and waterfalls. Typical river valley configuration. **Above average.**

Fish - Supports fall runs of coho, chinook, and chum salmon and steelhead. The major tributary to the Humptulips, a regionally significant producer of anadromous fish. **Above average.**

Wildlife - Elk, bear, deer, and other game and non-game species. Bald eagles occasionally sighted. Typical of west side Olympic drainages. **Above average.**

Historical - Limited evidence of splash dams associated with early logging. Little, if any, evidence of early settlement. Early day hunting, trapping, and prospecting occurred but nothing of significance. **Below average.**

Cultural - Apparently limited use by American Indians. Use, probably incidental hunting and fishing, along the lower river corridor. No known sites. **Below average.**

Conclusion - In addition to the "Outstandingly Remarkable" recreation values, white water kayaking, the East Fork of the Humptulips and its adjacent river corridor contain a number of above-average values. The East Fork of the Humptulips is eligible for Wild and Scenic River consideration.

18/ BPA 1985.

ELIGIBILITY DETERMINATION - CLASSIFICATION

Water Resources Development - The full length of the East Fork of the Humptulips is free of impoundments, diversions, or major channel modification.

Shoreline Development - From its source to near Stovepipe Creek, R.M. 24.5, timber harvesting has taken place on one or both sides of the stream for approximately 50 percent of its length. Extensive ongoing timber harvesting may be seen from the river. From Stovepipe Creek to the Forest boundary, the evidence of timber harvesting is not as visible as the riverbanks are frequently quite high, often perpendicular through gorge sections. Timber harvesting has generally been above the break in topography or screened by hardwoods and conifers adjacent to the river.

Between the National Forest boundary and the confluence with the West Fork, evidence of past and ongoing timber harvesting can be seen in the background. Timber harvesting has occurred in the foreground. However, the river bank generally appears natural as viewed from the river. Evidence of timber harvesting is frequent and ongoing.

Accessibility - From its source to near R.M. 25, the river is generally accessible by short cross-country hikes from the Forest roads on both the north and south sides of the river. From that point to the 22 Road crossing, access is very difficult due to the extremely rugged terrain. Downstream from the 22 Road crossing to the confluence, access is limited to two private logging road crossings and a few points where logging roads approach the river.

Water Quality - From its source to the confluence with the West Fork, the water quality is **extraordinary**, State Class AA. This class meets State and Federal standards for aesthetics, fish and wildlife propagation, and primary contact recreation (swimming).

Conclusion - The East Fork of the Humptulips meets the classification criteria for inclusion in the Wild and Scenic Rivers System. There is an **outstandingly remarkable** recreation value. The Pacific Northwest Rivers Study indicated that the scenic value was outstanding. This rating for the corridor is too high. The key components to scenic values, mountains, cascading water, forests and the river itself, are at best, typical of this physiographic province. However, from the river itself, especially within the gorge section, the scenery is outstanding. Other recreational use is primarily linked to the fishery and wildlife resources and is very seasonal. This is typical of this province.

GENERAL DESCRIPTION OF RESOURCES

Lying entirely within the Olympic Mountains section of the Pacific Border Province, the East Fork of the Humptulips rises in the lower flanks of the southwest corner of the Olympic Peninsula. Elevations vary from near 3,200 feet at its source, to near 200 feet at its confluence with the West Fork. Within two miles of its source, the river gradient becomes moderate and the sidewalls of the valley pull back from the river's edge, leaving a valley bottom nearly one-half mile wide. This valley bottom widens to nearly one mile across near the National Forest boundary.

Stands of Pacific silver fir mixed with Alaska yellow cedar with an understory of huckleberry and devilsclub, are typical of the silver fir zone found in the very upper reaches of the river corridor. The river drops rapidly out of this zone and upon reaching the point where the river gradient moderates, is well within the western hemlock zone. Western hemlock, western redcedar, Douglas-fir and Sitka spruce are the major conifer component of the stand. Red alder, big leaf maple, and black cottonwood occur primarily along the river edge and in wet lowlands. Huckleberry, vine maple, devilsclub, salal, Oregon grape, salmonberry, and western thimbleberry are typical understory shrubs.

The entire length of the East Fork of the Humptulips is somewhat accessible by road. In its lower reaches, a number of private roads reach or approach the river. Upstream from the 22 Forest Road bridge (R.M. 15.2), Forest Roads 22, 2206, 2206100, 2281 and 228140 access the river corridor.

Depending upon the segment of the river to be visited, the East Fork of the Humptulips can be as close as 27 miles, or as distant as 40-plus miles from Aberdeen and Hoquiam. From Olympia, it is 60-plus miles while Seattle is 145 miles away. Chehalis-Centralia is about 110 miles or a 2-hour plus drive.

Fishing, hunting, camping, and day use are the primary uses within the river corridor. Floating the river in association with fishing, is a significant use. Recreation boating, especially kayaking, is an increasing use. Referred to as the "whitewater gem of the Olympic Peninsula," this rugged and difficult to access river provides an outstanding quality experience for the experienced kayaker. Narrow canyons, chutes, still pools and rain forest vegetation give it a fantasy-like setting.

Within the Olympic National Forest boundary, the Quinault Unit Plan has allocated the majority of the area as available to timber production on a sustained yield basis. Special management practices are required for timber harvesting near the river to protect the qualities of the riparian areas.

Outside of the National Forest boundary, the private and county lands are being managed for timber production. Management practices are regulated by the State Forest Practices Act.

Water -Maximum flows on the East Fork of the Humptulips are generally associated with warm "chinook" rains that follow early snows in November, December, and January. While there is no gauging station on the East Fork of the Humptulips, the station 3.3 miles downstream from the confluence provides information on the range of flows. The maximum flow at the gauging station occurred on January 22, 1935, with a flow of 33,000 c.f.s. The minimum flow of 82 c.f.s. occurred on September 11, 1944. This is typical of the timing of low flows late in the summer or early fall, following an extended period without rainfall.

While these represent the extremes, the more typical high and low flows would be in the range of 18,000 c.f.s. to 19,000 c.f.s., and 130 c.f.s. to 150 c.f.s.

There are no recorded water rights (allocations) within the East Fork of Humptulips river corridor. 19/

Hydropower potential of the National Forest portion of the river is estimated to be 98.1 Gigawatts per year at the 30% exceedance level. No hydropower sites or diversions have been proposed on the East Fork of the Humptulips.

Water quality is **extraordinary**, State Class AA, from the source to the National Forest boundary. From the National Forest boundary to the mouth, it is **excellent**, State Class A.

Generally, the waters are so clear that the river bottom can be seen except in the deepest pools. During periods of high rainfall or rapid snowmelt, the river will become murky to a shade of brown, depending upon the intensity of the rainfall or rapidity of the snowmelt. Water temperatures are generally cool, except for two to three months during the summer when the water temperatures rise adequately to permit swimming and water play. Thus temperature, not water quality, is the limiting factor for primary contact use. Because the water quality is so good, fish and wildlife dependent upon the East Fork of the Humptulips and its environs thrive and can often be seen by visitors to the river and river corridor.

19/ Department of Ecology, February 1989

Fish and Wildlife - Coho, chum, and chinook salmon, sea-run cutthroat trout, steelhead, plus resident cutthroat trout, utilize the East Fork of the Humptulips system and many of its tributaries. Chinook, chum and coho spawn in the main channel; chum to about R.M. 9 and chinook to near R.M. 15. Coho, steelhead and sea-run cutthroat will pass the falls at Flatbottom Creek and utilize the river up to the vicinity of R.M. 26.

Based on the anadromous fish habitat, the East Fork of the Humptulips system has an estimated annual production of nearly 11,200 adult fish. Approximately 58 percent of this habitat capability is within the National Forest boundary. The remaining 42 percent is outside the National Forest on private and county ownerships. See Table F-29 for potential production capabilities.

Table F-29. Estimated Annual Habitat Production Capabilities for Anadromous Salmonids - 1984 1/

Species	Landownership	Spawning Population	Smolt Production	Total Adult Production
Chinnook	NF	180	25,260	1,090
	Other	130	18,300	780
	TOTAL	310	43,560	1,870
Coho	NF	970	35,890	2,870
	Other	700	25,980	2,080
	TOTAL	1,670	61,870	4,950
Steelhead	NF	840	14,470	1,260
	Other	620	10,480	910
	TOTAL	1,460	24,950	2,170
Cutthroat	NF	840	14,470	1,260
	Other	620	10,480	910
	TOTAL	1,460	24,950	2,170
All	NF	2,830	90,090	6,480
	Other	2,070	65,240	4,680
	TOTAL	4,900	155,330	11,160

1/ Estimates only apply to the East Fork Humptulips River, i.e., estimates for the accessible habitat in the West Fork or the mainstem Humptulips are **not** included.

Generally, all of the wildlife species found on the west side of the Olympic Peninsula can be found as residents of, or visitors to, the river corridor. Some of the more common large animals are Roosevelt elk, black-tailed deer, black bear, cougar, coyote and bobcat. Smaller mammals include raccoon, mink, beaver, mountain beaver, rabbit and skunk.

The valley bottoms, south slopes and river corridors provide winter range for big game, mainly elk and deer, from the vicinity of Stovepipe Creek, R.M. 24.5, downstream.

Blue grouse, ruffed grouse and pigeons are common game birds found in the area. Ducks, ospreys, eagles, kingfishers and a variety of water birds inhabit the water edge and adjacent river corridor. The

northern bald eagle is the only threatened wildlife species known to inhabit the area. The old-growth timber in the upper east fork and adjacent Moonlight Dome Special Management Area are suitable habitat for the northern spotted owl, a sensitive species.

The riparian habitat in nearly all reaches is generally in excellent condition, with only a few areas where the habitat has been significantly modified by timber harvesting.

Recreation - Recreational use on the river and within the river corridor, tends to fall into three use areas. One group is directly dependent upon the river for fishing, both from the shore and, to a lesser degree, by drift boat. An emerging use is the whitewater kayaker. While access to the river is limited or difficult, the quality of the experience has developed a user group from those experienced and skilled kayakers looking for a quality run. Another group is associated with the river but not dependent upon it, such as for camping, picnicking, hiking and other day use. The third user group would probably occur even if the river wasn't there, i.e., hunting, mushroom picking, and driving for pleasure. Within the East Fork Humptulips river corridor, most of these activities will occur within the ROS classification of Roaded Modified.

Currently there are no developed recreation sites or boat launches adjacent to the river corridor. A few undeveloped, informal camping, picnicking, general day use and boat launch sites exist along the river.

Opportunities for drift boating, rafting, canoeing and other forms of river floating is suppressed due to the lack of river oriented facilities and the basic land forms along the river, (i.e., cliffs, canyon, etc.)

Developed boat launch facilities along the East Fork of the Humptulips should be developed at selected locations. Currently three specific runs have been identified:

The Narrows Run	5 miles, Class III	Scenery rated A+	R.M. 19-R.M. 14
The Falls Section Run	5 miles, Class III	Scenery rated A-	R.M. 17-R.M. 12
The Gorge Run	10 miles, Class III+	Scenery rated A+	R.M. 12-R.M. 2

Public access to the put in and take out points is desirable. Improvement of the "launch site" would depend on the terrain at the site. For the put in for the Narrows Run, this would consist of improved parking and trail to the river.
There are no trails that follow the river edge, except the occasional boot-worn fisherman trails that have come into existence through use over a number of years. If designated as a Wild and Scenic River, a trail along all or selected segments would be desirable.

Historical/Cultural - Knowledge of use by Indians is very limited. It is known that fishing for salmon and steelhead along the lower reaches of the main Humptulips was done by bands and members of the Humptulips. While permanent villages probably existed along the lower Humptulips, not much is known about any specific sites. Considering the extremely rugged terrain, severe cliffs, and sidewall canyons, it would not seem likely that significant use occurred very far upstream, especially since resources were plentiful for many river miles downstream to Grays Harbor. The existence of any sites is even less likely for the East Fork.

Settlement along the lower Humptulips began in the mid 1890's, and progressed upstream with home-steading in the upper Humptulips and lower West Fork during the late 1800's. Many of these early

subsistence homesteads eventually failed and were ultimately returned to timber production. Homesteading on the lower East Fork was even more limited.

During calendar year 1988 there was an estimated 2,300 undeveloped use recreation visitor days of use within the East Fork of the Humptulips Drainage. Estimated use within the National Forest segments of the river corridor are shown in Table F-30.

Table F-30. Recreational Activities (Estimated Recreational Use - RVDs and Trends)

	1988	2000
Undeveloped Recreation	2,300	2,700
Boating (flatwater, whitewater)	Light	Light
Water Play (swim, wade)	Light	Light
Fishing	Light	Moderate
Hunting	High	High
Camping: Undeveloped	Light	Moderate
Hiking	Light	Light
Picnicking	Light	Light
Viewing Scenery	Light	Light
TOTAL	2,300	2,700

Timber - Within the boundaries of the Olympic National Forest, nearly 80 percent of the river corridor acres are tentatively suitable for intensive timber management. If designation occurs, timber harvest will be allowed in the scenic and recreational segments. The harvest would be designed to maintain and enhance the scenic and recreational values of the river.

Volume of Allowable Sale Quantity (ASQ)

	ASQ---------->		
Total Timber Volume	Potential Harvest With Legal Requirements	Forest Preferred Alternative	Designated as Wild and Scenic River as Classified
99.9 MMBF	2.2 MMBF	1.92 MMBF	1.69 MMBF

Minerals/Energy - Following the outbreak of World War II and the increase in demand for manganese, a flurry of minerals exploration occurred within the Humptulips Drainage. There is little evidence that any of this activity spread into the East Fork Drainage. No claims were patented and any mining claim activity is dormant. The potential for any locatable minerals is extremely low.

Oil and gas exploration in the Grays Harbor area dates back to 1901 and has continued on an intermittent basis since that time. In 1922 a well was drilled near R.M. 3.5 of the Humptulips River nearly 25 miles downstream from the confluence of the East and West Forks of the Humptulips. A trace of natural gas was found. While other drilling has occurred within the general area, none has been within the river corridor. 21/

In the early 1980's a renewed interest resulted in leases being issued for nearly all of the National Forest lands within the East Fork of the Humptulips Drainage. Following limited seismic exploration, nearly all of the leases were allowed to lapse. Due to the geologic formation within this area, the potential for future exploration and possible production remains fairly speculative.

Common variety mineral material utilized for crushed road rock, is a valuable resource found within the river corridor. Within the National Forest four existing rock sources are located on the river terraces within the corridor. These are key in providing surfacing for roads in the area. A number of similar sites exist on State and private lands outside of the Forest boundary.

Transportation/Roads - The existing network of county and private roads that parallel, cross, and access the river and its corridor is adequate to meet the objectives of a Scenic and Recreational River. Acquiring and providing public boat launch facilities needs to be evaluated in detail throughout the West Fork from Stovepipe Creek to its mouth.

Nearly all roads within or accessing the river corridor have a mix of timber haul and recreational traffic. The existing roads are generally adequate to accommodate the current and projected use without any unacceptable conflicts.

NON-FEDERAL LANDOWNERSHIP AND USES

Grays Harbor County, timber companies and private individuals own land adjacent to the East Fork Humptulips River outside of the National Forest boundary. These lands are managed for timber production and maximum return to the county and companies while meeting Forest Practice Act requirements. ITT-Rayonier owns the majority of the land adjacent to the river. Limited activity has occurred along the riverbanks. Thus, riparian vegetation is in very good condition. The existing and projected landownership pattern and uses are consistent with the classification requirements for a Recreational River.

FUNDING NEEDS IF DESIGNATED AS A WILD AND SCENIC RIVER (NATIONAL FOREST SEGMENTS ONLY)

The following are expected funding needs for the East Fork Humptulips River for the first 5 years following a designation as a Wild and Scenic River:

Table F-31. Estimated Cost of Management as a Wild and Scenic River

Annual Costs	General Administration Operation and Maintenance	$13,500 19,500
	TOTAL	$33,000
Non-Recurring Costs	Cost of Implementation 1/ Preparation of Management Plan 1/ Acquisition and Development Costs	$5,000 20,000 26,000
	TOTAL	$51,000
	TOTAL COST--FIRST FIVE YEARS	$84,000

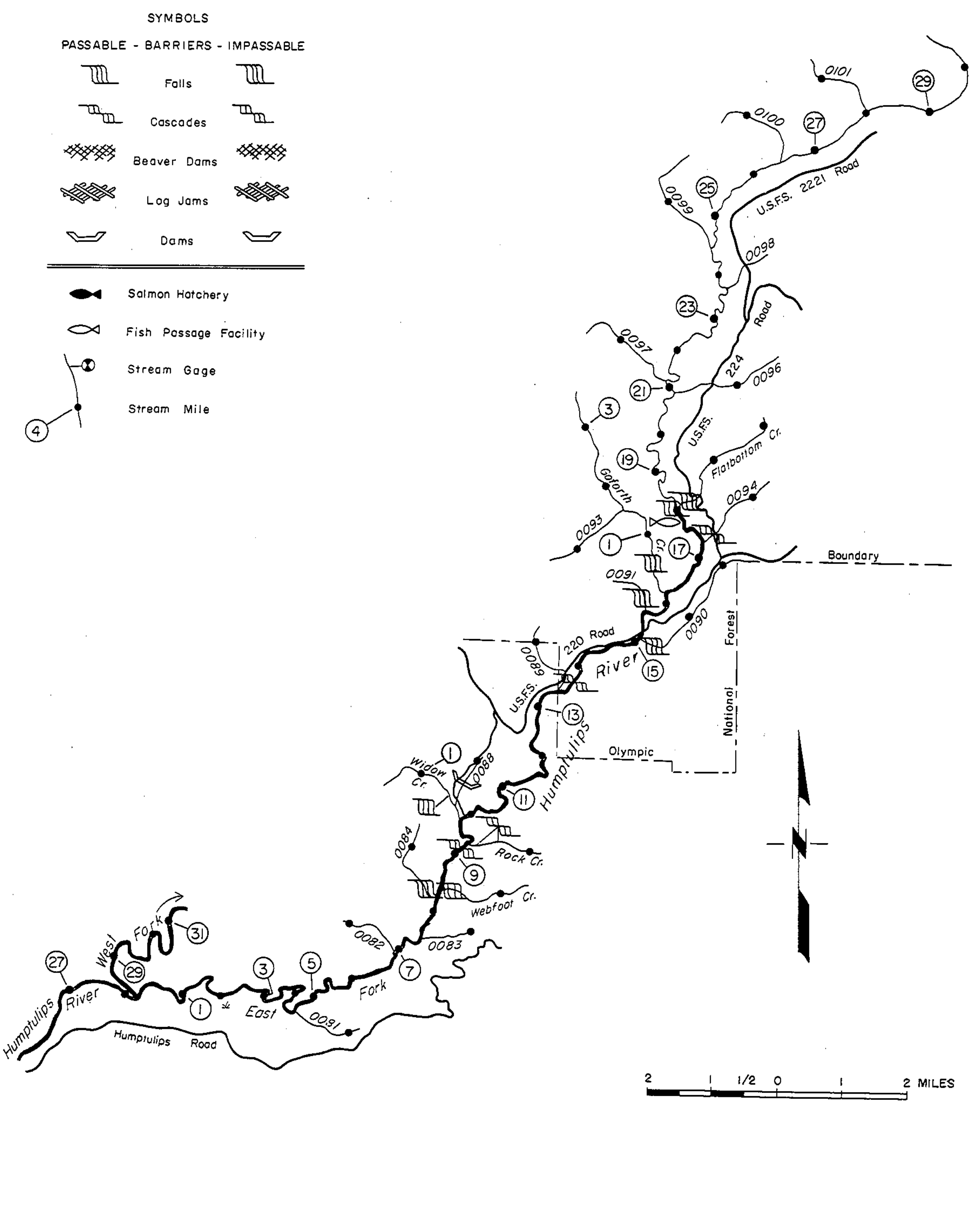
1/ Costs primarily in years 1 and 2.

The projected annual general administration and operation and maintenance costs would continue at an estimated $7,000 per year.

If all eligible segments were designated as additions to the Wild and Scenic Rivers System, the estimated funding needs for the first five years would be $170,000. Annual general administration and operation and maintenance costs would be an estimated $14,000.

EAST FORK HUMPTULIPS RIVER

Lower Chehalis Basin



GRAY WOLF RIVER

GENERAL SETTING

The Gray Wolf River is 17.4 miles in length; 9.4 miles of this is within the Olympic National Park and 8.0 miles within the Olympic National Forest.

Acreage and mileage by ownership for the Gray Wolf is summarized below.

Ownership	Miles	Acres
Olympic National Park	9.4	3,010
Olympic National Forest	8.0	2,560
TOTAL	17.4	5,570

The Gray Wolf River makes up one of the principal river systems on the Olympic Peninsula. Flowing north from the point of their origin in the high country which divides the Dosewallips and Dungeness Drainages, the Gray Wolf merges with the Dungeness. The area is mountainous with coniferous forests covering the valley walls (sparsely near timberline), becoming dense in the lower valleys. Stream gradients are steep in the upper reaches with numerous sections of cascades and rapids. The Gray Wolf is accessible to anadromous fish, coho, spring chinook, early-run pink salmon, and steelhead to about R.M. 9.

The Gray Wolf pink salmon are unique in the Puget Sound Basin. Typical stocks approach maturity while in saltwater, and migrate through main stem or lower stream reaches requiring little strenuous swimming. Spawning normally commences upon arrival in the stream. In contrast, early Dungeness pink salmon enter the stream while still in prime condition. They move rapidly upstream to their spawning destination, where they remain in pools up to one month while completing maturity. The excellent condition of these fish permits them to ascend barriers that would stop many others.

The Sequim Valley of the lower Dungeness lies in the "rain shadow" of the Olympic mountains, and has an extremely dry climate. While the upper reaches of the Gray Wolf receives more rain than the Sequim Valley, it remains in the "rain shadow." High ridges are open, with sparse vegetation.

Recreationists from the Puget Sound Basin visit the Gray Wolf Valley to camp, hike, fish, view the scenery, and during the fall to hunt deer and mountain goats.

The Gray Wolf is being evaluated as a potential Wild and Scenic River as a result of public input during the identification of issues, concerns and opportunities.

ELIGIBILITY DETERMINATION - VALUES

Scenic - High, open ridges, excellent views of Olympics, snowfields, cascading water, narrow river canyons. **Outstandingly remarkable.**

Recreation - Hiking, camping, fishing, deer and goat hunting. **Above average.**

Geologic - Mountain peaks, narrow canyons, cliffs, rock-faces, "rain shadow," waterfalls, and whitewater cascades. **Outstandingly remarkable.**

Fish - Chinook, coho and pink salmon. Unique early pink salmon run. Steelhead, sea-run cutthroat, resident fishery. **Outstandingly remarkable.**

Wildlife - Deer, mountain goats, elk, numerous smaller animals. **Average.**

Historical - A few trails and trail camps that date back to the CCC days. **Below average.**

Cultural - Probable limited use by prehistoric man. No sites found within corridor. There is some potential that sites may be found since sites have been located at nearby Slab Camp and Deer Park. **Below average.**

ELIGIBILITY DETERMINATION - CLASSIFICATION

Water Resources Development - The river is free of dams and diversion structures. There are no current proposals for any dams or diversions on the Gray Wolf.

Shoreline Development - The evidence of man's presence is limited to an occasional riverside trail camp or footbridge across the river, from its source to the road bridge at R.M. 1 on the Gray Wolf.

Once below the bridge (R.M. 1.0), until it joins the Dungeness, the evidence of past and ongoing timber harvests and roads can occasionally be seen in the background. The river edge generally appears natural, with only limited evidence of human activity.

Accessibility - The upper reaches of the Gray Wolf above R.M. 1.2 are accessible only by trail. From this point downstream, the river is not readily accessible from existing roads until it flows past Dungeness Forks Campground.

Water Quality - From its source to its mouth, the Gray Wolf is rated as Class AA, "extraordinary" waters by the State. Both classifications meet or exceed the criteria for aesthetics, use by fish and wildlife, and primary contact recreation.

Conclusion - The Gray Wolf meets the eligibility for its full length, 17.4 miles. It has **"outstandingly remarkable"** scenic, geologic, and fish values.

GENERAL DESCRIPTION OF RESOURCES

The Gray Wolf River originates from the interior of the Olympic Mountains. Upper tributaries are fed from snowfields. The Gray Wolf has three major upstream branches; Grand and Cameron Creeks plus the main stem, which meet at "Three Forks" in Olympic National Park. The Gray Wolf River enters the Dungeness River near Dungeness Forks Campground.

Watershed cover, valley configuration, stream gradient and terrain in the Gray Wolf are similar to the upper and middle reaches of the Dungeness and all of the Gray Wolf. These areas are mountainous with dense coniferous forest cover which becomes sparse near timberline. The Douglas-fir-western hemlock zone is predominant. The upper Dungeness has minor amounts of the Douglas-fir plant association on steep, dry,

well-drained slopes. The mountain hemlock-subalpine fir zone is found in the headwater areas of the Dungeness.

Stream gradient in the upper main branches and tributaries is steep and often precipitous above, approximately, the 2,500-foot elevation. Below this, the gradient remains steep, although patches of gravel are interspersed among the rubble and boulder substrate. The Gray Wolf River originates in Cedar Lake at about 5,250 feet elevation, and enters the Dungeness at 1,100 feet.

Other than the very lower reaches, all of the Gray Wolf is accessible by trail. Three major trailheads serve the Gray Wolf. One is at Deer Park, in the Olympic National Park which provides access to the upper reaches in the Three Forks area. The mid section is accessed via the Slab Camp Trail, which reaches the Gray Wolf near Camp Tony. The lower reaches are accessed from the trailhead where Forest Road 2870 crosses the Gray Wolf. The Gray Wolf Trail is, for the most part, within the one-quarter mile river corridor.

The Gray Wolf and the Dungeness Valleys lie in the Olympic "rain shadow," causing the area to be the driest coastal region north of southern California. The "rain shadow" is caused by the area's position with respect to the mountains and prevailing winds. As a result, the average annual precipitation in Sequim is only about 15 inches. While the Gray Wolf River receives a higher annual precipitation, it has typical "rain shadow" characteristics.

Water - The Gray Wolf River meets or exceeds the criteria for aesthetics, use by fish and wildlife, and primary contact recreation as defined in "Water Quality Criteria", Federal Water Pollution Control Administration, April 1, 1968. The Gray Wolf waters are rated Class AA, "extraordinary."

As is characteristic for Western Washington, the Gray Wolf River exhibits minimum flows during the summer months when precipitation is least and snowpacks are depleted. Streamflow begins to increase in October, reaches a maximum base flow in December, and gradually decreases from January through the middle of March. Due to rising temperatures and snowmelt, runoff begins to increase in the latter part of March, and reaches a maximum in early June.

The total drainage area above the mouth of the Gray Wolf River is 76 square miles. There is no gauging stations on the Gray Wolf. Maximum and minimum flows are unknown as is the average annual flow. There are no diversions or water use directly from the Gray Wolf River. There are no current proposals for water use or diversion from the Gray Wolf.

Hydropower potential of the National Forest portion of the Gray Wolf River is estimated to be 125 Gigawatts per year at the 30% exceedance level. This development would be largely located within the Buckhorn Wilderness. A power withdrawal occupies a one-quarter mile strip on both sides of the Gray Wolf River.

Fish and Wildlife - Little or no overlap occurs in the timing or spawning area.

Most early-run pink, coho and spring chinook utilize the Gray Wolf River to about R.M. 8.0, with a few individuals ascending to about R.M. 9.0. The pink salmon are unique in Puget Sound. It is a native wild stock with no hatchery influence. Fish migrate through main or lower stream reaches requiring little strenuous swimming. Normally, spawning occurs upon arrival in the stream. In contrast, these pink salmon enter the river in prime condition, move rapidly upstream to their spawning destination and remain up to one month in the pools. They negotiate rapids and small falls that would be barriers for other fish.

Based on the anadromous fish habitat, the Gray Wolf River and tributaries have estimated annual production of approximately 20,600 adult fish. Nearly all of this habitat capability is within the Forest. Table F-32 summarizes the fisheries potential.

Resident trout exists in the Gray Wolf River well into the Olympic National Park.

Wildlife species typical of the east side of the Olympics are assumed to frequent the river corridors. Deer utilize the drainage bottoms for summer range. Areas below 1,500 feet in elevation provide some winter range. A small herd of elk can be found in the Gray Wolf drainage. Bear, cougar and bobcats have been observed over most of the area. Mountain goats and the Olympic marmot may be seen in the headwater areas of these rivers. The northern bald eagle is the only threatened wildlife species known to inhabit the area.

Recreation

Table F-32. Potential Annual Habitat Production Capabilities for Anadromous Species

Species	Landownership	Spawning Population	Smolt Production	Total Adult Production
Chinook	NF	60	8,480	360
Coho	NF	220	11,250	1,120
Chum	NF	130	28,560	290
Pink 1/	NF	6,380	765,000	16,830
Steelhead	NF	660	11,280	980
Sea-run Cuthroat	NF	660	11,280	980
All	NF	8,110	835,850	20,560

1/ Olympic Peninsula pink salmon spawn only during odd years. As such, the annual estimates shown are odd year number divided by 2.

One developed recreation site, Dungeness Forks Campground, is located along the Gray Wolf River at its confluence with the Dungeness River. This campground is a popular fishing spot. A summary on this campground is in Table F-33.

Table F-33. Developed Recreation Sites

National Forest Sites					
Site	ROS Class	Capacity PAOT	Managed Season Days	1988 Use RVDs	Projected Capacity PAOT
Dungeness Forks Campground	Roaded	50		10,800	135

No new National Forest campgrounds are proposed within the Gray Wolf River corridor. Expansion of Dungeness Forks Campground to nearly 3 times its existing capacity is planned in the future.

Trails access the Gray Wolf River on National Forest and National Park lands. The Gray Wolf Trail is accessed from trailheads on Forest Roads 2870 and 2875, or from Deer Park in Olympic National Park. The Forest Service section basically follows the river for 9.1 miles to the Park boundary. All but the first two miles of the trail are within the Buckhorn Wilderness. Once inside the Park, the trail continues along the Gray Wolf for about two miles to Three Forks. From there the trail branches three directions; up the main stem of the Gray Wolf, up Cameron Creek, or uphill to Deer Park. Hiking and fishing access are the major uses along the trails. Existing use estimates are summarized in table F-34.

The scenery along the trails in the Wilderness portion and within the Park, is outstanding. The lower portions provide excellent examples of old-growth forests. The rivers are in a clean, natural state. The upper reaches of the trails in the Forest and Park provide spectacular mountain views.

Table F-34. Recreation Trail Use, 1988

Trail	Agency	Miles	RVDs 1/	ROS		Trail	Agency	Destination	Visitor Nights 2/
Gray Wolf	ONF	9.1	500	Roaded Modified --Mile 0 - 2.5 Primitive --Mile 2.5 - 9.1		Gray Wolf	ONP	Park Boundary to Three Forks Three Forks Cedar Lake Royal Lake	 4 281 181 943

1/ National Forest Data
2/ National Park Data

Table F-35. Recreational Activities (Estimated Recreational Use - RVDs and Trends)

	1988	2000
National Forest Developed Sites	10,800	12,500
Undeveloped Recreation	13,500	15,800
Boating (flatwater, whitewater)	Light	Moderate
Water Play (swim, wade)	Light	Light
Fishing	Moderate	High
Hunting	Moderate	High
Camping: Undeveloped	Moderate	High
Hiking	Moderate	High
Picnicking	Light	Light
Viewing Scenery	Light	Moderate
TOTAL	24,300	28,300

Historical/Cultural - There are no known historical or cultural sites along the Gray Wolf River. A prehistoric site has been identified near Slab Camp and use probably occurred within the river corridor.

Minerals/Energy - National Forest lands are open to mineral exploration and leasing, except within the Buckhorn Wilderness and at administrative sites. No significant mining has occurred within the Gray Wolf River corridor. It is unlikely that any significant mineral or energy resources occur within the river corridor.

Timber/Land Allocation - The Canal Front Plan, 1979, established the land allocation and use on the National Forest segments within this area. In 1984, the Washington Wilderness Act allocated areas to the Buckhorn Wilderness along all but the reaches of the Gray Wolf River. Land allocation on the National Forest is summarized in Table F-36. The non-Wilderness allocations have been superceded by the management directions in this Forest Plan.

Table F-36. Land Allocation

Segment	Management
Forest/Park boundary to 2 1/2 miles above confluence with Dungeness	Buckhorn Wilderness
R.M. 2.5 - R.M. 1.0	Special Managment Area (Canal Front Plan)
R.M. 1.0 - Mouth	General Forest

Timber harvest is not permitted in the Buckhorn Wilderness. As directed in the Canal Front Plan, the Gray Wolf Special Management Area is in the unregulated cut component, wherein timber sales will not be planned, and timber will not normally be cut. However, salvage or sanitation operations are permitted, if essential to public health and safety or protection of the resources. There are no disease or insect problems within the river corridors. The potential for significant outbreaks is low.

The following tables summarize acreage allocation and tentatively suitable acres characteristics.

Table F-37. Summary of National Forest Acres

Wilderness	1,760
Unsuitable	354
Tentatively Suitable	446
TOTAL	2,560

Table F-38. Tentatively Suitable Acres by Age Class and Site

Site/Productivity	BG Bare Ground (0.1"-2.9" DBH)	SS Seedling-Sapling (3"-4.9" DBH)	PL Poles (5"-8.9" DBH)	MS Small Saw (9"-20.9" DBH)	LS Large Saw (21+" DBH)
High Medium Low Low, Natural	40	49	6 68	175	108
TOTAL	40	49	74	175	108

Table F-39. Tentatively Suitable Standing Volume by Site and Age Class

	Large Sawtimber				Small Sawtimber				Young Stands			
Site/ Productivity	Acres	MCF/ Acre	MCF	MBF	Acres	MCF/ Acre	MCF	MBF	Acres	MCF/ Acre	MCF	MBF
High Medium	108	8.98	970	4,220	175	6.09	1,066	4,637	6 68	4.56 3.09	27 210	117 914
TOTAL	108		970	4,220	175		1,066	4,637	74		237	1,031

Summary: 2,273 MCF or 2.3 MMCF
9,888 MBF or 9.9 MMBF

Table F-40. Tentatively Suitable Land Potential Yield by Site and Elevation

	<1,500' (Winter Range)				>1,500' (Summer Range)			
Site/ Productivity	CF/Acre/ Year	Acres	MCF/Year	MBF/Year	CF/Acre/ Year	Acres	MCF/Year	MBF/Year
High Medium	176.88 130.74	95 311	16.80 40.66	73.08 176.87	121.24	40	4.85	21.10
TOTAL		406	57.46	249.95		40	4.85	21.10

Summary: 62.31 MCF/Year
271.05 MBF/Year

NON-FEDERAL LANDOWNERSHIP AND USES

All of the lands within the National Forest segments of the Gray Wolf river corridor are in National Forest ownership.

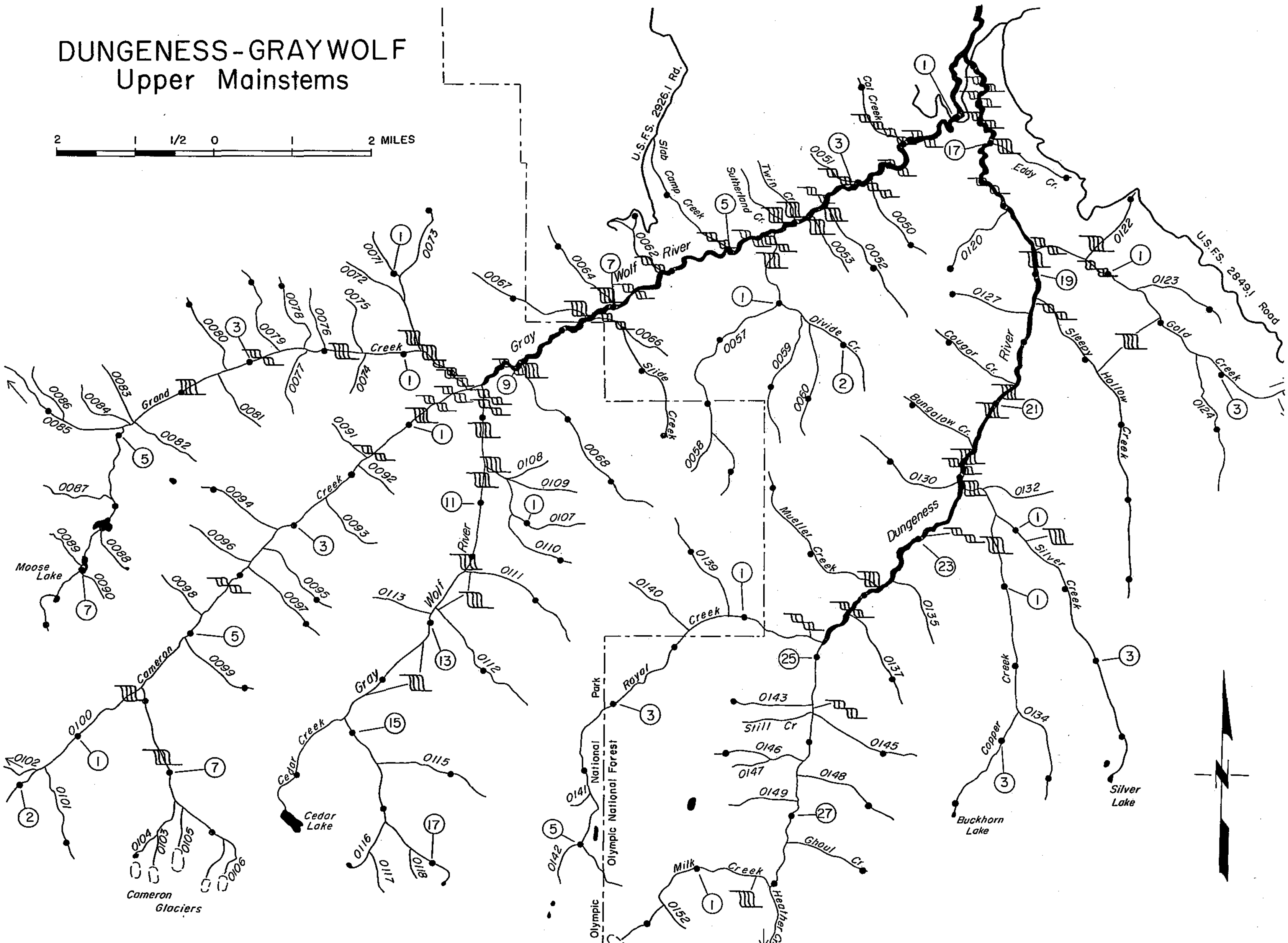
FUNDING NEEDS IF DESIGNATED AS A WILD AND SCENIC RIVER (NATIONAL FOREST SEGMENTS ONLY)

The following are expected funding needs for the Gray Wolf River for the first five years following a designation as a Wild and Scenic River:

Table F-41. Estimated Cost of Management if Designated as a Wild and Scenic River

Annual Costs	General Administration Operation and Maintenance	$7,800 37,300
	TOTAL	$45,100
Non-Recurring Costs	Cost of implementation 1/ Preparation of Management Plan 1/	$5,000 16,500
	TOTAL	$21,500
	TOTAL COST--FIRST FIVE YEARS	$66,000

1/ Costs primarily in years 1 and 2.


DUNGENESS-GRAYWOLF
Upper Mainstems
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U.S.F.S. 2926.1 Rd.
U.S.F.S. 2849.1 Road
Gray Wolf River
Dungeness River
Grand Creek
Cameron Creek
Cedar Creek
Cedar Lake
Cameron Glaciers
Moose Lake
Slab Camp Creek
Sutherland Cr.
Twin Cr.
Cat Creek
Eddy Cr.
Slide Creek
Divide Cr.
Royal Creek
Mueller Creek
Cougar Cr.
Bungalow Cr.
Sleepy Hollow Creek
Gold Creek
Silver Creek
Silver Lake
Copper Creek
Buckhorn Lake
Still Cr
Ghoul Cr
Milk Creek
Heather Cr.
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Olympic National Forest
Olympic National Park
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HAMMA HAMMA RIVER

GENERAL SETTING

The Hamma Hamma is one of the shortest of the major rivers on the Olympic Peninsula, with a total length from source to the mouth 17.8 river miles. With its origin at Murdock Lake, the river flows easterly for 12.0 miles within the National Forest boundary, exiting at R.M. 5.8. In the remaining distance to Hood Canal, the river flows through 3.5 miles of State Department of Natural Resources lands, and 2.8 miles of private land.

Mileage and acreage by ownership are summarized below. Acreage is based on a one-quarter mile corridor each side of the river. The National Forest acres were extracted from the planning map data base.

Ownership	Miles	Acres
Olympic National Forest	11.5	3,680
State of Washington DNR		
within National Forest Boundary	0.5	160
outside National Forest Boundary	3.0	960
Private		
outside National Forest Boundary	2.8	900
TOTAL	17.3	5,700

Rising within the Sawtooth Range on the eastern flanks of the Olympic Mountains, the Hamma Hamma River descends rapidly through steep mountain terrain cutting through a narrow, steep-walled valley with forested side slopes. Small waterfalls, cascades and rapids, with sections of pools and riffles, are found throughout the river. Water quality is excellent. With a series of cascades, steep gradients and waterfalls between R.M. 2.7 and 2.0, anadromous fish are limited to the lower two miles of the river. While access of the main stem area is limited in length, it is offset by its exceptional quality. It is heavily spawned by chum and pink salmon, and to a lesser degree by chinook and coho.

Recreational use is high within the drainage with access to the Mt. Skokomish Wilderness, Mildred Lakes, Lena and Upper Lena Lakes. Recreationists throughout the South Puget Sound Basin travel to the Hamma Hamma for the camping, hiking, and mountain climbing activities.

The Hamma Hamma is being evaluated as a potential Wild and Scenic River because of the identification of Wild and Scenic Rivers as an issue, and because of its inherent qualities.

ELIGIBILITY DETERMINATION - VALUES

Scenic - Vistas of mountains within Sawtooth Range, waterfalls and cascades. **Outstandingly remarkable.**

Recreational - Camping and picnicking along the river, sightseeing, fishing and hiking. **Above average.**

Geologic - Rugged peaks, narrow river canyons. **Above average.**

Fish - Anadromous species in lower two miles. Resident trout fishery above. **Above average.**

Wildlife. Deer, elk, bear and smaller game and nongame species. Bald eagles reside in lower reaches during winter months. **Average.**

Historical - Limited settlement by pioneers. Forest Service Hamma Hamma Guard Station (original summer headquarters for Forest Supervisor). The CCC era Guard Station, which replaced earlier versions has been evaluated and is eligible for the National Register of Historic Places. **Above average.**

Cultural - No known sites. Probable use by prehistoric people tied to anadromous fishery in lower river. Culturally modified trees and isolated artifacts have been found on tributaries of the Hamma Hamma. This evidence occcurs a substantial distance into the interior and similar use, or evidence of use, may someday be located in the upper reaches of the Hamma Hamma. **Average.**

ELIGIBILITY DETERMINATION - CLASSIFICATION

Water Resources Development - The Hamma Hamma is estimated to have a hydropower production potential of 5.23 Gigawatts per year at the 30% evaluation level.

Currently there are no impoundments or diversion structures on the Hamma Hamma. However, there is, and has been a series of run-of-the-river hydropower projects proposed on the Hamma Hamma and its tributaries. The only one that remains active is the lower Hamma Hamma, near R.M. 2.7 where a license application has been submitted to the Federal Energy Regulatory Commission (FERC).

Five additional project applications have been dropped and three denied by FERC. See Table F-41 for a summary of projects and locations.

Shoreline Development - From its source at Murdock Lake, through the Mt. Skokomish Wilderness to R.M. 14.5, the shoreline lacks any evidence of human activity. There are no trails through this area. From R.M. 14.5 to the mouth of Lena Creek at R.M. 8.9, the shoreline is largely primitive with only limited evidence of human activity. The evidence of early logging is seen only if one looks closely. A concrete bridge spans the river at R.M. 14.4. Downstream from R.M. 8.9, the level of development in the river corridor increases significantly. Lena Creek Campground is located at R.M. 8.8, Hamma Hamma Campground at R.M. 7. Dispersed recreation sites are found throughout this section. Evidence of timber harvesting is not readily apparent. From the National Forest boundary, R.M. 5.8 to the mouth, evidence of timber harvesting is readily apparent, sometimes well within the river corridor.

Accessibility - Upstream from R.M. 14.5, access to the river is by cross-country travel, as trails have never been constructed adjacent to the river within this area. Near R.M. 14.4, a concrete bridge spans the river to reach the trailhead on the south side. Downstream from this point to R.M. 8.9, the Hamma Hamma road roughly parallels the river up to one-quarter mile away. From R.M. 8.9 to 7.3, the Hamma Hamma road is immediately adjacent to the river. At R.M. 7.3, a concrete bridge spans the river resulting in a road along

both sides to near R.M. 5.5, when both roads pull away from the river. Access to the river from this point to Highway 101 (R.M. 0.2), is by local roads across private and State land.

Water Quality - The Hamma Hamma is rated as a Class AA, "extraordinary" water by the State. This meets or exceeds Federal criteria for aesthetics, propagation of fish and wildlife, and primary contact recreation.

Conclusion - The entire length of the Hamma Hamma River meets the classification criteria for either Wild, Scenic or Recreational River. In addition to its "outstandingly remarkable" scenic values, the Hamma Hamma has high recreational, geological and fish values. Therefore, the Hamma Hamma should receive further evaluation as an addition to the Wild and Scenic Rivers System.

GENERAL DESCRIPTION OF RESOURCES

The headwaters of the Hamma Hamma River flow through some of the most scenic areas on the Olympic Peninsula. Flanked by some of the major peaks on the Canal Front, the Hamma Hamma has carved a course through the Sawtooth Range in its descent to Hood Canal. Side slopes are very steep to precipitous, with only slight moderation occurring prior to the confluence of Cabin Creek. This coincides with the transition from the Olympic Mountains to the Puget trough sections of the Pacific border province. Dropping from slightly over 6,000 feet to sea level in less than 18 miles, the Hamma Hamma has one of the steepest river gradients on the Olympic Peninsula.

Descending rapidly, the Hamma Hamma River flows through the subalpine, mountain hemlock and silver fir vegetation zones for its first two miles. The remaining distance to Hood Canal is within the western hemlock zone. Huckleberry, rhododendron, vine maple and salal are typical understory vegetation. Devilsclub is commonly found in wet, marshy areas. Red alder and cottonwood line the edge of the river and its larger tributaries.

Located within 55 miles of Seattle, (assuming crossing Puget Sound by ferry) and 80 miles from Tacoma, the Hamma Hamma is within two hours driving time of the largest metropolitan population in the Northwest. Olympia (50 miles), Bremerton (55 miles) and Port Angeles (80 miles) are other cities within two hours of the river corridor. The Hamma Hamma road, Forest Road 25, is the primary access into the Hamma Hamma Drainage.

Public access to the river, up to R.M. 5, is limited due to private landownership and the distant proximity of the Hamma Hamma road. From that point to the end of the road at R.M. 14.4, the Hamma Hamma road generally follows along the north bank, never more than one-quarter mile distant. Access to the river through this section is quite easy. Only in the area between R.M. 9.5 and 12.5 is the river out of sight from the road. Above the bridge at R.M. 14.4, the access to the river is via cross-country travel through extremely difficult terrain.

Camping, fishing and viewing scenery are the principal uses within the Hamma Hamma River corridor. Deer and grouse hunting are seasonal and secondary uses of the area. Although short stretches of the river between the mouth of Lena Creek, R.M. 8.9, and the mouth of Jefferson Creek, R.M. 5.8, may be suitable for floating, the inherent problems with log jams and hazardous boulder-strewn areas makes it a questionable venture.

Use figures within the river corridor are not available. Recreational use in the Hamma Hamma Valley will be discussed later.

Within the Canal Front Plan, 1979, the area upstream of R.M. 14.5 was designated for further planning. This was later included within the Washington Wilderness Act as the "Mt. Skokomish Wilderness." The two existing developed recreation sites were reserved for developed recreational use.

The State of Washington Department of Natural Resources lands are managed under a philosophy of providing the maximum return to the State. Within this area, the State lands are all designated for timber production.

Private lands outside of the National Forest boundary are predominantly in timber production. Timber harvest practices on private land must comply with the State Forest Practices Act. A few residences are located in the vicinity of the river mouth but away from the river edge.

Water - Based on a long-term record (over 40 years), the average annual discharge as measured at the USGS gauging station at R.M. 0.5 is 244,000 acre-feet per year or 337 cfs.

Maximum flows occur during the late fall-early winter period when early snows at mid and lower elevations are followed by warm "chinook" rains. The peak discharge recorded at the gauging station was 5,810 cfs, November 3, 1955. 22/ A low flow of 37 cfs was recorded in September of 1930. Low flows historically have occurred in late summer or early fall, and are in direct relationship to the seasonal rainfall and the length of any "drought period."

The Hamma Hamma has been identified as a potential municipal water source for the City of Bremerton. The projected annual use is 17,000 gallons per day. 150 cfs has been allocated for this use. 23/ Other allocated uses are: 24/

0.15 cfs for Forest Service Campgrounds,
0.13 cfs for fish propagation (private),
260.00 cfs for proposed hydropower projects,
0.20 cfs for irrigation.

With the steep gradient on the Hamma Hamma and its tributaries, the potential for hydroelectric production has long been recognized. A potential hydroelectric site near R.M. 2.7, and a pump storage site at Lena Lake were estimated to produce 20.1 megawatts and 2,000 megawatts. 25/ Recent proposed projects within the Hamma Hamma Drainage and their status are shown in Table F-42. While many of these projects have been dropped, it is more a function of the projected reduction in demand and power rates, rather than a physical constraint or other land-use conflict. If the projected demand for power increases substantially and/or the economics become more favorable, these same projects and others will likely become active proposals again.

Water quality in the Hamma Hamma is excellent throughout its length. The clarity of the water is so good that the bottom of the river can be seen, except in the deepest pools. Only during periods of high runoff, late fall and winter storms, does the river become discolored.

22/ Pacific Northwest River Basins Commission, Appendix XII, 1971.
23/ Pacific Northwest River Basins Commission, Appendix VI, 1971.
24/ Bergstrom 1985.
25/ Pacific Northwest River Basins Commission, Appendix IX, 1971.

Table F-42. Hydroelectric Projects Proposals and Status as of 1/18/88

Project Name	Location	Type	Status
Hamma Hamma	R.M. 14.5	Run-of-the-River	Dropped
Hamma Hamma	R.M. 12.5	Run-of-the-River	Dropped
Lower Hamma Hamma	R.M. 2.7	Run-of-the-River	License application filed with FERC
Boulder Creek	Boulder Creek	Run-of-the-River	Dropped
Lena Creek	Lena Creek	Run-of-the-River	License application filed with FERC
Cabin Creek	Cabin Creek	Run-of-the-River	Denied by FERC
Washington Creek	Washington Creek	Run-of-the-River	Dropped
Jefferson Creek	Jefferson Creek	Run-of-the-River	Denied by FERC
Watson Creek	Watson Creek	Run-of-the-River	Dropped

Water temperatures are cool, except for late summer when the combination of lower flows and warmer days brings the water temperature up to a point where wading, water play and swimming is tolerable.

Because the water quality is so good and free of pollutants, fish and wildlife dependent upon the Hamma Hamma and the adjacent riparian areas thrive and are often seen by visitors to the area.

Fish and Wildlife - Within the lower reaches (R.M. 0.0-2.7), the Hamma Hamma is utilized by four species of salmon, steelhead and sea-run cutthroat trout. The steep gradient beginning at R.M. 2.0, and the large falls at R.M. 2.7 block anadromous fish from the upper river. The lower two miles of the river is heavily used by spawning chum and pink salmon, and moderately used by chinook and coho. Pink, chinook, and chum salmon spawn simultaneously during September. A late chum salmon run spawns in the main stem and intertidally during December. Coho production is limited by available rearing area. Spawners in this drainage normally total about 100 fall chinook, 500 coho, 11,000 chum and 5,000 pink salmon. All of the accessible anadromous fish habitat is outside the National Forest boundary. No data is available at this time for estimated fisheries production capabilities. A good resident cutthroat trout fishery exists in the upper river and adjacent beaver ponds.

Most of the wildlife species typical of the east flank of the Olympics, either live within or pass through the river corridor. Deer, elk, black bear, and cougar are representative of the larger wildlife species. Numerous small game species such as raccoon, coyote, skunk, mink, beaver, squirrel and bobcats thrive along the river.

Various small water birds, ducks, kingfishers, grouse and woodpeckers are found along the river. Significant numbers of bald eagles (10-20) have been counted near the mouth of the river, where they roost and feed during the fall and winter months when the salmon are spawning.

The riparian habitat along the river is typical of the east Olympics, with a mixture of conifers and hardwoods to the river edge. The habitat is in excellent condition.

Recreation - The Hamma Hamma Valley is one of the more popular recreation destinations on the east side of the Olympic Penninsula. Camping and picnicking occurs primarily within the two developed recreation sites, Hamma Hamma and Lena Creek, and at pulloffs adjacent to the river. (ROS classification--Roaded Natural.)

Hiking and associated camping opportunities can be found within the Lena Lake Special Management Area and the Mt. Skokomish Wilderness within Olympic National Forest and the Lake of the Angels Basin within Olympic National Park. (ROS classifications Primitive and Semi-Primitive Non-Motorized.) The Mildred Lakes Basin is the primary destination within the Mt. Skokomish Wilderness.

Fishing and hunting occur within the river corridor and close to the road, as well as in the more remote areas. Table F-43 summarizes the various activities and which ROS class they are associated with.

Table F-43. ROS Classification, Hamma Hamma River Corridor

River Mile	Classification	Probable Activities
0.0 - 5.8	Roaded Modified	fishing, hunting
5.8 - 8.9	Roaded Natural	auto camping, hiking, viewing scenery, fishing, water play
8.9 - 15.0	Roaded Natural	viewing scenery, fishing, hiking
15.0 - 16.0	Semi-Primitive Non-motorized	viewing scenery, hiking, backpack camping
16.0 - 17.8	Primitive	viewing scenery, hiking, backpack camping.

Hamma Hamma and Lena Creek are the two existing developed campgrounds within the river corridor. Both campgrounds are extremely popular, with opportunities for fishing, hiking, water play and viewing scenery nearby. No new campgrounds are planned in the river corridor. However, Hamma Hamma Campground is planned for expansion.

Developed recreation use and capacity are displayed in Table F-44.

Table F-44. Developed Recreation Sites

National Forest Sites					
Site	ROS Class	Capacity PAOT	Managed Season Days	1988 Use RVDs 1/	Projectd Capacity PAOT
Lena Creek	Roaded, Natural	70	150	6,860	190
Hamma Hamma	Roaded, Natural	75	150	8,300	175

1/ RIM, 1988.

Existing trails within the river corridor are very limited. The Tirnell Trail leads to the beaver ponds near R.M. 11.0, and the trailheads for the Lena Lake, Mildred Lakes and Putvin Trail all lead to destinations out of the river corridor.

Rafting or floating of the Hamma Hamma is very limited, due to the relative short segments of the river that are suitable for floating. Between Lena Creek (R.M. 8.9) and the mouth of Jefferson Creek, some floating may be possible. However, it is actively discouraged due to the inherent hazards of log jams, boulder-strewn reaches, and the potential of going too far downstream and going over the falls.

A trail is proposed from Lena Creek Campground to provide historical interpretation of this drainage and offer an alternate day hike from the campground.

Table F-45. Recreational Activities (Estimated Recreational Use - RVDs and Trends)

	1988	2000
National Forest Developed Sites	15,160	17,500
Undeveloped Recreation	56,500	68,900
Boating (flatwater, whitewater)	Light	Light
Water Play (swim, wade)	Moderate	Moderate
Fishing	Moderate	Moderate
Hunting	Moderate	Moderate
Camping: Undeveloped	High	High
Hiking	High	High
Picnicking	Moderate	Moderate
Viewing Scenery	Moderate	High
TOTAL	71,660	86,400

The distinctive value of the Hamma Hamma is its scenic qualities, especially in the upper reaches. Nearly encircled at its source by Mt. Pershing, Mt. Cruiser, Mt. Henderson, Mt. Stone, Mt. Gladys, Mt. Lincoln and Mt. Skokomish, the Hamma Hamma has carved a notch through the north end of Sawtooth Ridge. Cascading through this canyon, the river is a series of waterfalls, tumbling white water and isolated, deep pools. Cliffs, rock outcrops and waterfalls can be seen along the walls. Once out of this upper valley, the river gradient moderates, and short reaches of swiftly flowing, smooth water is interspersed between rapids and cascades. Steep, sometimes precipitous slopes, covered with a hodgepodge of old-growth-second growth conifers, cover the valley wall along Jefferson Ridge to the south. Cottonwood and alder-covered flats occur intermittently along the river between Lena Creek and Hamma Hamma Campgrounds.

Historical/Cultural - Knowledge of use by Indians within the Hamma Hamma Corridor is sketchy, at best. There are no known sites within the river corridor, although it is likely there were fishing camps along the lower reaches of the river. Incidental hunting and gathering of herbs, roots and berries probably occurred within the lower valley areas. Currently modified and isolated artifacts have been found on tributaries of the Hamma Hamma. It is likely that use occurred far into the interior.

Pioneer settlement in the Lower Hamma Hamma Valley was typical of the river valleys along Hood Canal. Most of the homesteads were "marginal subsistence agriculture" that eventually gave way to timber. The Forest Service Hamma Hamma Guard Station is an excellent example of CCC construction. It is in the process of being nominated to the National Register of Historic Places. A predecessor structure served as the summer headquarters for the Forest Supervisor of Olympic National Forest. Evidence has been found and there is some documentation of pioneer hunting, trading and prospecting in this drainage although this historic use is not considered significant.

Minerals/Energy - There is a very limited history of mineral prospecting within the Hamma Hamma Drainage. A few individual claims have been filed. None have developed beyond the annual assessment work, and the removal of an incidental amount of ore for assay purposes. The National Forest lands are open to mineral exploration and leasing, except for the area within the Wilderness and Administrative Sites.

Based on the limited mineralization of the Olympics and a low oil and gas potential, it is unlikely that any significant mineral or energy deposits occur within the river corridor.

Timber - Timber types, standing volume, and potential yield on all National Forest lands within the river corridor that are classed as tentatively suitable, are displayed in the following Tables.

Table F-46. Summary of National Forest Acres

Wilderness	1,056
Tentatively Suitable	2,070
Unsuitable	554
TOTAL	3,680

Table F-47. Tentatively Suitable Acres by Age Class and Site

Site/Productivity	BG Bare Ground (0.1-2.9" DBH)	SS Seedling-Sapling (3.0-4.9" DBH)	PL Poles (5.0-8.9" DBH)	MS Small Saw (9.0-20.9" DBH)	LS Large Saw (21+"DBG)
High	6			410	
Medium		46	1,085	434	9
Low					3
Low, Natural		28		49	
TOTAL	6	74	1,085	893	12

Table F-48. Tentatively Suitable Standing Volume by Site and Age Class

	Large Sawtimber				Small Sawtimber				Young Stands			
Site/ Productivity	Acres	MCF/ Acre	MCF	MBF	Acres	MCF/ Acre	MCF	MBF	Acres	MCF/ Acre	MCF	MBF
High					410	6.09	2,497	10,862				
Medium	9	8.98	81	352	434	6.09	2,643	11,497	1,085	3.09	3,353	14,586
Low & Low Natural	3	7.45	22	96	49	6.09	298	1,296				
TOTAL	12		103	448	844		5,140	22,359	1,085		3,353	14,586

Summary: 8,894 MCF or 8.9 MMCF
38,689 MBF or 38.7 MMBF

Table F-49. Tentatively Suitable Land Potential Yield by Site and Elevation

	<1,500' Elevation (Winter Range)				>1,500' Elevation (Summer Range)			
Site/ Productivity	CF/Acre/ Year	Acres	MCF/Year	MBF/Year	CF/Acre/ Year	Acres	MCF/Year	MBF/Year
High	176.88	416	73.58	320.07				
Medium	130.74	1,177	153.88	669.38	121.24	397	48.13	209.37
Low	74.56	3	.22	.96				
Low, Natural					39.75	77	3.06	13.31
TOTAL		1,596	227.68	990.41		474	51.19	222.68

Summary: 278.87 MCF/Year
1,213.09 MBF/Year

Based on the most recent Insect and Disease Survey, there are no significant insect and disease problems within the river corridor. The potential for any significant outbreak is low.

Transportation/Roads - The major access route into the corridor is the Hamma Hamma road, Forest Road 25, from Highway 101 to the upper valley at R.M. 14.4. This road is double-lane paved for the first 1.5 miles, and single-lane paved from that point to the junction with Forest Road 2480. Right-of-way has been acquired to permit eventual two-lane construction to the vicinity of Hamma Hamma Campground.

Based on 1981-1984 use figures from traffic count at milepost 2 on the Hamma Hamma road, the average daily traffic for April through September exceeded 110 vehicles. The mix of traffic is 9 percent timber haul, 82 percent recreation use and 9 percent administrative use. Above Cabin Creek, recreation use accounts for 88 percent of the total traffic, timber haul 4 percent and administrative traffic 8 percent.

The existing road is adequate to accommodate the existing and projected use without any unacceptable conflicts. The continuation of the asphalt surfacing to Lena Creek Campground would reduce problems with dust and a rough-road surface to this popular campground and trailhead.

Additional temporary roads may approach the river in conjunction with timber harvesting from State Department of Natural Resources and private lands.

NON-FEDERAL LANDOWNERSHIP AND USES

State of Washington Department of Natural Resources lands, both within and outside of the National Forest boundary, are being managed for timber production with required constraints and mitigation adjacent to the Hamma Hamma River. The Department of Natural Resources lands within the National Forest boundary are tentatively scheduled for acquisition by the Forest Service through land exchange. Acreages within private ownership are primarily large tracts owned by a local timber company. Timber management is practiced on most privately owned lands within the requirements of the State Forest Practices Act.

The limited residential development and timber harvesting activities have modified the natural character of the river corridor, but has had a minimum effect on the immediate river edge.

The existing and projected landownership and use pattern is consistent with the classification of Recreational River. The outstanding scenic values found within the river corridor are found in the mid and upper valley, well above State and private lands.

FUNDING NEEDS IF DESIGNATED AS A WILD AND SCENIC RIVER (NATIONAL FOREST SEGMENTS ONLY)

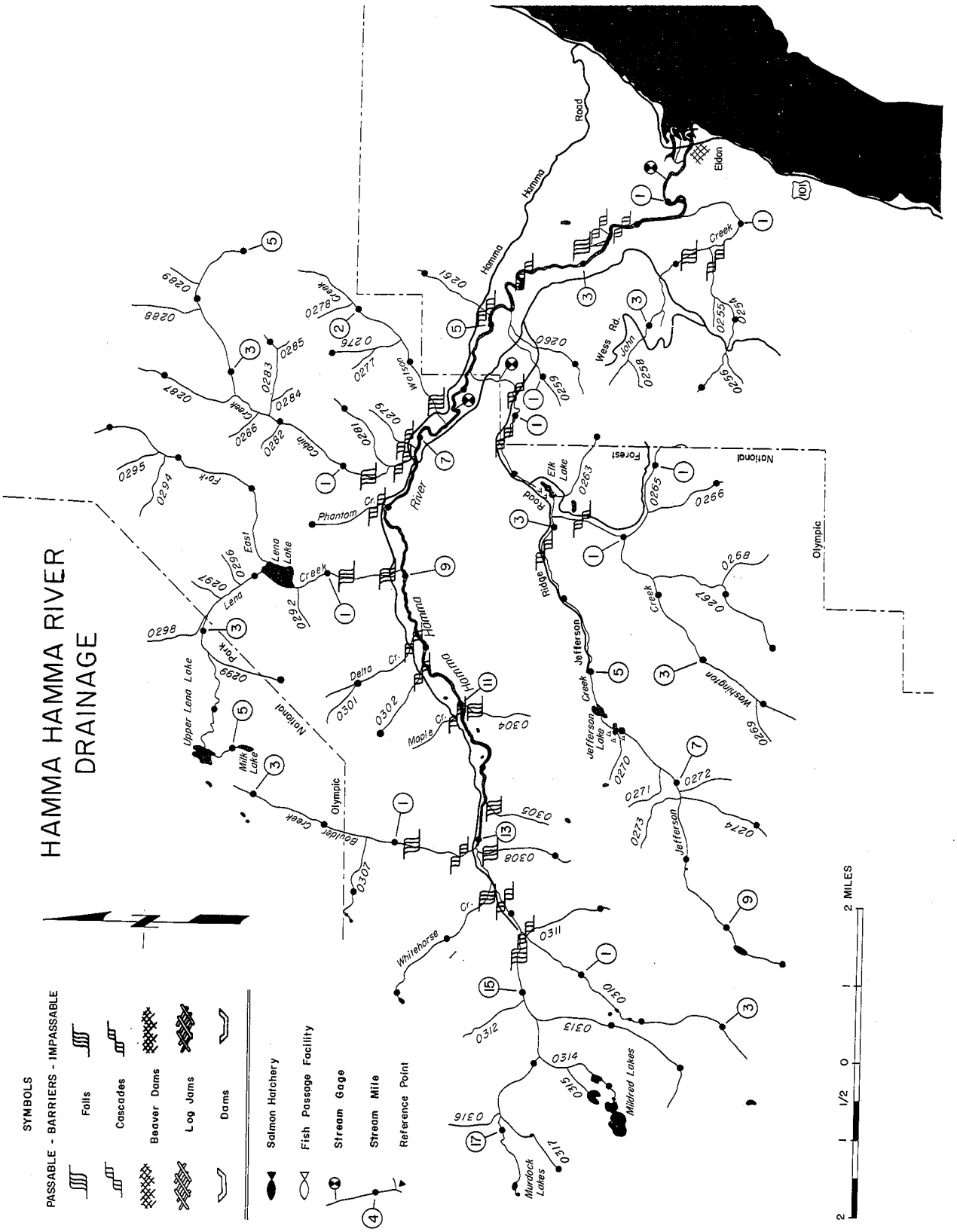
The following are expected funding needs for the Hamma Hamma River for the first five years following a designation as a Wild and Scenic River:

Table F-50. Estimated Cost of Management if Designated as a Wild and Scenic River

Annual Costs	General Administration Operation and Maintenance	$18,000 92,100
	TOTAL	$110,100
Non-Recurring Costs	Cost of implementation Preparation of Management Plan 1/ Development costs 1/	$14,000 27,000 28,000
	TOTAL	$69,000
	TOTAL COST--FIRST FIVE YEARS	$179,100

Annual costs of administration, operation and maintenance is estimated at $8,200.

1/ Initial costs occurred in first 1 to 3 years following design


HAMMA HAMMA RIVER
DRAINAGE
SYMBOLS
PASSABLE - BARRIERS - IMPASSABLE
Falls
Cascades
Beaver Dams
Log Jams
Dams
Salmon Hatchery
Fish Passage Facility
Stream Gage
Stream Mile
Reference Point
Hamma Hamma River
Phantom Cr.
Upper Lena Lake
Lena Lake
East Fork Lena Creek
Milk Lake
Boulder Creek
Delta Cr.
Maple Cr.
Whitehorse Cr.
Jefferson Creek
Jefferson Lake
Ridge
Elk Lake
Wash Rd
Wash Rd
Eldon
Mildred Lakes
Murdock Lakes
Olympic National Forest
Olympic National Forest
101
2 MILES
1/2
0

MAIN STEM AND WEST FORK HUMPTULIPS

GENERAL SETTING

The combination main stem and West Fork Humptulips, is 60.8 miles in length from its source to its mouth. The upper 20 miles, from its source to R.M. 40.7, is within the National Forest boundary. For 18.5 miles of this distance, it flows through National Forest land. The remaining 1.6 miles is bordered by private land. Outside of the National Forest, the river flows through a variety of private ownerships in scattered parcels, State Department of Natural Resources, Washington Department of Wildlife, miscellaneous other State, and County lands. River mileage within the State Department of Natural Resources lands is 1.6 miles. Private ownership along the west fork is in large tracts, predominately being managed for timber production. Along the corridor of the main stem, the land ownership immediately adjacent to the river is generally in small tracts and individual ownership. Back from this "river front" the ownership shifts to a mix of small and large tracts, with the large tracts becoming about one-half of the acreage.

Acreage and mileage by ownership are summarized below. Acreage is based on a corridor one-quarter mile wide each side of the river. The National Forest acres were extracted from the planning map data base.

	West Fork		Main Stem	
Ownership	Miles	Acres	Miles	Acres
Within Forest Boundary				
National Forest	18.5	5,920		
Private	1.6	510		
Outside Forest Boundary				
National Forest	0.2	60		
State of Washington DNR	1.6	510		
Other State			1/ 2.8	450
County	0.1	30	1/ 0.4	50
Private	10.7	3,430	26.5	8,490
TOTAL	32.7	10,460	28.1	8,990

1/ Ownership on one side only.

Located in the southwest corner of the Olympic Peninsula, the Humptulips is the southernmost river on the west side of the Peninsula that flows directly into saltwater. The Humptulips is one of the few major rivers that rises in the Olympic Mountains, is entirely outside of the National Park, and does not have a major snowfield or glacier at its source. For much of its length, the slopes adjacent to the river are forested with dense stands of coniferous vegetation. Only in the very upper reaches of the West Fork is the stream gradient steep. By R.M. 57, the stream gradient has moderated to the extent that the river develops a meandering course, and some of the more hearty of the anadromous fish species reach this point. At R.M.

46, the river passes through the West Fork Humptulips Gorge. The combination of a narrow channel, rapids, and cascades through this section restricts the passage of most anadromous species. The East Fork of the Humptulips joins the West Fork to form the main stem at R.M. 28.1. From this point to its mouth, the river meanders through a broad, gentle-sloping plain. The river gradient is low. Long, gentle pools alternate with short riffle sections. Chinook and chum salmon spawn in the main stream and its many tributaries. Coho salmon utilize the tributaries. The Humptulips is significant regionally for its anadromous fish production. Fishing and associated uses make up the primary recreation use on the river, and within the river corridor. Hunting is a major seasonal use.

The Humptulips and West Fork are undergoing consideration as a Wild and Scenic River because it is on the Nationwide Rivers Inventory list, it was included in previous legislation and was identified during the scoping process.

ELIGIBILITY DETERMINATION - VALUES

Scenic - Rushing waters, old-growth rain forest, visual variety generally common, except distinctive in upper reaches, extensive timber harvesting. This river was evaluated by Washington State Parks for inclusion in the State's Scenic Rivers system. **Average.**

Recreational - Camping and day use, limited hiking, extensive fishing (both bank and drift), hunting. **Above average.**

Geologic - West Fork Gorge (locally significant), meandering river system, steep, rugged mountains. **Above average.**

Fish - Regionally significant, three species of salmon, steelhead and sea-run cutthroat. Nearly 58 miles of the main stem and West Fork utilized by various species of anadromous fish. **Outstandingly remarkable.**

Wildlife - Elk, bear, deer and other game and nongame species. Bald eagles sighted throughout the year. Typical of west side Olympic drainages. **Above average.**

Historical - Limited evidence of splash dams associated with early logging. Early settlement in lower Humptulips Valley typical of region. Some mining in upper West Fork. **Average.**

Cultural - Use by American Indians prior to arrival of white man. Use typically along lower river corridor. No known sites. **Average.**

ELIGIBILITY DETERMINATION - CLASSIFICATION

Water Resources Development - The full length of the main stem and West Fork of the Humptulips are free of impoundments, diversions or major channel modification.

Shoreline Development - From its source to R.M. 58.1, timber harvesting has taken place on one or both sides of the stream for approximately 50 percent of its length. Extensive ongoing timber harvesting may be seen from the river. Campbell Campground is located at R.M. 57.5. From R.M. 58.1 to near R.M. 45, the evidence of timber harvesting is not as visible, as the riverbanks are quite high, often nearly perpendicular. Timber harvesting has generally been above the break in topography, or screened by hardwoods and conifers adjacent to the river.

Between R.M. 45 and R.M. 40.7, the National Forest boundary, evidence of past and ongoing timber harvesting can be seen in the background. Timber harvesting in the foreground has been planned to reduce the visual impacts. Below R.M. 40.7, evidence of timber harvesting is frequent and ongoing. From the confluence with the East Fork near R.M. 28 to its mouth, the ownership pattern becomes one of many small acreages. Houses, fields, pastureland, and small rural communities are evident.

Accessibility - From its source to R.M. 58.1, the river is readily accessible from the West Fork road which crosses the river near R.M. 60, and parallels it along the north side to near Campbell Campground. From R.M. 58 to the National Forest boundary,

R.M. 40.7, the main line roads are some distance from the river and generally out of sight. Access to the river is by spur roads that approach, but seldom reach the river. There is one bridge across the river at the gorge, but access to the river is nearly impossible at that point. From the National Forest boundary (R.M. 40.1) to its mouth, the river is readily accessible from State, county and private roads.

Water Quality - From its source to the National Forest boundary (R.M. 40.7), the water quality is "extraordinary," State Class AA. From that point to its mouth, the quality drops slightly to State Class A "excellent," due to the level of development and use along the river edge. Both classes meet State and Federal standards for aesthetics, fish and wildlife propagation and primary contact recreation (swimming).

Conclusion - The Humptulips and the West Fork meet the classification criteria for inclusion in the Wild and Scenic Rivers System. There is an "outstandingly remarkable" fish value. The Nationwide Rivers Inventory indicated that the scenic and recreational values were also outstandingly remarkable. These ratings are definitely too high. The key components to scenic values, mountains, cascading water, forests and the river itself, are at best, typical of this physiographic province. Recreational use is primarily linked to the fishery and wildlife resources, and is very seasonal. Again it is typical of this province. Other uses are seasonal (May-October) with recreational areas filled on weekends and holidays.

GENERAL DESCRIPTION OF RESOURCES

Lying entirely within the Olympic Mountains section of the Pacific Border Province, the Humptulips rises in the lower flanks of the southwest corner of the Olympic Peninsula. Elevations vary from near 3,200 feet at its source, to sea level where it enters Grays Harbor. Within four miles of its source, the river gradient becomes moderate and the sidewalls of the valley pull back from the river's edge, leaving a valley bottom nearly one-half mile wide. This valley bottom widens to over two miles across, near the National Forest boundary, and exits over a broad plain which extends to the ocean. The river has developed a meandering character throughout most of its length with areas of high, nearly vertical banks where it undercuts the slopes.

Stands of Pacific silver fir mixed with Alaska yellow cedar with an understory of huckleberry and devilsclub, are typical of the silver fir zone found in the very upper reaches of the river corridor. The river drops rapidly out of this zone, and upon reaching the point where the river gradient moderates, is well within the western hemlock zone. Western hemlock, western redcedar, Douglas-fir and Sitka spruce are the major conifer component of the stand. Red alder, big leaf maple, and black cottonwood occur primarily along the river edge and in wet lowlands. Huckleberry, vine maple, devilsclub, salal, Oregon grape, salmonberry and western thimbleberry are typical understory shrubs.

The entire length of the Humptulips is readily accessible by road. In its lower reaches, U.S. Highway 101, State Highway 109 and various county roads parallel, cross and recross the river. Numerous private roads reach or approach the river. Upstream from Highway 101 (R.M. 23.7), Forest Roads 22, 2204, 2208, 2208043, 2220, and numerous logging roads on private and State land access the river corridor.

Depending upon the segment of the river to be visited, the Humptulips can be as close as 10 miles, or as distant as 45 miles from Aberdeen and Hoquiam. From Olympia, it is 75-plus miles while Seattle is 135 miles distant. Chehalis-Centralia is about 100 miles, or a two-hour-plus drive.

Fishing, hunting, camping and day use are the primary uses within the river corridor. Floating the river, in association with fishing, is a significant use. Recreational boating, canoeing and rafting is an increasing use primarily downstream from Forest Road 22.

The Colonel Bob Wilderness Study Area became the Colonel Bob Wilderness as part of the Washington Wilderness Act. The south boundary of the Wilderness is within the river corridor in the vicinity of Tea Creek.

The private land within the National Forest boundary is being managed for timber production. Outside of the National Forest, the ownership and management along the river corridor is predominantly one of timber production, especially upstream from Highway 101 and the community of Humptulips. Downstream from that point to the river mouth, the pattern is one of rural and residential housing on small acreages, and individual lots with scattered parcels owned by various timber companies. The State Department of Wildlife has minor acreage within the corridor, as does the State Department of Natural Resources and Grays Harbor County.

Water - Based on a long-term record (over 50 years), the average annual discharge as measured at the USGS gauging station at R.M. 24.6, 3.3 miles downstream from the confluence of the east and west forks is 975,900 acre-feet per year, or 1,347 cfs. The drainage area upstream from the gauging station is 130 square miles. The total river drainage area is 245 square miles.

Maximum flows on the Humptulips are generally associated with warm "chinook" rains that follow early snows in November, December and January. The maximum flow at the gauging station occurred on January 22, 1935, with a flow of 33,000 cfs. The minimum flow of 82 cfs occurred on September 11, 1944. This is typical of the timing of low flows, late in the summer or early fall, following an extended period without rainfall.

While these represent the extremes, the more typical high and low flows would be in the range of 18,000 cfs to 19,000 cfs, and 130 cfs to 150 cfs.

Water for fish propagation is the major allocated use of the water from the Humptulips and West Fork. Other significant allocations have been made for domestic use and commercial-industrial use (see Table F-51).

Table F-51. Allocation of Water

Use Group	West Fork	Main stem
Fish propagation	--	62.47
Domestic		20.07
Commercial/Industrial		4.47
Irrigation		1.96
Recreation	0.10	
TOTAL	0.10	88.97

Hydropower potential for the National Forest portion of the river has been estimated to be 88.9 Gigawatts at the 330% exceedance level. One site in the West Fork Gorge, R.M. 46, has been identified. A proposal

by the City of Ocean Shores for a run-of-the-river project was dropped following application for a preliminary permit. No hydropower projects have been proposed on the main stem of the Humptulips.

Water quality is "extraordinary," State Class AA, from its source to R.M. 40.7. The increased level of development from R.M. 40.7 to the mouth of the river, has resulted in a reduction of the water quality to "excellent," State Class A. Generally, the waters are so clear that the river bottom can be seen except in the deepest pools. During periods of high rainfall or rapid snowmelt, the river will become murky, to a shade of brown, depending upon the intensity of the rainfall or rapidity of the snowmelt. Water temperatures are generally cool, except for two to three months during the summer when the water temperatures rise adequately to permit swimming and water play. Thus temperature, not water quality, is the limiting factor for primary contact use. Because the water quality is so good, fish and wildlife dependent upon the Humptulips and its environs thrive, and can often be seen by visitors to the river and river corridor.

Fish and Wildlife - Coho, chum, and chinook salmon, sea-run cutthroat trout, steelhead plus resident cutthroat trout, utilize the Humptulips system and many of its tributaries. Large numbers of chinook, chum and coho spawn in the main channel up to the lower end of the gorge.

Steelhead and possibly coho salmon will pass through the gorge, and utilize the river up to the area of Campbell Campground at R.M. 57.7.

Based on the anadromous fish habitat, the Humptulips and the West Fork systems have the estimated annual production of nearly 80,000 adult fish. Approximately 18 percent of this habitat capability is within the National Forest boundary. The remaining 82 percent is outside the National Forest on State, private and other ownerships. See Table F-52 for potential production capabilities.

Table F-52. Estimated Annual Habitat Production Capabilities for Anadromous Salmonids

Potential Parameters	Chinook	Coho	Steelhead	Sea-run Cutthroat
Spawning Populations				
National Forest	400	2,150	1,870	1,870
Private & Other	2,200	11,900	10,400	10,400
TOTAL	2,600	14,050	12,270	12,270
Smolt Production				
National Forest	56,000	80,000	32,000	32,000
Private & Others	311,000	444,000	178,000	178,000
TOTAL	367,000	524,000	210,000	210,000
Adult Production				
National Forest	2,410	6,370	2,800	2,800
Private & Others	10,980	29,020	12,760	12,760
TOTAL	13,390	35,390	15,560	15,560

NOTE: Production data for chum salmon is not included due to insufficient information.

Generally, all of the wildlife species found on the west side of the Olympic Peninsula can be found as residents of, or visitors to the river corridor. Some of the more common large animals are Roosevelt elk, black-tailed deer, black bear, cougar, coyote and bobcat. Smaller mammals include racoon, mink, beaver, mountain beaver, rabbit and skunk.

The valley bottoms, south slopes and river corridors provide winter range for big game, mainly elk and deer, from the vicinity of Campbell Tree Grove, R.M. 57.5, downstream.

Blue grouse, ruffed grouse and pigeons are common game birds found in the area. Ducks, ospreys, eagles, kingfishers and a variety of water birds inhabit the water edge and adjacent river corridor. The northern bald eagle is the only threatened wildlife species known to inhabit the area. The old-growth timber in the upper west fork, adjacent Moonlight Dome Special Management Area and the Colonel Bob Wilderness, is suitable habitat for the northern spotted owl, a sensitive species.

The riparian habitat in the reaches upstream from Highway 101 is generally in excellent condition, with only a few areas where the habitat has been significantly modified. Downstream from Highway 101, the riparian zone tends to become increasingly modified as the acreages become smaller, and individual building lots increase.

Recreation - Recreational use on the river, and within the river corridor, tends to fall into three use areas. One group is directly dependent upon the river for fishing, both from the shore and by drift boat. Another group is associated with the river but not dependent upon it, such as for camping, picnicking, hiking and other day use. The third user group would probably occur even if the river wasn't there; i.e., hunting, mushroom picking and driving for pleasure.

Within the Humptulips River corridor, most of these activities will occur within the ROS classification of Roaded Modified. Only in the lower reaches, does the level of development increase to the extent that the recreation opportunity would be classified as Rural.

Nine developed sites occur along the river. The Department of Wildlife has six boat launch sites with launch and parking facilities. Campbell Tree Grove Campground, within the Olympic National Forest, provides a rustic camping opportunity. (See Table F-53.)

Table F-53. Developed Recreation Sites

National Forest Sites:					
Site	ROS Class	Capacity PAOT	Managed Season Days	1988 Use RVD's	Projected Capacity PAOT
Campbell Tree Grove	Roaded	60	191	1300	125
Other Agency Sites (Boat Launch Sites):					
Site	Managing Agency	Approximate River Miles	Boat Launch	Comments	
Wilderness	WDW	6.2	1	Parking	
Dike Road	ITT	7.9	1	Rough launch/parking	
Damon Creek	GH	10.3	1	Rough launch/limited parking	
Gravel Bunker	WDW	12.2	1	Rough launch/no parking	
Weyerhauser	WTC	13.4	1	Rough launch/limited parking	
Walker Road	WDW	16.8	1	Limited parking	
Railroad Bridge	WDW	23.0	1	Parking	
East Humptulips Road	WDW	24.8	1	Rough launch/limited parking	
Brittain Creek	GH	25.7	1	Rough launch/limited parking	

Numerous undeveloped, informal camping, picnicking, general day use and boat launch sites exist along the river. In 1988 there was an estimated 4,500 Recreation Visitor Days (RVDs) of dispersed recreation use in the National Forest segments of the west fork corridor.

Opportunities for drift boating, rafting, canoeing and other forms of river floating is extensive. Put-in sites are available along the river, up to the concrete bridge on Forest Road 22 (R.M. 36.5).

Because of the flat gradient, there is only limited white water. No extensive skills are required to float the river. Additional developed boat launch facilities along the lower West Fork and main stem Humptulips should be developed to accommodate potential use.

A 3-mile section of the old West Fork Trail between the West Fork shelter remains to this day. It basically follows the river edge and provides a river oriented experience. No other riverside trails exist except the boot-worn fisherman trails that have come into existence through use over a number of years. One access trail, the Lower Petes Creek Trail, reaches the river near R.M. 53.6. There is a proposal to extend the West Fork Trail by an additional 10 miles, utilizing any remains of the old West Fork Trail that fit into the system. This will ultimately provide a trail from the West Fork Gorge to the West Fork slide, a total of 14 miles of riverside trail.

Table F-54. Recreational Activities (Estimated Recreational Use - RVDs and Trends)

	1988	2000
National Forest Developed Sites	1,300	1,600
Undeveloped Recreation	41,500	47,400
Boating (flatwater, whitewater)	Light	Light
Water Play (swim, wade)	Light	Light
Fishing	Light	Light
Hunting	High	High
Camping	Light	Moderate
Hiking	Light	Moderate
Picnicking	Light	Moderate
Viewing Scenery	Light	Moderate
TOTAL	5,800	7,100

Historical/Cultural - Knowledge of use by Indians is very limited. It is known that fishing for salmon and steelhead along the lower reaches of the Humptulips was done by bands and members of the Humptulips. While permanent villages probably existed along the lower Humptulips, not much is known about any specific sites. Considering the extremely rugged terrain, severe cliffs and sidewall canyons, it would not seem likely that significant use occurred very far upstream, especially since resources were plentiful for many river miles downstream to Grays Harbor.

Early logging, in the West Fork Drainage (about 1909), utilized splash dams to assist in transporting logs down the West Fork and Humptulips Rivers. Little evidence remains of these structures. 26/

Minerals/Energy - Following the outbreak of World War II and the increase in demand for manganese, a flurry of minerals exploration occurred within the Humptulips Drainage. The historic Campbell Mine is a remnant of this effort. No claims were patented and current mining activity is dormant. The potential for any locatable minerals of commercial value is extremely low.

Oil and gas exploration in the Grays Harbor area dates back to 1901, and has continued on an intermittent basis since that time. In 1922, the first well within the river corridor was drilled near R.M. 3.5. A trace of natural gas was found. While other drilling has occurred within the general area, none has been within the river corridor. 27/

In the early 1980's, a renewed interest resulted in leases being issued for nearly all of the National Forest lands within the Humptulips Drainage. Following limited seismic exploration, nearly all of the leases were allowed to lapse. Due to the geologic formation within this area, the potential for future exploration and possible production remains fairly speculative.

Common variety mineral material, utilized for crushed road rock, is a valuable resource found within the river corridor. Within the National Forest, four existing rock sources are located on the river terraces within the corridor. These are key in providing surfacing for roads in the area. A number of similar sites exist on State and private lands outside of the Forest boundary. Most of these are sited on gravel bars or old river terraces.

26/ Olympic National Forest 1978.
27/ McFarland 1983.

Timber - Timber types, standing volumes and potential yields from all National Forest lands tentatively suitable within the river corridor, are displayed in Tables F-56, F-57 and F-58. Acres of timber-producing lands within private and State of Washington ownership are discussed later and displayed in Table F-59.

The potential for any significant insect or disease outbreak is low. The 1987 Insect and Disease Survey indicated there were no significant problems within the river corridor at this time.

Transportation/Roads - The existing network of Federal, State, county, and private roads that parallel, cross, recross and access the river and its corridor is adequate to meet the objectives of a Recreational River. Acquiring and providing public boat launch facilities needs to be evaluated in detail throughout the main stem and lower West Fork.

Nearly all roads within, or accessing the river corridor has a mix of timber haul and recreational traffic. The existing roads are generally adequate to accommodate the current and projected use without any unacceptable conflicts.

Table F-55. Summary of National Forest Acres

Wilderness	80
Unsuitable	1,674
Tentatively Suitable	4,166
TOTAL	5,920

Table F-56. Tentatively Suitable Acres by Age Class and Site

Site/Productivity	BG Bare Ground (0.1-2.9" DBH)	SS Seedling-Sapling (3.0-4.9" DBH)	PL Poles (5.0-8.9" DBH)	MS Small Saw (9.0-20.9" DBH)	LS Large Saw (21+" DBH)
High	297	185	527	55	1811
Medium	76	251	97	164	452
Low					251
TOTAL	373	436	624	219	2514

Table F-57. Tentatively Suitable Standing Volume by Site and Age Class

	Large Sawtimber				Small Sawtimber				Young Stands			
Site/ Productivity	Acres	MCF Acre	MCF	MBF	Acres	MCF/ Acre	MCF	MBF	Acres	MCF/ Acre	MCF	MBF
High	1,811	11.50	20,826	90,593	55	6.92	381	1,657	527	4.56	2,403	10,453
Medium	452	11.50	5,198	22,611	164	6.92	1,135	4,937	97	3.09	300	1,305
Low	251	7.45	1,870	8,134								
TOTAL	2,514		28,894	121,338	219		1,516	6,594	624		2,703	11,758

Summary: 32,113 MCF or 32.1 MMCF
139,692 MBF or 139.7 MMBF

Table F-58. Tentatively Suitable Land Potential Yield by Site and Elevation

	<1,500' Elevation (Winter Range)				>1,500' Elevation (Summer Range)			
Site/ Productivity	CF/Acre/ Year	Acres	MCF/Year	MBF/Year	CF/Acre/ Year	Acres	MCF/Year	MBF/Year
High	172.14	2,672	459.96	2,000.83	200.51	203	40.70	177.04
Medium	121.24	825	100.02	435.09	139.43	215	29.98	130.41
Low	67.35	139	9.36	40.72	77.43	112	8.67	37.71
TOTAL		3,636	569.34	2,476.64		530	79.35	345.16

Summary: 648.69 MCF/Year
2,821.80 MBF/Year

NON-FEDERAL LANDOWNERSHIP AND USES

State of Washington DNR lands within the river corridor are being managed to maximize timber production and return to the State, while meeting constraints and mitigation required adjacent to a major river such as the Humptulips. The majority of private ownership is within large timberland holdings. Timber management on these lands, and many of the smaller ownerships, is the predominant use. A limited agriculture base, along with large residential tracts and individual lots, comprise the remainder of the land uses except for a few commercial sites and public recreational facilities. A summary is displayed in Table F-58.

The existing and projected landownership pattern, and uses within the river corridor upstream from U.S. Highway 101 is consistent with the classification of Recreational River. Over time, it would be desirable to obtain the private timber lands within the National Forest boundary.

Downstream from the Highway 101 bridge, the existing ownership and use pattern currently is consistent with the classification of Recreation River. Due to its proximity to the Grays Harbor communities and potential for development, a use pattern inconsistent with a Recreation River could develop in the foreseeable future. Acquisition to provide public access to the river, or to reduce potential conflicts, would be very expensive.

Table F-59. Non-Federal Landownership Estimated Land Use by Percent 1/

	Residential Lots	Acreage/ Agriculture	Timberlands	Other
Within N.F. boundary Timber companies			100	
Outside N.F. boundary Private Individuals Timber companies 2/	5	20	74 100	1
State DNR Other State			100	100
County/Municipal				100

1/ Data based on 1979 Metskers Atlas and Grays Harbor County Assessors Office records.
2/ Including holding companies.

FUNDING NEEDS IF DESIGNATED AS A WILD AND SCENIC RIVER (NATIONAL FOREST SEGMENTS ONLY)

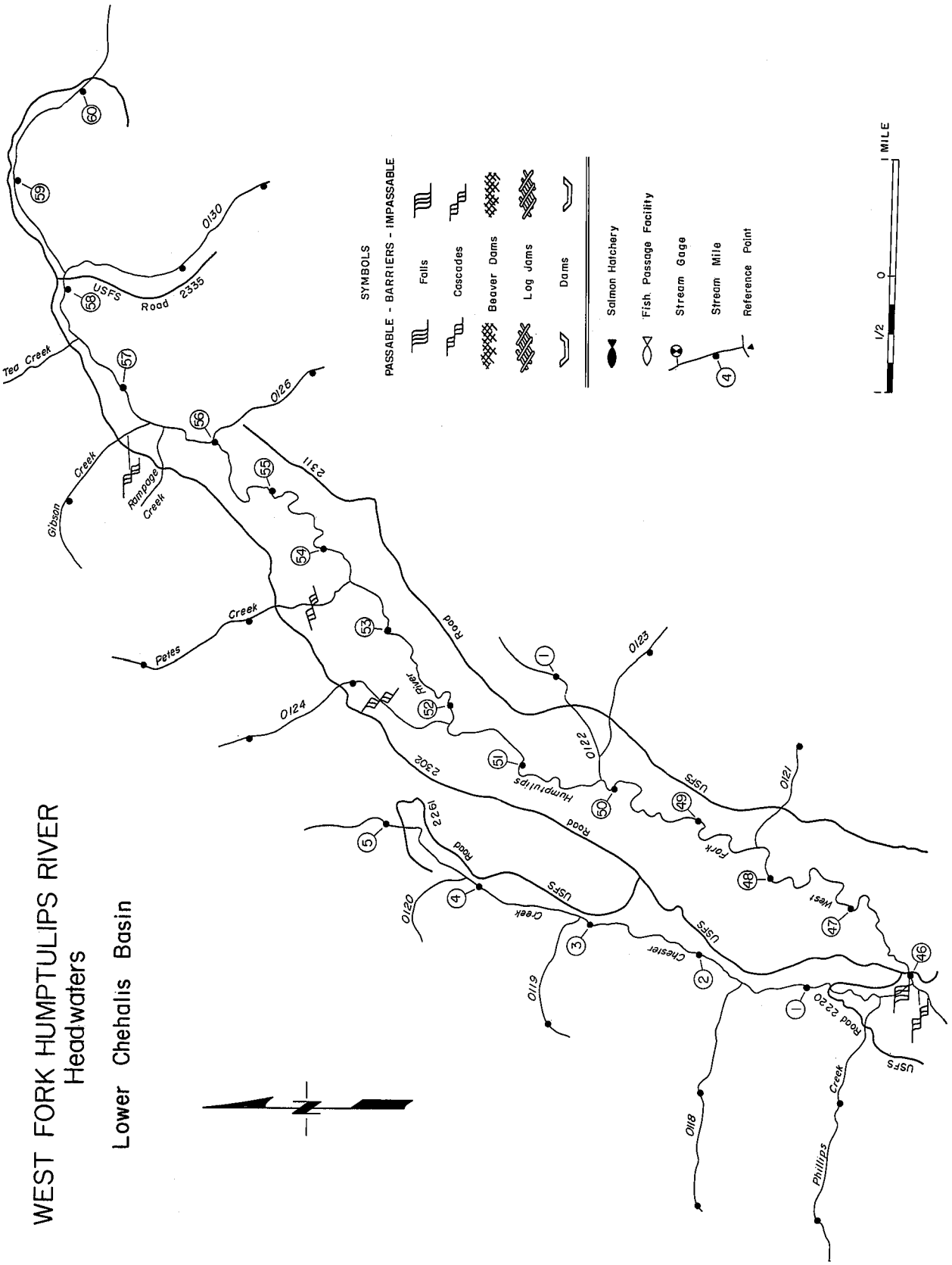
The following are expected funding needs for the Main Stem and West Fork of the Humptulips for the first five years following a designation as a Wild and Scenic River:

Table F-60. Estimated Cost of Management If Designated as a Wild and Scenic River

Annual Costs	General Administration Operation and Maintenance	$18,000 39,500
	TOTAL	$57,500
Non-Recurring Costs	Cost of implementation 1/ Preparation of Management Plan 1/ Development costs	$10,000 22,000 123,000
	TOTAL	$155,000
	TOTAL COST--FIRST FIVE YEARS	$212,500

1/ Costs primarily in years 1 and 2.

The projected, annual, general administration, and operation and maintenance cost would continue at an estimated $7,500 per year.


WEST FORK HUMPTULIPS RIVER
Headwaters
Lower Chehalis Basin
SYMBOLS
PASSABLE - BARRIERS - IMPASSABLE
Falls
Cascades
Beaver Dams
Log Jams
Dams
Salmon Hatchery
Fish Passage Facility
Stream Gage
Stream Mile
Reference Point
1/2
0
1 MILE
Tea Creek
Gibson Creek
Rampage Creek
Peles Creek
Humptulips River
Road
USFS
Road 2335
Road 2311
Road 2302
Road 2261
Road 2220
Chester Creek
West Fork
Phillips Creek
0130
0126
0124
0123
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0121
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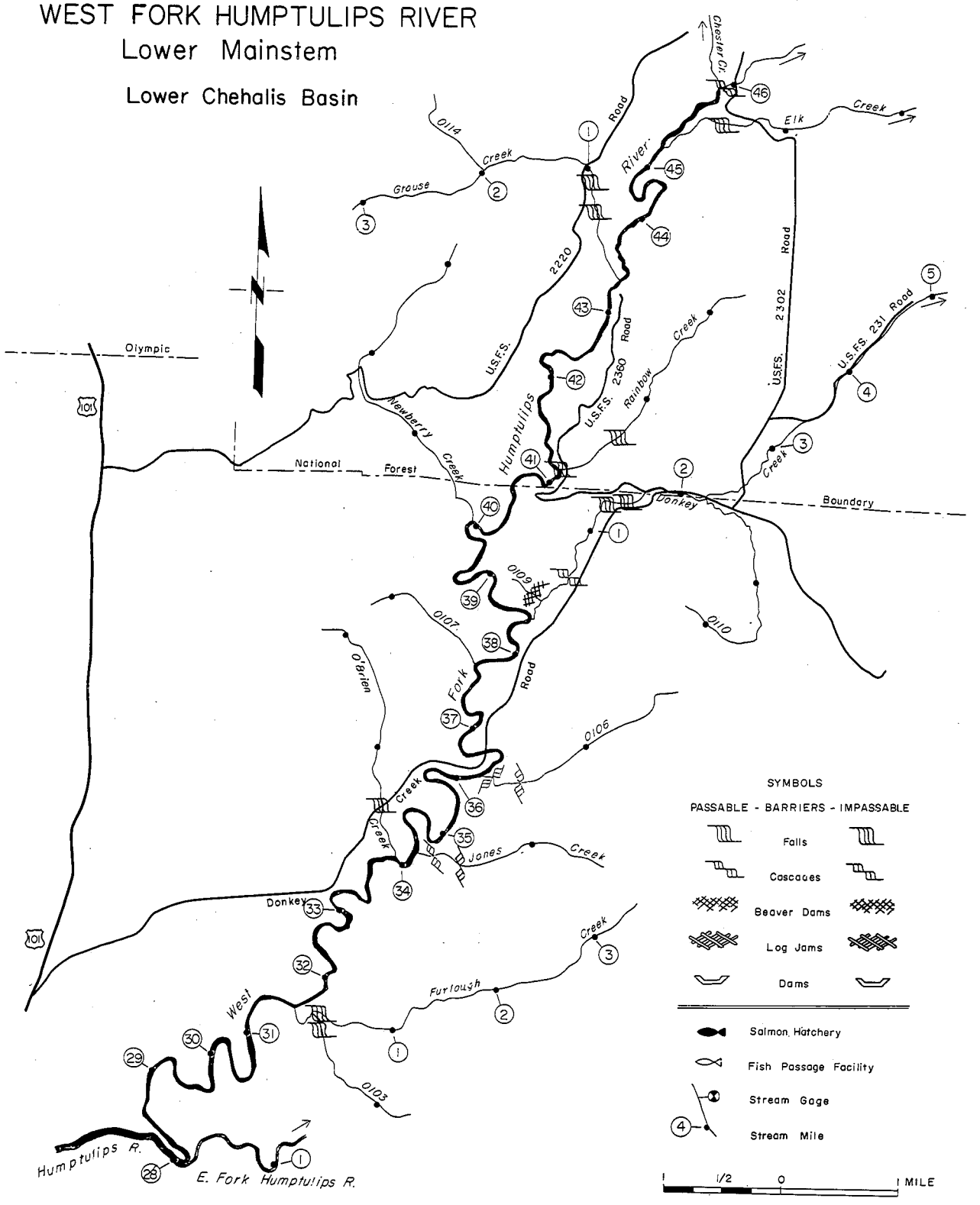
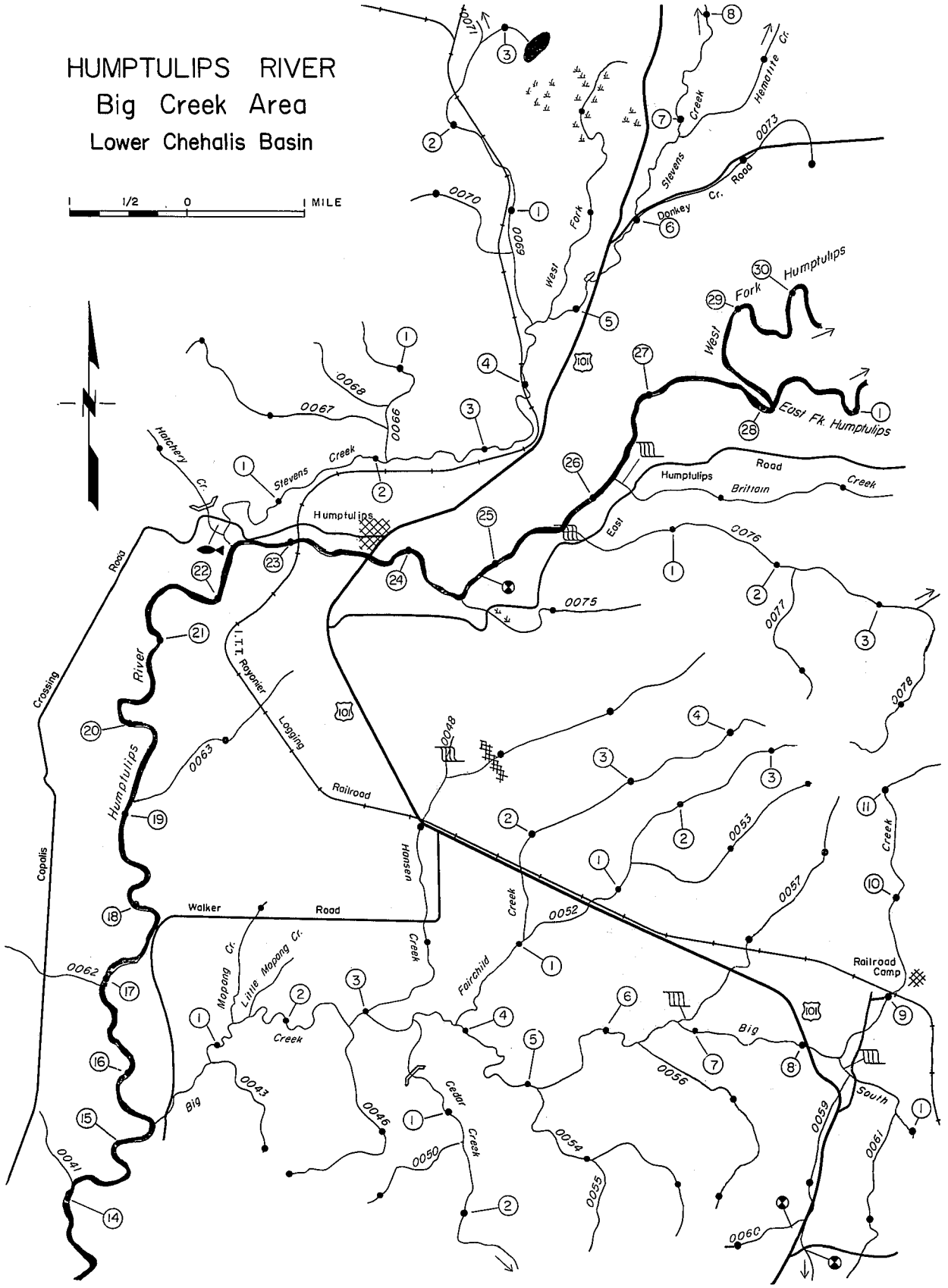
0119
0118


WEST FORK HUMPTULIPS RIVER
Lower Mainstem
Lower Chehalis Basin
Olympic
National Forest
Boundary
Humptulips R.
E. Fork Humptulips R.
Chester Cr.
Elk Creek
Grouse Creek
Newberry Creek
Rainbow Creek
Donkey Creek
Jones Creek
Furlough Creek
O'Brien Creek
West Fork Humptulips River
Road 2220
Road 2360
Road 2302
U.S.F.S. 231 Road
0114
0109
0107
0110
0106
0103
SYMBOLS
PASSABLE - BARRIERS - IMPASSABLE
Falls
Cascades
Beaver Dams
Log Jams
Dams
Salmon Hatchery
Fish Passage Facility
Stream Gage
Stream Mile
1/2
0
1 MILE


HUMPTULIPS RIVER
Big Creek Area
Lower Chehalis Basin
1/2
0
MILE
0071
0070
0069
0068
0067
0066
0076
0075
0077
0078
0048
0063
0062
0043
0046
0050
0041
0053
0057
0052
0056
0054
0055
0059
0061
0060
0073
Hemoline Cr.
Creek
Stevens
Cr. Road
Donkey
Fork
West
Humptulips
Fork
West
East Fk. Humptulips
Humptulips Road
Britain
Creek
East
Hatchery Cr.
Stevens Creek
Humptulips
Road
Crossing
Copalis
River
Humptulips
I.T.T. Rayonier
Logging
Railroad
Hansen
Creek
Walker
Road
Mopang Cr.
Little Mopang Cr.
Creek
Fairchild
Creek
Creek
Railroad Camp
Big
South
Cedar
Creek
101

SOLEDUCK

GENERAL SETTING

With a total length of 64.9 miles, the Soleduck is one of the longest rivers on the Olympic Peninsula. From its source in the Mt. Appleton-High Divide-Seven Lakes Basin area, to its merger with the Bogachiel to form the Quillayute River, there are 13.9 miles within the Olympic National Park, (5.3 miles where the river is the boundary between Olympic National Park and Olympic National Forest, 11.1 miles fully within the National Forest). The remaining 34.6 miles flows through private and State Department of Natural Resources lands, with approximately 65 percent private and 35 percent State.

Mileage and acreage by ownership are summarized below. Acreage is based on a corridor one-quarter mile each side of the river. River mileages and associated acreages were developed from: a catalog of western streams, Metskers atlas of Clallam County, Olympic National Forest Map Base and Clallam County Records.

Ownership	Miles	Acres
Olympic National Park	16.6	5,300
Olympic National Forest	7.5	2,430
State of Washington DNR		
within National Forest boundary	2.1	670
outside National Forest boundary	12.2	3,920
Other State and County	0.2	50
Private		
within National Forest boundary	4.2	1,330
outside National Forest boundary	22.1	7,070
TOTAL	64.9	20,770

The Soleduck River, and its tributaries, form one of the major river systems within the northwest corner of the Olympic Peninsula. Rising near the heart of the Olympics, the Soleduck initially flows northwesterly towards the Strait of Juan de Fuca. The stream gradient is steep, with numerous falls and cascades within the upper watershed. The stream gradient moderates below Soleduck Falls. Upon reaching the Soleduck Valley, R.M. 51 [28], the river bends to the west and river gradients moderate further. Near the community of Sappho, R.M. 32, the river bends to the southwest for its remaining distance to the Quillayute River, just 5.6 miles from the ocean.

Known regionally and nationally for its salmon and steelhead production, the Soleduck River and its tributaries are utilized by all five species of salmon. Fishermen from throughout the northwest travel to the Soleduck to try their luck.

During the summer months, campers and hikers from near and far visit the Olympic Peninsula, the Rain Forest and the Soleduck River Valley.

28/ All river miles (R.M.) are expressed from the mouth of the Quillayute River. This is 5.6 miles downstream from the confluence of the Soleduck and Bogachial.

The Soleduck River is being evaluated as a potential addition to the Wild and Scenic Rivers System because of identification as an issue early in the process, its inclusion as a river in the HCRS inventory, and its inclusion in previous Wild and Scenic River legislation.

ELIGIBILITY DETERMINATION - VALUES

Scenic - Generally common landscape features except in upper reaches. Limited vistas of rugged interior of Olympics. Rain forest, typical of west side of Olympic Peninsula. **Average.** This river was identified by Washington State Parks for evaluation for inclusion in the State's Scenic Rivers system.

Recreational - Most use associated with seasonal camping and hiking visits to the Olympic Rain Forest. Similar to other rain forest drainages on Olympic Peninsula. Sol Duc Hot Springs known regionally. Drift fishing on the Soleduck. Limited rafting. **Above average.**

Geologic - Sol Duc Hot Springs at R.M. 62.3. Well known; of regional significance. **Above average.**

Fish. Known regionally, if not nationally, for its winter steelhead. Utilized by all five species of salmon. Major contributor to salmon production. **Outstandingly remarkable.**

Wildlife - Significant populations of Roosevelt elk are found throughout the river corridor. Eagles are seen occasionally. **Above average.**

Historical - Settlement similar to other coastal and cascade valleys, except that it occurred later. No specific historical significance. Early recreation use of Hot Spring and associated hotels and construction of recreation facilities is important and unique to this area. **Average.**

Cultural - American Indian use prior to settlement of the area by white man. Sites probably exist throughout river corridor. Some noteworthy sites have been located by the National Park Service in Seven Lakes Basin. **Above average.**

ELIGIBILITY DETERMINATION - CLASSIFICATION

Water Resources Development - The Soleduck River is entirely free of impoundments.

Shoreline Development - From its source, to near R.M. 63.6, the river corridor is essentially primitive with little or no evidence of man's activities. Downstream from this point to near R.M. 56.6, there is some evidence of human activity primarily associated with the facilities at Sol Duc Hot Springs (R.M. 62.3) and Soleduck Campground. Between R.M. 56.6 and 51.3, evidence of timber harvesting can be seen to the west of the river. Little, if any timber harvesting has occurred within the river foreground within recent years. From the point where the river enters the Soleduck Valley, approximately R.M. 51, and turns westerly, the mix of private, State Department of Natural Resources and National Forest lands creates a mosaic of land ownership and uses. Residential lots and homes are in greater number in the segment from the National Forest boundary to the Highway 101 bridge (R.M. 40.2 28.8) and, to a lesser degree, near the confluence of the Soleduck and Bogachiel. Evidence of human activity is frequently seen; individual houses, clusters of houses and commercial structures, campgrounds and boat launch facilities. Evidence of past or ongoing timber harvest may be seen in the distance, as well as within the river corridor. Fields and farm outbuildings can be seen in a few locations.

Accessibility - Access beyond the end of the National Park road (R.M. 63.6) is by trail. From R.M. 63.6 to R.M. 54.5, the road to Sol Duc Hot Springs is along the east bank of the river and often visible. A Forest

road spans the river less than a half mile above the point where Goodman Creek enters the Soleduck. This road follows the river along the west bank until it crosses the South Fork of the Soleduck, near R.M. 54.5, then it turns away from the main stem of the Soleduck.

Downriver from R.M. 51 to its confluence with the Quillayute, the river is immediately adjacent to, crossed by, or accessed from Highway 101, other State highways, County, National Forest, State Department of Natural Resources, and private roads.

Water Quality - The water quality of this river is rated Class AA, "extraordinary," from its source to its mouth.

Conclusion - The Soleduck River has an "outstandingly remarkable" fish value. This river meets classification criteria from its source to the mouth. The Soleduck is eligible for Wild and Scenic River classification.

GENERAL DESCRIPTION OF RESOURCES

The Soleduck River originates from many small tributaries in the ridges, which divide the Soleduck from the Bogachiel and Elwha watersheds. From its source, the river flows in a series of falls and cascades through a narrow valley to Soleduck Falls. Below Soleduck Falls, the gradient moderates and the river contains numerous riffles and pools. The largest tributaries in the headwaters area are North Fork Soleduck, South Fork Soleduck and Alckee Creek.

From the South Fork Soleduck River to the vicinity of Littleton, the Soleduck River is primarily confined to a narrow valley. It is composed of a mixture of pools and riffles with occasional rapids. Major tributaries in this reach include Snider, Kugel, Camp, and Goodman Creeks.

The Soleduck continues flowing in a narrow channel composed of pools and riffles with occasional rapids, down to its confluence with the Bogachiel River. Only one major tributary, Gunderson Creek, exists in the first 18 river miles. Numerous tributaries flow into the Soleduck above R.M. 18. Adjacent land in the lower reaches is quite flat.

Some activity has occurred near the Soleduck, however, generally good streambank cover is provided throughout. The subalpine zone occurs at the headwaters. The river then flows through the Pacific fir zone, the Douglas-fir-western hemlock zone, and finally the coastal spruce zone below about 800 feet elevation. Hardwoods and understory vegetation are thick, especially in the lower reaches.

Access to the Soleduck River is provided by National Forest, Park, county, and State roads, U.S. Highway 101 and trails. Within Olympic National Park, the upper reaches are accessed by trails. From U.S. Highway 101 to the Soleduck resort, the Park road parallels the east side of the river. A Forest road follows the east side of the river, then crosses over near R.M. 53.5.

It follows the west side up to about R.M. 56, where it turns south. U.S. Highway 101 follows the river from R.M. 50 to 18, crossing the river five times. State and private roads also access the river through this portion. The Quillayute and LaPush roads are the major access routes in the lower reaches of the Soleduck.

The Soleduck River is quite remote. The largest town in the vicinity is Forks, population 3,000. Forks has named itself the "Logging Capital of the World." Port Angeles, population 17,000, lies 60 miles east of Forks. Aberdeen and Hoquiam lie about 110 miles to the south. A drive from the Seattle area to the Forks vicinity takes about three to four hours.

Fishing, hiking, camping, and picnicking are the primary uses on the Soleduck River. Deer and elk hunting also occur. Primary river use involves drift boat fishing and a very minor amount of rafting and floating. The river receives international attention by salmon, and especially steelhead fisherman. Fly-fishing is popular.

Olympic National Park manages the Soleduck's upper reaches. Maintenance of the natural ecosystem, for enjoyment by the people, summarizes the Park's objectives.

Streamside management protection for a Class I stream would apply. 29/ Since the HCRS inventory, National Forest lands within the corridor have been managed so as not to preclude its potential inclusion in the Wild and Scenic Rivers System.

Below the National Forest to the confluence with the Bogachiel, the corridor ownership includes the State, ITT Rayonier, Peninsula Plywood, and private individuals. Very little cutting or other activity has occurred adjacent to the river, and few activities are visible.

Water - Water quality in the Soleduck River is rated Class AA, "extraordinary," by the State Water Pollution Control Commission. During summer low flows, water clarity is outstanding. Clarity is reduced during heavy winter rains. Water temperature is cool throughout the year.

Two gauging stations, located at R.M. 13.6 and 54.6, provide streamflow data for the Soleduck River. Pertinent data from these stations are listed below.

Table F-61. Streamflow Data

River Mile	Drainage Acres Square Miles	Average Annual Flow, cfs	Maximum Flow cfs and Date	Minimum Flow cfs and Date
13.6	219.0	1,380	30,100 - 12/17/49	
9				193 - 10/15/79
54.6	83.8	621	23,500 - 11/26/49	51 - Unknown

Generally, drainages exhibit two peak flows. However, on west side drainages such as the Soleduck, the peaks blend into one, long peak. Maximum flows occur in December and January. Average annual precipitation in Forks is 117 inches.

No significant water use occurs on the Soleduck. A State salmon hatchery lies at R.M. 29.8, left bank. The Olympic National Park facilities utilize a small amount. Incidental use on private land also occurs.

Hydropower potential for the river portion within the Olympic National Forest boundaries has been estimated to be 185.9 Gigawatts per year at the 30% exceedance level. However, currently no hydroelectric power proposals have been filed for the Soleduck River.

Geology - The Soleduck River flows southwest through a valley cut in marine sedimentary "core" rocks of the Western Olympic Lithic Assemblage (formational names after Tabor and Cady, 1978). At R.M. 66, the Soleduck flows into a broad valley underlain by glaciofluvial (outwash) deposits. The river passes

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29/ USDA Forest Service, FSM 2526, 1980.

Sole Duc Hot Springs, one of two known geothermal occurrences on the Olympic Peninsula, at R.M. 62.5. Just downstream from R.M. 58, the Soleduck crosses the Calawah Fault, along which Olympic "core" rocks were thrust beneath volcanic and volcaniclastic "peripheral" rocks. Downstream from R.M. 58, volcanic sandstone and mudstone in the valley walls are part of the Blue Mountain Unit. At R.M. 56, the Soleduck crosses a fault into a wedge of undifferentiated sedimentary "core" rocks. At R.M. 52, the river crosses another fault where it leaves the glaciofluvial and alluvial deposits filling the valley bottom and is cutting a narrow canyon through sedimentary rock. Half a mile downstream, the Soleduck crosses the Hurricane Ridge Fault (a thrust fault similar to the Calawah Fault) back into the Blue Mountain Unit, and then leaves the canyon and flows into a broad valley underlain by continental glacial deposits. The river approximately follows the contact between rock and continental glacial deposits until R.M. 50, where it flows north and west out into the center of the valley. The Soleduck meanders back and forth across the broad valley to R.M. 45, where it is directed due west by Crescent basalts on Snider Ridge. At Snider Work Center (R.M. 44) the river turns south, flows around the end of a knife-edge ridge of coarse-grained sedimentary rock, and then follows a meandering course to its confluence with the Quillayute.

Fish and Wildlife - Chinook, coho, pink, sockeye and chum salmon inhabit the Soleduck River and its major tributaries. The Soleduck watershed contains 262 miles of stream, of which over 118 miles are presently used by salmon species.

Chinook, a major run of pink and some chum, use the lower 13 miles for spawning and rearing. Excellent salmon-producing areas occur from R.M. 19 to 43, particularly between Tassel Creek and Lake Creek. Good salmon habitat extends to R.M. 64.9, Soleduck Falls. Upstream migration can be impeded by Salmon Cascades at R.M. 56.5 during both high and low flows.

Summer run coho deserve special mention. These coho come in early and spawn early. Also of interest, landlocked Dolly Varden occur in the upper Soleduck. Resident trout also inhabit the Soleduck River and its major tributaries.

Based on the anadromous fish habitat, the Soleduck River and its tributaries have the estimated capability to produce 66,200 adult fish annually. Approximately 35 percent of this habitat capability is within the National Forest. Table F-62 summarizes potential fish production.

Generally, all of the wildlife species found along the west slopes of the Olympics inhabit the Soleduck drainage and periodically use the river corridors. Roosevelt elk are a popular game species utilizing river bottoms in winter. The Columbian black-tailed deer is the most abundant game species. Black bear, cougar, coyote, bobcats, and small nongame animals also inhabit the corridor. The northern bald eagle is the only threatened species known to inhabit the area.

Riparian habitat along the Soleduck River is generally in excellent condition. Little active development has occurred adjacent to the river. A few scattered residences are located along the streambank, primarily in the lower reaches. More development has occurred adjacent to tributaries of the Soleduck. This development consists mostly of logging and road construction.

Table F-62. Estimated Annual Habitat Production Capabilities for Anadromous Salmonids

Species	Landownership	Spawning Population	Smolt Production	Total Adult Production
Spring chinook	NF Other	500 930	70,000 130,000	3,010 5,590
	TOTAL	1,430	200,000	8,600
Fall chinook	NF Other	860 1,600	120,400 223,600	5,180 9,620
	TOTAL	2,460	344,000	14,800
Coho	NF Other	1,400 2,600	51,800 96,200	4,140 7,690
	TOTAL	4,000	148,000	11,830
Chum	NF Other	700 1,300	157,500 292,500	1,420 2,640
	TOTAL	2,000	450,000	4,060
Steelhead	NF Other	3,160 5,870	54,130 100,530	4,710 8,750
	TOTAL	9,030	154,660	13,460
Cutthroat	NF Other	3,160 5,870	54,130 100,530	4,710 8,750
	TOTAL	9,030	154,660	13,460
All	NF Other	9,780 18,170	507,960 943,360	23,170 43,040
	TOTAL	27,950	1,451,320	66,210

Recreation - Campgrounds and boat launch sites provide many recreation opportunities along the Soleduck River. The headwaters area is accessed by trails. Hunter and fisherman trails also occur throughout the river corridor. Primary contact use, for the most part, involves drift boat fishing in the middle and lower stretch of river. A very minor amount of rafting occurs, due to the rough character of the river. It is only marginally suited for even the most serious kayakers due to large rocks, and other hazards, especially in the upper reaches. Tables F-63 a. and F-63 b. summarize the campgrounds and boat launch facilities within the river corridor. Sol Duc Hot Springs, one of two geothermal occurrences on the Olympic Peninsula located near R.M. 62.3, is within the National Park. A National Park concessionaire operates Soleduck Resort. Cabins, a snack bar, and groceries are available. Pools at the resort are a major attraction. Hot Springs water, mixed with natural water fill three small pools to different temperatures. A larger pool of natural water is also at the resort.

Table F-63. Developed Recreation Sites

Table F-63 a. Campgrounds

National Forest Sites					
Site	ROS Class	Capacity PAOT	Managed Season Days	1988 Use RVDs	Projected Capacity PAOT
Klahowya	Roaded	275	180	19,000	475
Other Agency Sites					
Site	Managing Agency	Acres	Camping Units	Managed Season	1988 Use: Camping Visits
Soleduck	ONP	42	84	5/11 - 11/15	14,470
Bear Creek	DNR	10	10	Year Round	1,950
Tumbling Rapids	ITT 1/	5	10	Year Round	850

Table F-63 b. Boat Launch Sites

Site	Managing Agency	Approximate River Miles	Boat Launch	Comments
Klahowya	ONF	43.8, left	1	Parking, within campgroud
Soleduck Hatchery	WDF	30, left	1	Visitor Center
Iverson Access	WDW	23, right	2	Parking
Soleduck Salmon Hatchery	WDW, WDF	30, right	1	Parking, rough boat launch
Soleduck River Access	WDW	39, right	1	
Soleduck River Access	WDW	13, right	1	Rough boat launch
Soleduck River Access	WDW	19, left	1	Parking
Lyendecker	WDW	6, left	1	Parking, rough boat launch

1/ ITT--Rayonier

Expansion of Klahowya Campground is planned as use levels currently indicate a need for additional units. Timing will depend upon priorities and funding. ITT-Rayonier plans to expand their Tumbling Rapids site in the foreseeable future. Washington State Parks is currently in the planning stage for a new park, Soleduck Corridor, near the community of Sappho. The site is approximately 466 acres in size. If designated as Wild and Scenic, an additional public access should be provided near R.M. 51. Estimated use within the National Forest segments of the river corridor are shown in table F-64.

Trails adjacent to the Soleduck Campground begin at the resort and at the end of the Park road. The "Lovers Lane" trail starts at the resort and continues 2.8 miles to Soleduck Falls. The main trail along the river begins at the end of the road, and travels .7 miles to Soleduck Falls and 8.5 miles to High Divide. Soleduck Falls is a popular spot for viewing salmon in the fall. The latest use figures showed over 2,300 visits were recorded at the Soleduck trailhead. No other trails exist within the river corridor. However, a 6-mile trail is planned along Highway 101 from the Snider area to the Littleton area.

Table F-64. Recreational Activities (Estimated Recreational Use - RVDs and Trends)

	1986	2000
National Forest Developed Sites	19,000	22,000
Undeveloped Recreation	700	1,000
Boating (flatwater, whitewater)	Moderate	High
Water Play (swim, wade)	Light	Light
Fishing	High	High
Hunting	High	High
Camping: Undeveloped	Light	High
Hiking	Light	Moderate
Picnicking	Light	Moderate
Viewing Scenery	Moderate	High
TOTAL	19,700	23,000

Historical/Cultural - Evidence of use by Indians is scarce. No known sites or evidence of sites have been found along the river although they likely existed. Sites deep in the interior of the National Park have been located at Seven Lakes Basin.

Four buildings at the Snider Work Center have been found eligible for nomination to the National Register of Historic Places. A shop, warehouse, residence and equipment and storage building exemplify CCC (Civilian Conservation Corps) tongue-in-groove, clapboard-sided construction.

Considerable homesteading and early pioneering took place along the Soleduck, although the preponderence occurred outside of the Forest boundary. Historic and noteworthy recreation use occurred in association with hotels and cabins built to take advantage of the hotspring attractions.

Minerals/Energy - National Forest lands are open to mineral exploration and leasing, except within the Buckhorn Wilderness and administrative sites. No significant mining has occurred in the Dungeness River corridor with the notable exception of Tubal Cain on the Copper Creek Tributary. It is unlikely that any significant mineral or energy deposits occur within the river corridor.

Timber - The following tables depict acre and volume information on National Forest lands in the Soleduck corridor.

Table F-65. Summary of National Forest Acres

Tentatively Suitable	2,254
Unsuitable	176
TOTAL	2,430

Table F-66. Tentatively Suitable Acres by Age Class and Site

Site/Productivity	BG Bare Ground (0.1-2.9" DBH)	SS Seedling-Sapling (3-4.9" DBH)	PL Poles (5-8.9" DBH)	MS Small Saw (9-20.9" DBH)	LS Large Saw (21+" DBH)
High	17	118	247	1,106	213
Medium		24		529	
TOTAL	17	142	247	1,635	213

Table F-67. Tentatively Suitable Standing Volume by Site and Age Class

	Large Sawtimber				Small Sawtimber				Young Stands			
Site/ Productivity	Acres	MCF/ Acre	MCF	MBF	Acres	MCF/ Acre	MCF	MBF	Acres	MCF/ Acre	MCF	MBF
High	213	11.50	2,450	10,658	1,106	6.92	7,654	33,295	247	4.56	1,126	4,898
Medium					529	6.92	3,661	15,925				
Low												
TOTAL	213		2,450	10,658	1,635		11,315	49,220	247		1,126	4,898

Summary 14,891 MCF or 14.9 MMCF
64,776 MBF or 64.8 MMBF

Table F-68. Tentatively Suitable Land Potential Yield by Site and Elevation

<1,500' Elevation (Winter Range)				
Site/Productivity	CF/Acre/Year	Acres	MCF/Year	MBF/Year
High	172.14	1,701	292.81	1,273.72
Medium	121.24	553	67.05	291.67
TOTAL		2,254	359.86	1,565.39

The 1985 Insect and Disease Survey showed no significant insect or disease problems occurring within the river corridor. The potential for any significant outbreak is low.

NON-FEDERAL LANDOWNERSHIP AND USES

Washington State DNR, timber companies and private individuals own land adjacent to the Soleduck River, within and outside the National Forest boundary. DNR lands are managed for timber production and maximum return to the State, while meeting Forest Practice Act constraints. The timber companies' and some of the lands owned by private individuals, are also managed for timber production. ITT Rayonier and DNR are the major non-Federal land owners with lands adjacent to the river, with nearly 50% of the corridor acres. Very little activity has occurred immediately adjacent to the riverbanks. Thus, riparian vegetation is in very good condition. The DNR lands within the National Forest boundary are being considered for exchange to the Forest Service. The existing and projected landownership pattern and uses are consistent with the classification requirements for a Recreational River.

There are approximately 13,000 acres of non-Federal lands within the river corridor. All of these are within the segments classified as Recreational. Based on the potential yield from similar National Forest lands, this would indicate a potential yield of approximately 9.0 mmbf/year. While timber harvesting is compatible with the Recreational classification, extensive harvesting may not be fully compatible.

FUNDING NEEDS IF DESIGNATED AS A WILD AND SCENIC RIVER (NATIONAL FOREST SEGMENTS ONLY)

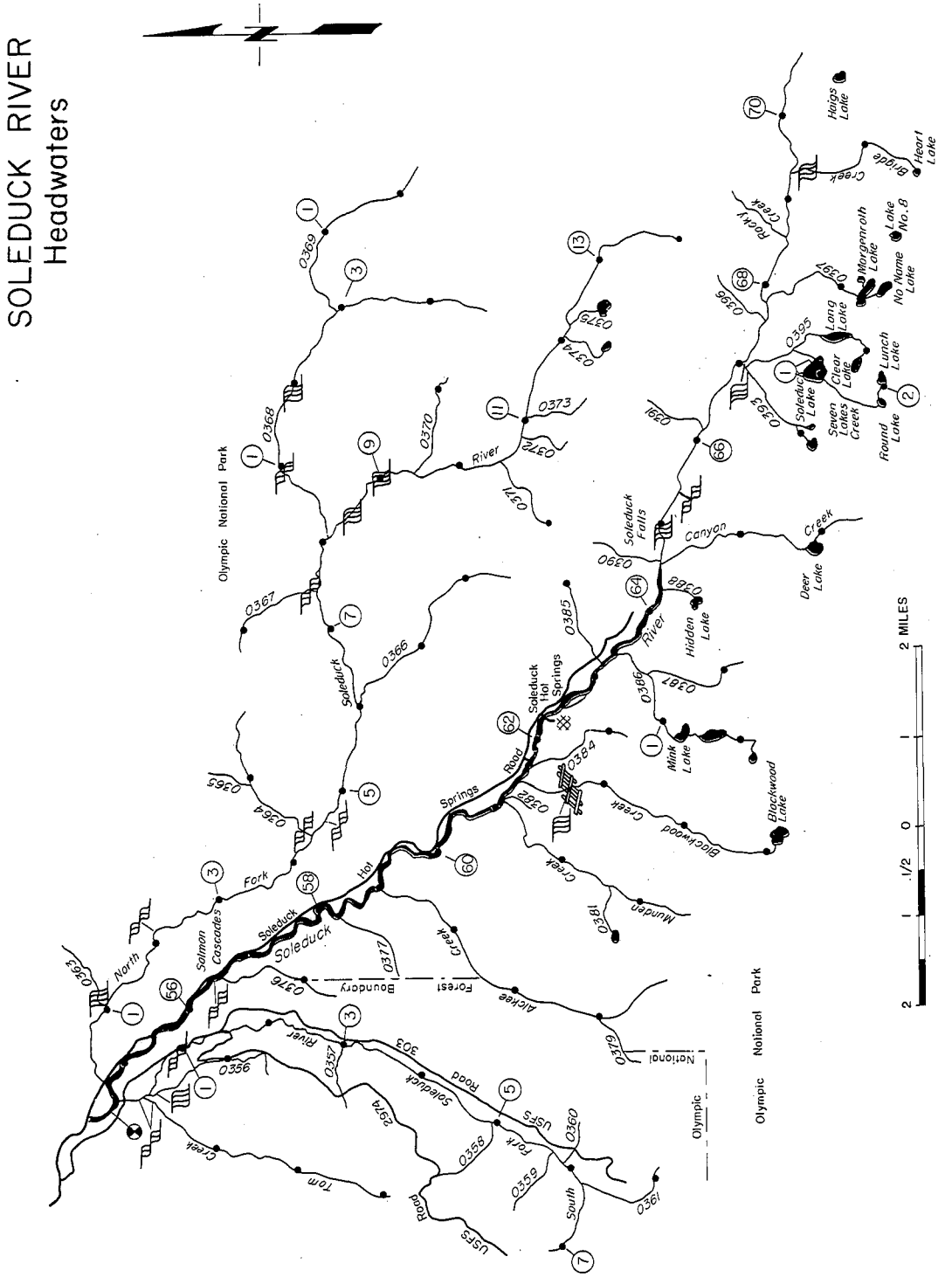
The following are expected funding needs for the Soleduck for the first five years following a designation as a Wild and Scenic River:

Table F-69. Estimated Cost of Management If Designated as a Wild and Scenic River

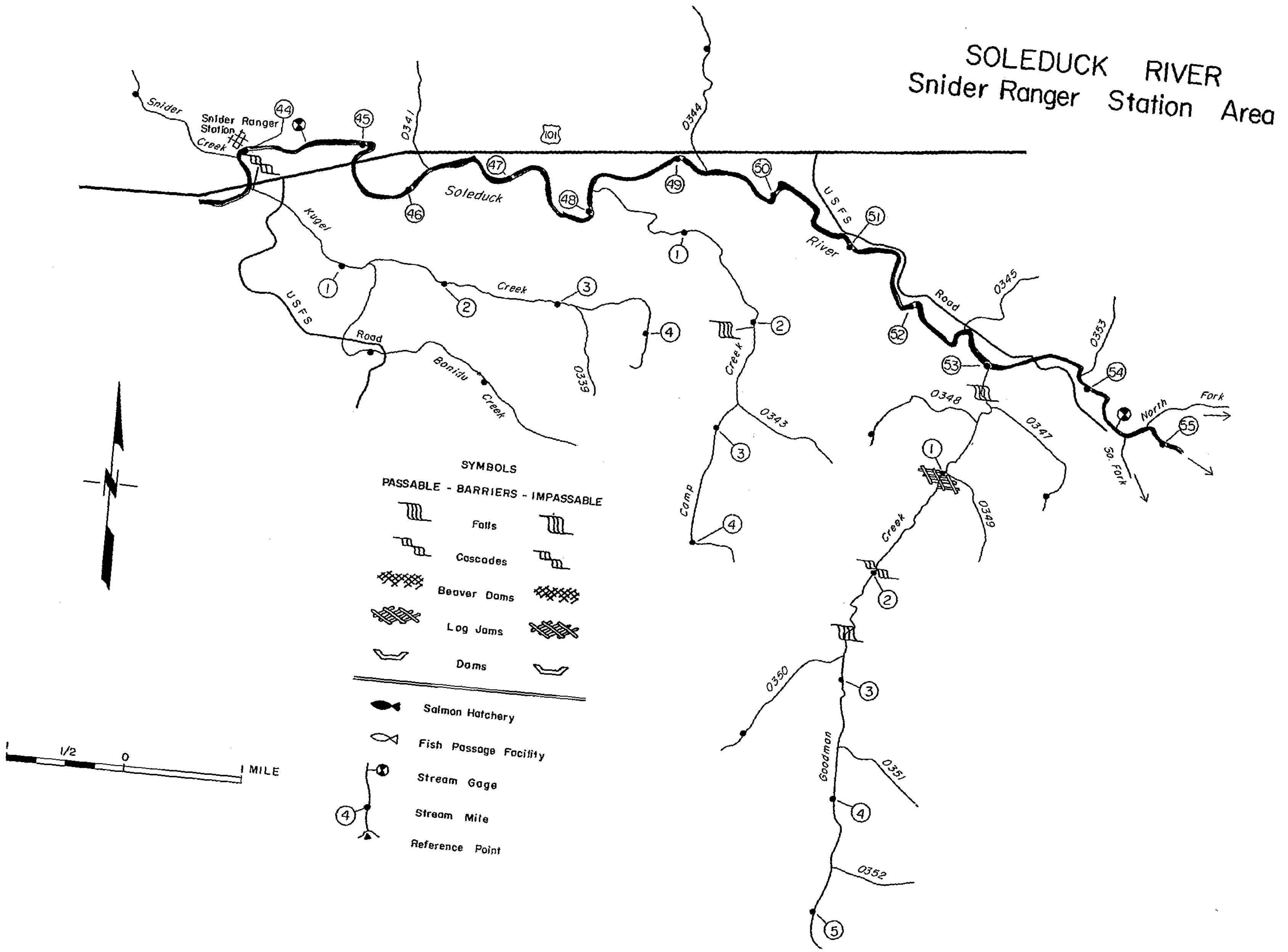
Annual Costs	General Administration Operation and Maintenance	$18,500 144,000
	TOTAL	$162,500
Non-Recurring Costs	Cost of implementation 1/ Preparation of Management Plan 1/ Acquisition and development costs	$17,000 32,000 23,000
	TOTAL	$72,000
	TOTAL COST--FIRST FIVE YEARS	$234,500

1/ Costs primarily in years 1 and 2.

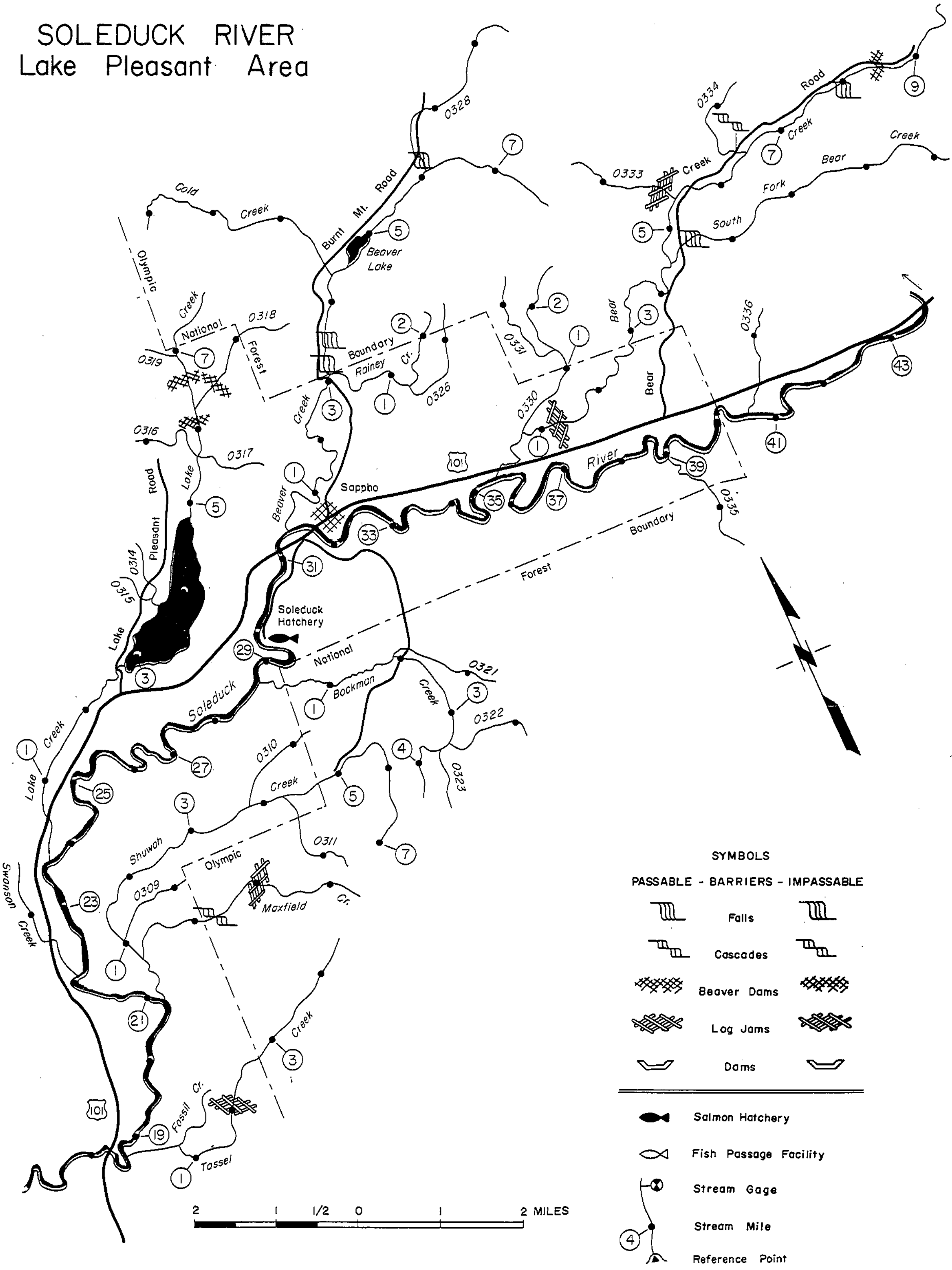
The projected annual general administration, and operation and maintenance cost would continue at an estimated $9,000 per year.

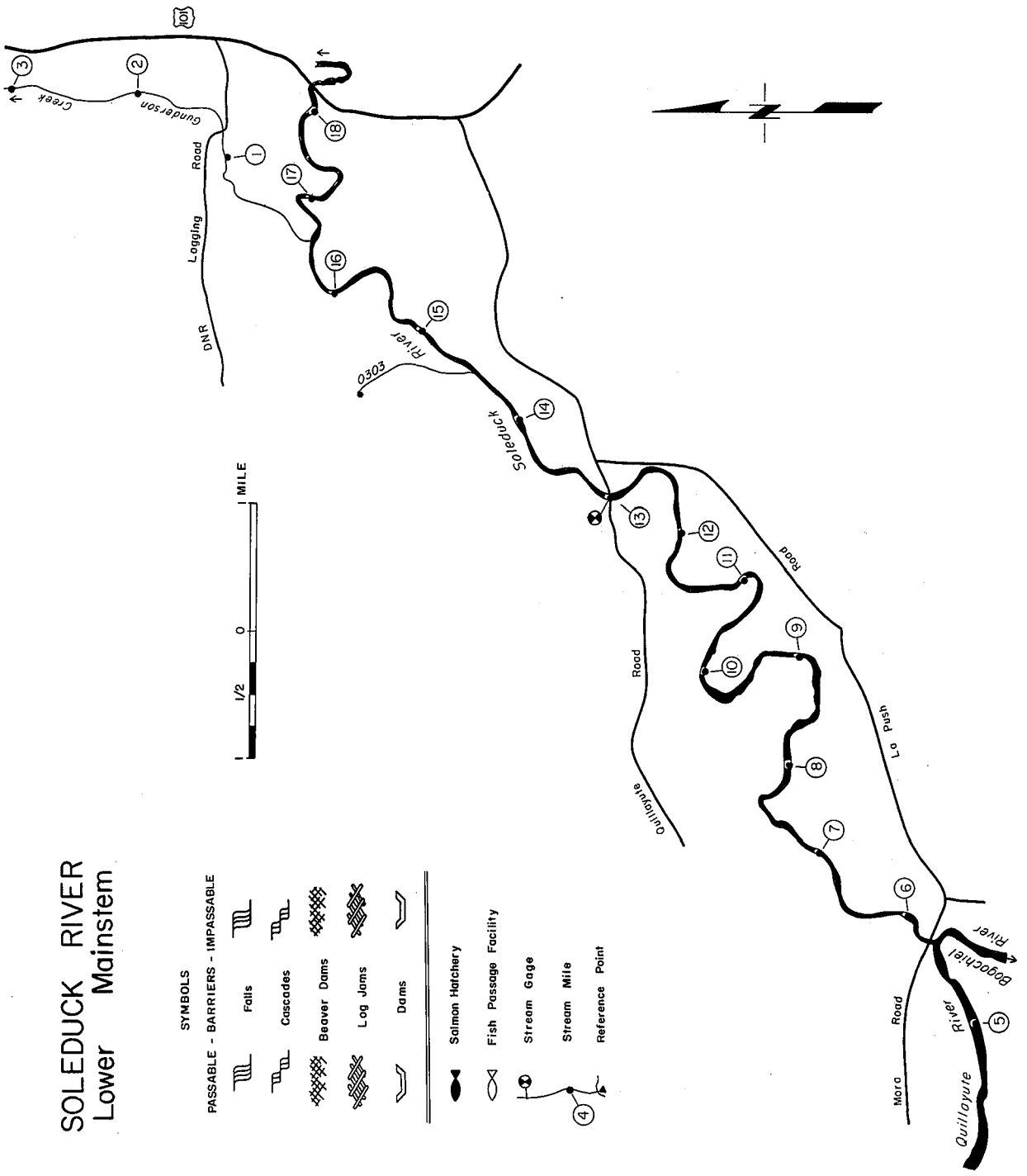

SOLEDUCK RIVER
Headwaters
Olympic National Park
Olympic National Park
Olympic National Forest
Soleduck Hot Springs Road
Soleduck Falls
Canyon
Creek
Deer Lake
Hidden Lake
Mink Lake
Blackwood Lake
Blackwood Creek
Mundon Creek
Alckee Creek
Soleduck River
Soleduck Hot Springs
Soleduck Forks
North Fork
Salmon Cascades
Boundary
Forest
National
Olympic
Road 30
Road 2974
Road 2973
Road 2972
USFS
USFS
Tom Creek
South Fork
Soleduck Lake
Clear Lake
Long Lake
Lunch Lake
Round Lake
Seven Lakes Creek
No Name Lake
Morgenroth Lake No. 8
Haigs Lake
Heart Lake
Bridge Creek
Rocky Creek
0 1/2 1 2 MILES

SOLEDUCK RIVER
Snider Ranger Station Area



Snider Creek
Snider Ranger Station
101
Soleduck River
Kugel Creek
USFS Road
Bonidu Creek
Camp Creek
Goodman Creek
North Fork
So. Fork
0339
0341
0343
0344
0345
0347
0348
0349
0350
0351
0352
0353
44
45
46
47
48
49
50
51
52
53
54
55
SYMBOLS
PASSABLE - BARRIERS - IMPASSABLE
Falls
Cascades
Beaver Dams
Log Jams
Dams
Salmon Hatchery
Fish Passage Facility
Stream Gage
Stream Mile
Reference Point
1/2
0
1 MILE


SOLEDUCK RIVER
Lake Pleasant Area
Soleduck River
Sappho
Soleduck Hatchery
Beaver Lake
Lake Pleasant
Burnt Mt. Road
Pleasant Road
Cold Creek
Boundary Creek
Rainey Cr.
Beaver Creek
Bear Creek
South Fork Bear Creek
Bockman Creek
Shuwah Creek
Maxfield Cr.
Lake Creek
Swanson Creek
Fossil Cr.
Tassel
Olympic National Forest Boundary
SYMBOLS
PASSABLE - BARRIERS - IMPASSABLE
Falls
Cascades
Beaver Dams
Log Jams
Dams
Salmon Hatchery
Fish Passage Facility
Stream Gage
Stream Mile
Reference Point
2 1 1/2 0 1 2 MILES


SOLEDUCK RIVER
Lower Mainstem
SYMBOLS
PASSABLE - BARRIERS - IMPASSABLE
Falls
Cascades
Beaver Dams
Log Jams
Dams
Salmon Hatchery
Fish Passage Facility
Stream Gage
Stream Mile
Reference Point
1/2
0
1 MILE
Gundarson Creek
Road
Logging
DNR
Soleduck River
Quillayute
Road
Road
Moro Road
Bogachiel River
Quillayute River

SOUTH FORK SKOKOMISH RIVER

GENERAL SETTING

Mileages and acreages by ownership for the South Fork Skokomish River are summarized below. Acreage is based on a corridor one-quarter mile wide on each side of the river.

Ownership	Miles	Acres
Olympic National Park	1.1	350
Olympic National Forest	18.4	6,150
Private	8.0	2,300
TOTAL	27.5	8,800

(Note: The Main Stem Skokomish was evaluated and found ineligible. It will not be referenced in this summary.)

The South Fork Skokomish River originates near Sundown Pass in Olympic National Park. It drops rapidly as it flows southeasterly into the Olympic National Forest to near Rule Creek (R.M.23.9), where its gradient lowers from there to the head of the "Gorge" at R.M.9.8. It then flows within the confines of the relatively narrow, deep gorge for 6.3 miles to the National Forest boundary at R.M.3.5. The lower 3.5 miles of the river are of relatively low gradient to its confluence with the North Fork Skokomish. The two rivers merge to form the Skokomish River which then flows easterly into Hood Canal.

The entire length of the river after it leaves the National Park lies within the the boundaries of the Shelton Cooperative Sustained Yield Unit (SCSYU). Under the provisions of this agreement between the U.S Forest Service and the Simpson Timber Co. the lands of both parties are managed as a single unit for the sustained yield of forest products. This agreement will remain in effect until 2046.

Beginning in the 1970's, concern for the effects of concentrating the harvest on the National Forest portion of the unit in the South Fork began to surface. As a result of these concerns alternative management proposals were made that assigned different management priorities to some portions of the area. Some of these proposals were included in the Timber Management Plan for the area implemented in 1977. Other proposals are to be addressed in the Forest Plan. This Wild and Scenic Rivers evaluation is one of the proposals being explored.

The South Fork of the Skokomish has a locally significant fish run of particular concern to the Skokomish Indians whose reservation lies at the mouth of the Skokomish River. Prior to the time that the Cushman Dam project was installed in the North Fork of the Skokomish the North Fork was the main producer of fish in the system. The South Fork and main stem of the river are now the major, though reduced in quantity, producers of fish in the area.

The South Fork drainage is also a regionally significant recreational area providing water and forest oriented recreation in the summer and hunting and snowplay opportunity in the appropriate seasons.

ELIGIBILITY DETERMINATION - VALUES

Scenic - Stands of large Douglas-fir and western redcedar timber mixed with bigleaf maple, cottonwoods and young stands of red alder, all in a near rainforest setting, stretch the entire length of the upper valley, with a backdrop of rugged ridges and peaks. The chasm of the South Fork Gorge stretches for over 6.0 miles as the river cuts its way to the lower valley. This value is considered **Outstandingly remarkable.**

Recreational - Much of the river corridor is accessible by road but access to the immediate river edge is primarily by trail except in the portions of the river identified as Recreational in classification. A range of camping opportunities ranging from developed sites in the Browns Creek Campground to semi-primitive sites with only trail access are available. A large potential development site at the Oxbow awaits future development but is utilized now as an undeveloped facility. The quality of present and potential recreation opportunity in the area is **Above average.**

Geologic - The South Fork Gorge, viewed from the High Bridge, is a locally renowned geological and scenic feature. In the upper valley the surrounding ridges and peaks are both geologically interesting and scenic features. **Above average.**

Fish - The fish runs of the South Fork and the water it supplies for the fishery in the lower main river are important to the Skokomish Indians. However, the fisheries value of the river is only considered to be **Average** with respect to the region as a whole.

Wildlife - The area supports most of the indigenous species that occur in the eastern part of the Olympic Peninsula. It is a popular area for hunting. It is considered **Average** for its wildlife values.

Historical/Cultural - The lower reaches of the Skokomish were settled by early pioneers and much of the present day private land found its origin through homesteads. This same lower area of the Skokomish River was also traditionally used by Twana peoples and the Skokomish Indian Reservation was established as a result.

Mssrs. Bretherton and Church made a side trip down the South Fork in conjunction with the primary mission of the O'Neil Expedition. These gentlemen made note of a few hunting and trapping cabins and what may have been some unsuccessful and failed attempts at homesteading approximately 12-15 miles up the South Fork. No evidence of these homestead efforts have ever been found.

Some historic railroad logging occurred up the South Fork but little evidence remains of this activity as well. One notable exception is the High Steel Bridge over the South Fork, and this structure has been placed on the National Register of Historic Places.

Prehistoric use by Indians no doubt occurred. Fairly intensive professional surveys have only resulted in finding one lithic isolate in the headwater area. **Average.**

ELIGIBILITY DETERMINATION - CLASSIFICATION

Water Resource Development - The full length of the South Fork Skokomish is free of any impoundments, diversions or major channel modifications.

Shoreline Development - From its source to near Rule Creek, the river corridor is in a natural condition except where trail footlogs span the stream. From R.M. 24, to near R.M. 13.5, evidence of timber harvesting exists but is screened from view from the river.

Downstream from Lebar Creek, R.M. 13.5 to R.M. 9.8, evidence of past and ongoing timber harvesting can be seen in the background. Brown Creek Campground is on the east bank at R.M. 13.0. The shoreline and adjacent riparian area in this Segment, are in very good condition. From R.M. 9.8 to R.M. 1.0 the river is predominantly within the South Fork Gorge. The shoreline is undeveloped. From R.M. 1.0 to its mouth, the ownership pattern is predominantly small acreage tracts. Houses, fields and pasture land are within the river corridor.

Accessibility - From its source to near Rule Creek (R.M. 23.9) the river corridor is accessed only by trail or cross-country travel. From Rule Creek to Lebar Creek (R.M. 13.5) there are roads on the slopes along the east side of the river which generally parallel the river from 1/4 to 1/2 mile from the river. The South Fork Skokomish trail is located within the river corridor, frequently near the river edge.

Downstream from Lebar Creek to the mouth of the Gorge (R.M. 9.8) the river corridor and river is easily reached by a series of access roads. Through the Gorge (R.M. 9.8 - 3.2) the river is nearly inaccessible.

Below the Gorge to its mouth, the river corridor is again accessible by a number of access roads and user created trails.

Water Quality - The water quality of this river is rated class AA, "extraordinary" from its source to its mouth.

Conclusion - The entire length of the South Fork Skokomish River meets the classification for either Wild, Scenic or Recreational River. In addition to its "outstandingly remarkable" scenic values, it has above average recreational and geologic values.

GENERAL DESCRIPTION OF RESOURCES

Lying entirely within the Olympic Mountains section of the Pacific Border Province, the South Fork Skokomish rises in the lower flanks of the southeast corner of the Olympic Peninsula. Elevations vary from near 4,000 feet at its source, to near 50 feet at its confluence with the North Fork. Within five miles of its source, the river gradient slackens. Within another mile the sidewalls of the valley pull back from the river's edge, leaving a valley bottom nearly one-half mile wide. This valley bottom remains like this to the upper end of the Gorge. Once through the Gorge, it quickly meets the North Fork in the lower Skokomish Valley. The river has developed a meandering character through the broader valley areas with high, nearly vertical banks where it undercuts the slopes.

Stands of Pacific silver fir mixed with Alaska yellow cedar with an understory of huckleberry and devilsclub, are typical of the silver fir zone found in the very upper reaches of the river corridor. The river drops rapidly out of this zone, and upon reaching the point where the river gradient moderates, is well within the western hemlock zone. Western hemlock, western redcedar, Douglas-fir and Sitka spruce are the major conifer components of the stand. Red alder, big leaf maple and black cottonwood occur primarily along the river edge and in wet lowlands. Huckleberry, vine maple, devilsclub, salal, Oregon grape, salmonberry and western thimbleberry are typical understory shrubs.

The mid section of the South Fork Skokomish is readily accessible by road. In its lower reach, county and Forest Road 23 parallel the river. In the mid section, Forest Roads 23, 2353, 2355, 2361 and numerous spur roads access the river corridor.

Depending upon the segment of the river to be visited, the South Fork Skokomish can be as close as 30 miles, or as distant as 50 miles from Olympia. Seattle is 100 miles distant.

Fishing, hunting, camping and day use are the primary uses within the river corridor. Recreational boating, canoeing and raftng is very limited due to the Gorge reaches.

Within the Olympic National Forest boundary, the Shelton Sustained Yield Unit Timber Management Plan had allocated the majority of the area as available to timber production on a sustained yield basis. The area adjacent to the mouth of Brown Creek was allocated to developed recreation. The upper Skokomish Valley, above Rule Creek, was within a Special Management Area allocated to dispersed recreation.

The private land within the National Forest boundary is being managed for timber production. Outside of the National Forest, the ownership and management along the river corridor is predominantly one of timber production, except below river mile 1.0 where the pattern is one of rural and residential housing on small acreages.

Mineral and Energy Resources Development - Following the outbreak of World War II and an increase in demand for manganese, a flurry of minerals exploration occurred in the South Fork Skokomish drainage. No claims were patented and current mining activity is dormant. The potential for development of locatable minerals is low.

Common variety mineral material, utilized for crushed road rock, is a valuable resource found within the river corridor. Currently none of the inventoried rock sources located within the river corridor have been developed.

Water Resources Developments - As of February 1989, there were no water rights or allocations on file with the State of Washington Department of Ecology for water from the South Fork Skokomish.

Due to periodic flooding of the lower valley of the Skokomish River there has been interest expressed for development of flood control impoundment somewhere in the South Fork Skokomish drainage. To date no specific proposals have been made.

Hydropower potential for the National Forest portion of the river is estimated to be 190.2 Gigawatts per year at the 30% exceedance level. There are no current water resource developments on the South Fork Skokomish but for several decades there has been a proposal for a high dam at the upper end of the South Fork Gorge. This was last investigated by Mason County P.U.D. in the early to mid-1980's but the proposal was dropped. A number of other run-of-the-river hydropower projects have been proposed for various tributaries of the South Fork during this same time period. These were all denied or dropped.

Designation of the river under Wild and Scenic legislation forecloses its development for hydropower.

Transportation Facilities - One developed site, Brown Creek Campground, is on the river. This campground provides 20 camping units with tables, fire rings, a well with pitcher pump and vault toilets. A number of proposed future sites are located within the river corridor. Two of these, Oxbow and South Fork Campgrounds, would receive special emphasis if designation should occur. Oxbow is currently programmed near the end of the current five-year capital investment planning period.

The existing network of County, National Forest and private roads that parallel, cross and access the river and its corridor are adequate to provide access. Nearly all roads within, or accessing, the river corridor have a mix of timber haul and recreational traffic. The existing roads are generally adequate to accommodate current and projected use without unacceptable conflicts, except that the segment of the main access route, Forest Road 23, should be upgraded from the county road to the Fir Creek reload. Other local roads will need improvement to provide all-weather access and parking.

Numerous undeveloped camping, picnicking and general day use sites exist along the river.
Nearly 15 miles of trail traverses the river corridor from Brown Creek Campground to Olympic National Park. A number of short, connecting trails provide access to this mainline trail from existing roads.

Recreational Activities - Recreational use on the river and within the river corridor falls in three use categories: activities that are directly dependent upon the river such as fishing and water play; activities associated with the river but not dependent upon it, such as camping, picnicking, hiking and other day use; and activities that would probably occur independently of the river, i.e., hunting, mushroom picking and driving for pleasure.

Opportunities for drift boating, rafting, canoeing and other forms of river floating are restricted to the areas above the gorge. Put-in sites are limited and generally consist of locations at road crossings and provide rough approaches to the river.

Viewing the magnificent and varied stands of trees along the river corridor is associated with other uses; i.e., camping, hunting, fishing or through day hikes along the river bottoms or into more canyon-like areas of the upper river. These stands of gigantic Douglas-fir, western redcedar, western hemlock, bigleaf maple and black cottonwood contain examples of the largest and finest individuals of these species in the southern Olympics.

Table F-70. Recreational Activities (Estimated Recreational Use - RVDs and Trends)

	1988	2000
National Forest Developed Sites	10,900	15,000
Undeveloped Recreation	41,300	70,000
Boating (flatwater, whitewater)	Light	Moderate
Water Play (swim, wade)	Moderate	High
Fishing	Moderate	High
Hunting	High	High
Camping	High	High
Hiking	Light	High
Picnicking	Moderate	Moderate
Viewing Scenery	Moderate	High
TOTAL	52,200	85,000

Wildlife and Fisheries - Coho, chum, and chinook salmon, sea-run cutthroat and steelhead trout and resident cutthroat trout, utilize the South Fork Skokomish system and many of its tributaries. Large numbers of chinook, chum and coho spawn in the main channel below the lower end of the gorge.

Some steelhead and coho pass through the gorge and utilize the river up to the area of Cedar Creek at R.M. 18.0.

Based on its anadromous fish habitat, the South Fork Skokomish has a potential annual production capability of nearly 59,000 adult fish. Approximately 35% of this habitat capability is within the National Forest boundary. The remaining 65% is outside the National Forest on private ownerships.

Generally, all wildlife species found on the west side of the Olympic Peninsula occur as residents of, or visitors to, the river corridor. Some of the more common large animals are Roosevelt elk, black-tailed deer, black bear, cougar, coyote and bobcat. Smaller mammals include raccoon, mink, beaver, mountain beaver, rabbit, skunks and river otters.

The valley bottoms, south slopes and river corridor provide winter range for big game, mainly elk and deer downstream from the vicinity of Steel Creek at R.M. 22.9.

Blue grouse, ruffed grouse and pigeons are common game birds found in the area. Ducks, ospreys, eagles, kingfishers and a variety of water birds inhabit the water edge and adjacent river corridor. The northern bald eagle is the only threatened wildlife species known to inhabit the area. The old-growth timber in the upper valley is suitable habitat for the northern spotted owl, a sensitive species.

The riparian habitat, in the reaches upstream from the South Fork's confluence with the North Fork Skokomish to the vicinity of R.M. 1, is generally in good condition with only a few areas where it has been significantly modified. Upstream from R.M. 1 to the source, the riparian habitat is in excellent condition.

Streamflow - Based on a long-term record (42 years), the average annual discharge measured at the discontinued U.S. Geological Survey (USGS) gauging station at R.M. 3.2 was 732 cfs.

Maximum flows on the South Fork Skokomish are generally associated with warm "chinook" rains that follow early snows in November, December, and January. The maximum flow at the gauging station was 21,600 cfs. A minimum flow of 62 cfs has been recorded. This is typical of low flows late in the summer or early fall following an extended period without rainfall.

Water quality is "Extraordinary," State Class AA, from its source to the confluence with the North Fork Skokomish.

Geology - The South Fork Skokomish River originates near Sundown Pass, then flows southeastward through a glacially-carved valley in "southeastern core rock" metasedimentary strata and basalt intrusives. Near Snowfield Creek, the river crosses what Tabor and Cady have interpreted as the Southern Fault Zone along which metasedimentary "core rocks" have been thrust beneath volcanic and volcaniclastic "peripheral rocks." Between Snowfield and Rule Creeks, the South Fork Skokomish flows through a valley cut by alpine glaciers through folded and overturned sandstone. Below Rule Creek the valley is cut in Crescent basalt flows (formation names after Tabor and Cady, 1978). Downstream from Rule Creek the floor of the valley is buried by deep alpine glacial and glaciofluvial deposits. Below LeBar Creek alpine glaciers flowed into continental glaciers and continental deposits, made up of fragments of rock foreign to the Olympic Peninsula, underlie the valley floor. Near Rock Creek the South Fork has cut through the floor of the glacial valley and is eroding a rock canyon in Crescent basalt. This canyon (the gorge) extends downstream to near the Fir Creek Guard Station where the river flows onto a broad fluvial plain, remaining on it to its confluence with the North Fork Skokomish.

Cultural Resources - Knowledge of use by prehistoric peoples is somewhat limited. It is known that fishing for salmon and steelhead along the Main Stem Skokomish was done by individuals of the Twana culture. While permanent villages probably existed along the main river, they have apparently been lost to movement of the river channel and development of the shoreline.

Settlement along the Skokomish began in the mid-1800's and progressed upstream to the extent of the suitable lands. Marginal homesteads failed and were ultimately returned to timber production.

The high steel bridge across the South Fork Gorge is listed in the National Register of Historic Places. It is a former railroad bridge converted to a road bridge.

Timber - The segments within Olympic National Forest average about 90% tentatively suitable lands available for intensive timber management. If designation occurs, timber harvest will be allowed in the scenic and recreational segments. The harvest would be designed to maintain and enhance the scenic

and recreational values of the river. No timber harvest would be permitted within the segments classified as Wild.

Table F-71. Volume of Allowable Sale Quantity (ASQ)

	ASQ---------->		
Total Timber Volume	Potential Harvest With Legal Requirements	Forest Preferred Alternative	Designated as Wild and as Scenic River Classified
149.0 MMBF	3.32 MMBF	2.49 MMBF	1.73 MMBF

NON-FEDERAL OWNERSHIP AND USES

With nearly 29% of the river length in non-Federal ownership (approximately 2,600 acres), there is a potential for impact on non-Federal landowners. Approximately 2,000 acres of this is timberland with a potential yield of about 1,130 MBF/year. Any modification of timber harvesting could reduce this potential yield.

Simpson Timber Company's land within the National Forest boundary is being managed for timber production. Outside the National Forest, ownership and management along the river corridor is predominantly for timber production by Simpson Timber Company as part of the Shelton Cooperative Sustained Yield Unit agreement with the Forest Service.

FUNDING NEEDS IF DESIGNATED AS A WILD AND SCENIC RIVER (NATIONAL FOREST SEGMENTS ONLY)

The following are expected funding needs for the South Fork Skokomish River for the first five years following a designation as a Wild and Scenic River:

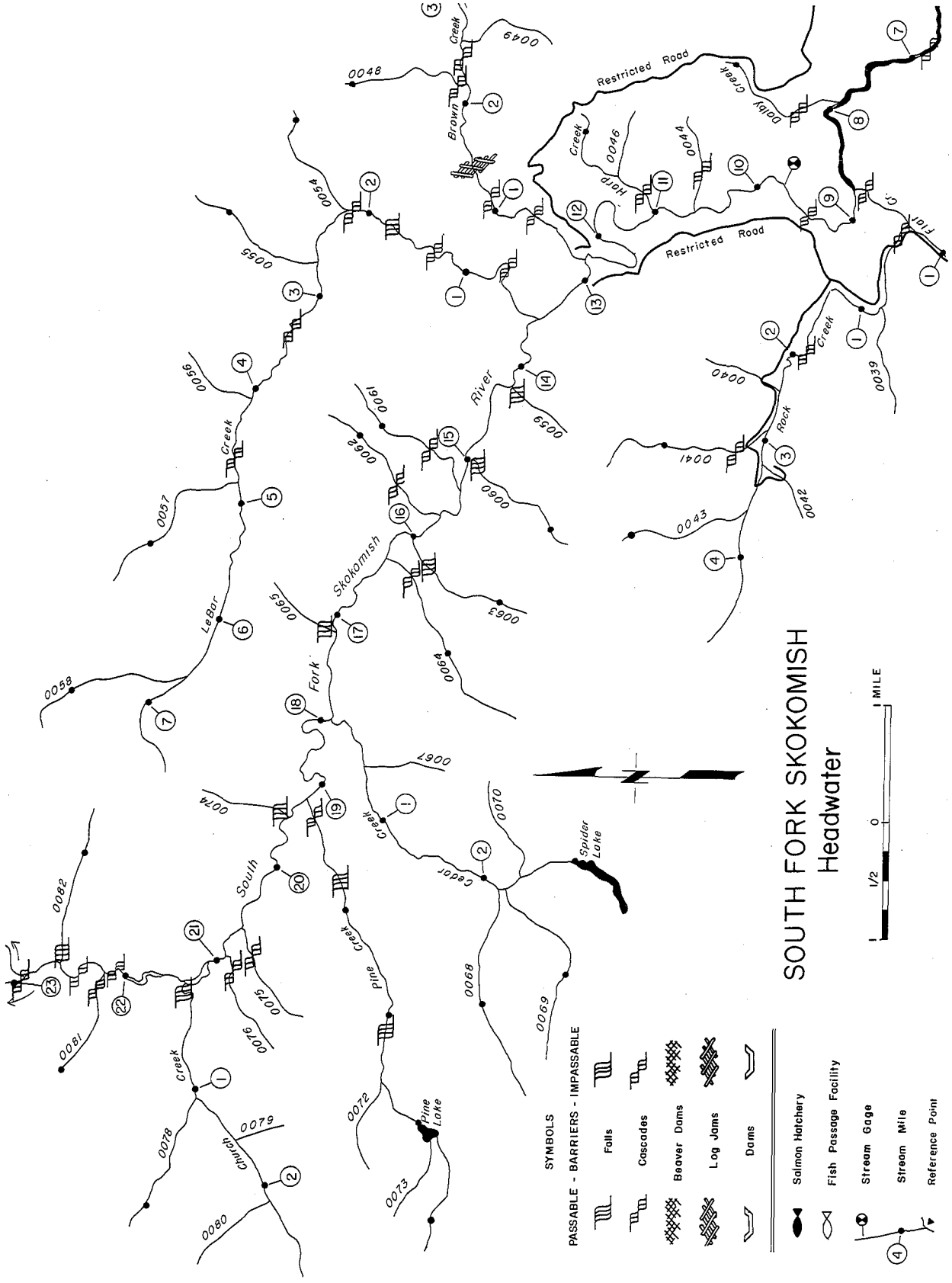
Table F-72. Estimated Cost of Management if Designated as a Wild and Scenic River

Annual Costs	General Administration Operation and Maintenance	$9,000 21,500
	TOTAL	$30,500
Non-Recurring Costs	Cost of implementation 1/ Preparation of Management Plan 1/ Development costs	$21,000 30,000 83,000
	TOTAL	$134,000
	TOTAL COST--FIRST FIVE YEARS	$164,500

1/ Costs primarily in years 1 and 2.

General administration and operation and maintenance costs are estimated to continue at $23,000 annually.

Note: If **all** eligible segments of the South Fork Skokomish are designated as Wild and Scenic River, the total funding needs are $630,000. The continued annual administration, and operation and maintenance fund needs would be $42,100.


SOUTH FORK SKOKOMISH
Headwater
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1/2
1
SYMBOLS
PASSABLE - BARRIERS - IMPASSABLE
Falls
Cascades
Beaver Dams
Log Jams
Dams
Salmon Hatchery
Fish Passage Facility
Stream Gage
Stream Mile
Reference Point
Restricted Road
Restricted Road
Brown Creek
Horp Creek
Dolby Creek
Rock Creek
River
Skokomish
Fork
LeBar Creek
South Fork
Cedar Creek
Pine Creek
Church Creek
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WYNOOCHEE RIVER

GENERAL SETTING

Mileage and acreage by ownership for the Wynoochee River are summarized below. Acreage is based on a corridor one-quarter mile wide on each side of the river.

Ownership	Miles	Acres
Olympic National Park	1.2	380
Olympic National Forest	10.7	3,420
Corps of Engineers		
within National Forest boundary 1/	5.1	1,630
outside National Forest boundary	2.4	770
State of Washington Dept. of Wildlife		
outside National Forest boundary	0.7	220
City of Aberdeen		
Outside National Forest boundary	0.3	100
Grays Harbor County		
outside National Forest boundary	0.3	100
Private		
within National Forest boundary	1.5	480
Outside National Forest boundary	41.0	13,120
TOTAL	63.2	20,220

1/ While the river mileage for the Corps of Engineers was based on the length of Wynoochee Reservoir at full pool, the acreage of the corridor that they have jurisdiction over is only at their administrative site and dam.

The Wynoochee River headwaters are in the steep mountains on the south flank of the Olympic Mountains. Flowing in a southerly direction, the river drops rapidly to Wynoochee Falls at R.M. 58.2. Below this point, the river gradient lessens and a broader river basin is encountered. Excellent pools and riffles are found in the river from this point to its mouth.

Wynoochee Dam, at R.M. 50, created a reservoir which is five miles in length during high pool. This dam is a barrier to adult fish passage upriver and juvenile fish downriver. Chinook, chum and coho salmon utilize the Wynoochee River and its tributaries below Wynoochee Dam, as do steelhead and sea-run cutthroat trout.

An industrial diversion at R.M. 8.1 diverts a portion of the riverflow into Lake Aberdeen.

Timber management is the primary use of land within the river corridor above R.M. 21, with the exception of the administrative and recreation complex at Wynoochee Dam. Below R.M. 21, acreages vary from small, rural tracts to some fairly large farms.

The anadromous fish runs in the Wynoochee River are regionally significant.

Recreational use is associated with camping in the Wynoochee Reservoir area and fishing in the river, primarily below Wynoochee Dam and in the reservoir itself.

The Wynoochee River was evaluated because of identification of the Wild and Scenic River issue during the early public meetings on issues, concerns and opportunities.

ELIGIBILITY DETERMINATION - VALUES

Scenic - Generally typical of the flanks of the Olympics. Reduced below the natural condition due to the extensive timber harvesting and road construction. **Average.** The Wynoochee was identified by Washington State Parks for evaluation as a potential addition to the State's Scenic Rivers system.

Recreational - High potential primarily associated with Wynoochee Reservoir and river use. Moderate, but growing, demand. **Above average.**

Geologic - No special geologic formations or attractions. **Average.**

Fish. Regionally significant fish values, similar to other major coastal and Puget Sound rivers. Three species of salmon, steelhead, and sea-run cutthroat trout. **Outstandingly remarkable.**

Wildlife - Elk, deer, bear, bald eagles, numerous smaller and non-game species typically found throughout west side Olympic drainages. **Above average.**

Historical - No significant historic events or structures are associated with the river or its corridor. Settlement of lower valley typical of other valleys in the region. Some unsuccessful homesteading attempts were made south of present day Wynoochee Dam. Integrity of evidence is minimal. **Average.**

Cultural - Lower river used by ancestors of the Chehalis tribe. No known existing sites within the river corridor. **Average.**

ELIGIBILITY DETERMINATION - CLASSIFICATION

Water Resources Development - An existing low dam diversion structure exists at R.M. 8.1 for diversion of water to Lake Aberdeen and the industry in Grays Harbor.

The Wynoochee Dam, an existing high dam with a five-mile-long lake is located at R.M. 50. The City of Aberdeen currently has a license from the Federal Energy Regulatory Commission (FERC) for the installation of power generation facilities at this dam.

A fish gather station, including a low dam and diversion, is located at R.M. 47.8.

Shoreline Development - From its source near Wynoochee Pass to R.M. 62, the shoreline is essentially primitive with little evidence of man's activities. Below R.M. 62 to Clark Creek, R.M. 59.7, past timber harvesting has been extensive within the river corridor. From Clark Creek to the head of Wynoochee Reservoir (R.M. 55), evidence of past and ongoing timber harvesting is readily apparent. From Wynoochee Reservoir, a panorama of accelerated timber harvesting and associated road construction is visible. The Corps of Engineers administrative site, and Forest Service Coho Campground are located near the dam on the west bank.

From the Wynoochee Dam complex at R.M. 49.9 downstream to the Forest boundary, R.M. 44.7, evidence of past and ongoing timber harvest is visible, but not to the extent of that at and above Wynoochee Reservoir. From the Forest boundary to near river Anderson Creek, R.M. 16.8, the adjacent lands are generally managed for timber production. Evidence of timber harvesting may be seen frequently. Houses or other improvements are seldom seen. From R.M. 16.4 to the mouth of the river, there is an increasing frequency of housing on or near the riverbank as the distance to Highway 12 decreases. Farmlands, fields and pastures are adjacent to the riverbank. A number of gravel pits are located at or near the river edge.

Accessibility - The upper one mile is accessible only by trail. From R.M. 62 to 55, Forest Service roads parallel the river on both sides. Two bridges span the river in this section. Access is readily available. While there is a road system around Wynoochee Reservoir, access to the reservoir via spur roads that lead to or approach the river generally are not signed. From R.M. 24 to the mouth, access is available from a county road. Beginning just downstream from Anderson Creek, R.M. 16.8, there is county or other access on both sides of the river.

Water Quality - From its source to the Forest boundary, the river has a State water quality rating of AA, "Extraordinary." Downstream from the Forest boundary to its mouth, it has a water quality rating of A, "Excellent." Both classifications meet or exceed Federal and State standards for aesthetics, wildlife and fish propagation, and primary contact recreation (swimming).

Conclusion - The Wynoochee River possesses an "Outstandingly Remarkable" fish value. This river should receive additional consideration as part of the Wild and Scenic River System.

GENERAL DESCRIPTION OF RESOURCES

Lying entirely within the Olympic Mountains section of the Pacific Border Province, the Wynoochee rises in the lower flanks of the southwest corner of the Olympic Peninsula. Elevations vary from near 3,500 feet at its source, to near sea level where it enters the Chehalis river. Within eight miles of its source, the river gradient becomes moderate, and the sidewalls of the valley pull back from the river's edge, leaving a valley bottom nearly one mile wide. This valley bottom widens to over two miles across near the National Forest boundary, and exits through lowlands and rolling hills which extend to the Chehalis river. The river has developed a meandering character throughout most of its length with areas of high, nearly vertical banks where it undercuts the slopes.

Stands of Pacific silver fir mixed with Alaska yellow cedar with an understory of huckleberry and devilsclub, are typical of the silver fir zone found in the very upper reaches of the river corridor. The river drops rapidly out of this zone, and upon reaching the point where the river gradient moderates, is well within the western hemlock zone. Western hemlock, western redcedar, Douglas-fir and Sitka spruce are the major conifer components of the stand. Red alder, big leaf maple and black cottonwood occur primarily along the river edge and in wet lowlands. Huckleberry, vine maple, devilsclub, salal, Oregon grape, salmonberry and western thimbleberry are typical understory shrubs.

Nearly the entire length of the Wynoochee is accessible by road. In its lower reaches, county roads parallel the river. Numerous private roads reach or approach the river. Upstream from the end of the county road, approximately R.M. 24.5, Forest Roads 22, 2270, 2294, 2270760, 2275100 and numerous logging roads on private land access the river corridor.

Depending upon the segment of the river to be visited, the Wynoochee can be as close as 10 miles, or as distant as 45 miles, from Aberdeen and Hoquiam. From Olympia, it is 45-plus miles, while Seattle is 105 miles distant. Chehalis-Centralia is about 50 miles to the lower reach of the river.

Fishing, hunting, camping and day use are the primary uses within the river corridor. Floating the river in association with fishing is a significant use. Recreational boating, canoeing and rafting is an increasing use, as the Wynoochee becomes better known.

The private land within the National Forest boundary is being managed for timber production. Outside of the National Forest, the ownership and management along the river corridor is predominantly one of timber production, especially upstream from Anderson Creek, R.M. 16.8. Downstream from that point to the river mouth, the pattern is one of rural and residential housing on small acreages, and individual lots with scattered parcels owned by various timber companies. The State Department of Wildlife has minor acreage within the corridor, as does the U.S. Army Corps of Engineers, City of Aberdeen, and Grays Harbor County.

Geology - The Wynoochee River originates near Wynoochee Pass flowing southward through a valley cut in "southeastern core rock" metasedimentary strata and basalt intrusives (after Tabor and Cady, 1978). The river flows southwestward to a confluence with an unnamed tributary about a mile south of the Jefferson/ Grays Harbor County line, and then flows southeastward through a canyon cut through folded and overturned sandstone and basalt along the flanks of the fold another 3/4 mile south. (Both are designated as part of the "periferal" Crescent Formation by Tabor and Cady, 1978). Below the stream confluence, the valley floor widens and is underlain by alpine glaciofluvial deposits. From Clark Creek to downstream from the Wynoochee Falls Campground, the Wynoochee carves a narrow gorge in Crescent basalt. Below the campground, the canyon widens; the valley bottom is underlain by glaciofluvial deposits and the near-vertical valley walls are carved from basalt and sedimentary interbeds. Downstream from the west fork, the valley widens and sideslopes become relatively more gentle. The deep glaciofluvial and lacustrine sediments bury older stream channels and lake basin. The existing channel at the Wynoochee Dam is cut in basalt atop a buried ridge, some 300 feet higher than the bottom of an older channel southwest of the dam. The older channel is filled to the top with, and buried by, glaciolacustrine silts and clays.

Water - Based on a long-term record (over 50 years), the average annual discharge as measured at the USGS gauging station at R.M. 5.9, 0.3 miles upstream from the mouth of Black Creek is 929,500 acre-feet per year or 1,283 c.f.s. The drainage area upstream from the gauging station is 155 square miles.

Maximum flows on the Wynoochee are generally associated with warm "chinook" rains that follow early snows in November, December and January. The maximum flow at the gauging station occurred on January 19, 1968, with a flow of 25,500 cfs. The minimum flow of 3 cfs occurred on August 26-30, 1967. This is typical of the timing of low flows late in the summer or early fall, following an extended period without rainfall.

While these represent the extremes, the more typical high and low flows would be in the range of 18,000 cfs to 19,000 cfs, and 130 cfs to 150 cfs.

Water for power production is the major allocated use of the water from the Wynoochee. Other significant allocations have been made for commercial- industrial/domestic-municipal and irrigation use. (See Table F-73.)

Table F-73. Allocation of Water

Use Group	CFS	Acre-Feet/Year
Power propagation Domestic-municipal/commercial-industrial Irrigation	1,400 300 7.55	70,000
TOTAL	1,707.55	70,000

Hydropower potential of the National Forest portion of the river is estimated to be 218.0 Gigawatts per year at the 30% exceedance level. The City of Aberdeen currently has a license for installation of a 10.8 megawatt hydropower plant in the existing Wynoochee Dam. The construction of this project is projected to start during the winter of 1989-1990. No other hydropower projects are currently proposed on the Wynoochee river.

Water quality is "Extraordinary," State Class AA, from its source to R.M. 44.7, the Forest boundary. The increased level of development from R.M. 44.7 to the mouth of the river, has resulted in a reduction of the water quality to "Excellent," State Class A.

Generally, the waters are so clear that the river bottom can be seen except in the deepest pools. During periods of high rainfall or rapid snowmelt, the river will become murky to a shade of brown, depending upon the intensity of the rainfall or rapidity of the snowmelt. Water temperatures are generally cool, except for two to three months during the summer when the water temperatures rise adequately to permit swimming and water play. Thus temperature, not water quality, is the limiting factor for primary contact use. Because the water quality is so good, fish and wildlife dependent upon the Wynoochee and its environs, thrive, and can often be seen, by visitors to the river and river corridor.

Fish and Wildlife - Coho, chum, and chinook salmon, sea-run cutthroat trout, steelhead, plus resident cutthroat trout, utilize the Wynoochee system and many of its tributaries. Large numbers of chinook and coho spawn in the main channel up to the fish gathering station at R.M. 47.8. Most chum salmon spawning is below R.M. 40.0. Utilization of the reaches above Wynoochee Reservoir has lost much of its value due to inability to successfully pass the juveniles through the dam on their way downstream.

Steelhead and sea-run cutthroat utilize the river up to the fish gathering station.

Based on the anadromous fish habitat, the Wynoochee system has the potential annual production of nearly 94,600 adult fish. Approximately 14 percent of this habitat capability is within the National Forest boundary. The remaining 86 percent is outside the National Forest on State, Army Corps of Engineers, county, private and other ownerships. See Table F-74 for potential production capabilities.

Table F-74. Estimated Annual Habitat Production Capabilities for Anadromous Salmonids 1/

Species	Landownership	Spawning Population	Smolt Production	Total Adult Production
Chinook	NF Other	270 1,660	37,800 232,200	1,630 10,010
	TOTAL	1,930	270,000	11,640
Coho	NF Other	1,310 8,050	48,470 297,740	3,880 23,820
	TOTAL	9,360	346,210	27,700
Steelhead	NF Other	2,590 15,910	44,440 272,990	3,870 23,770
	TOTAL	18,500	317,430	27,640
Cutthroat	NF Other	2,590 15,910	44,440 272,990	3,870 23,770
	TOTAL	18,500	317,430	27,640
All	NF Other	6,760 41,530	175,150 1,075,920	13,250 81,370
	TOTAL	48,290	1,251,070	94,620

1/ Production data for chum salmon is not included due to insufficient information.

Generally, all of the wildlife species found on the west side of the Olympic Peninsula can be found as residents of, or visitors to, the river corridor. Some of the more common large animals are Roosevelt elk, black-tailed deer, black bear, cougar, coyote and bobcat. Smaller mammals include raccoon, mink, beaver, mountain beaver, rabbit and skunk.

The valley bottoms, south slopes and river corridors provide winter range for big game, mainly elk and deer, from the vicinity of Wynoochee Falls, R.M. 58.2, downstream.

Blue grouse, ruffed grouse and pigeons are common game birds found in the area. Ducks, ospreys, eagles, kingfishers and a variety of water birds inhabit the water edge and adjacent river corridor. The northern bald eagle is the only threatened wildlife species known to inhabit the area. The old-growth timber in the upper valley is suitable habitat for the northern spotted owl, a sensitive species.

The riparian habitat in the reaches upstream from Anderson Creek, R.M. 16.8, is generally in excellent condition, with only a few areas where the habitat has been significantly modified. Downstream from Anderson Creek, the riparian zone tends to become increasingly modified as the acreages become smaller and farming and other developments are common along the river's edge.

Recreation - Recreational use on the river and within the river corridor, tends to fall into three use areas. One group is directly dependent upon the river for fishing, both from the shore and by boat. Another group is associated with the river but not dependent upon it, such as for camping, picnicking, hiking and other day use. The third user group would probably occur even if the river wasn't there; i.e., hunting, mushroom picking and driving for pleasure.

Within the Wynoochee river corridor, most of these activities will occur within the ROS classification of Roaded Modified. Only in the lower reaches, does the level of development increase to the extent that the recreation opportunity would be classified as Rural. The very upper reaches within the Olympic National Park would be classified as semi-primitive.

Six public access sites occur along the river. The Department of Wildlife has four sites, three with boat launch and parking facilities. Two "undeveloped" sites are provided on Simpson Timber Company lands. Coho and Chetwoot Campgrounds are located on Wynoochee Reservoir, as is the Army Corps of Engineers day use facilities. (See Tables F-75 a. and 75 b. for a summary of sites.)

Numerous undeveloped, informal camping, picnicking, general day use and boat launch sites exist along the river. Additional public access and boat launch facilities would be desirable.

Opportunities for drift boating, rafting, canoeing and other forms of river floating is extensive. Put-in sites are available along the river, up to the vicinity of Wynoochee Falls.

Because of the flat gradient below Save Creek, R.M. 38.7, there is only limited white water. No extensive skills are required to float these lower reaches of the river. Above Save Creek to the fish collection facility, there are excellent reaches of white water. Additional developed boat launch facilities along the Wynoochee should be developed to accommodate potential use.

Table F-75. Developed Recreation Sites

Table F-75 a. Campgrounds

National Forest Sites					
Site	ROS Class	Capacity: PAOT	Managed Season: Days	1988 Use RVDs	Projected Capacity PAOT
Coho	Roaded	290	150	22,500	290
Chetwoot	Roaded	40	200	100	40
Chakchak (P)	Roaded	-	-	-	200
Eena (P)	Roaded	-	-	-	90
Moollak (P)	Roaded	-	-	-	200
Wynoochee Falls (P)	Roaded	-	-	-	120

Table F-75. b. Boat Launch and Public Access Sites

Site	Managing Agency	Approximate River Mile	Boat Launch	Comments
Highway 12	WDW	1.7	No	Access/limited parking.
Black Creek	WDW	5.6	1	Parking.
Wynoochee	WDW	8.5	1	Rough boat launch/no parking.
White Bridge	WDW	16.0	1	Rough boat launch/parking.
Schafer Creek	STC 1/	28.6	1	Rough boat launch/limited parking.
Neil Creek	STC	31.0	1	Rough boat launch/limited parking.
Coho	USFS	50.5	2	Coho Campground/Wynoochee Reservoir.
Kokanee (P)	USFS	50.7	1	Currently rough boat launch/limited parking.

(P) Proposed. To be constructed as needed and funding is available.
1/ Simpson Timber Company

There are no trails that follow the river edge, except the boot-worn fisherman trails that have come into existence through use over a number of years. The Wynoochee Lake Shore Trail traverses the forests and lake environment around Lake Wynoochee. If designated as a Wild and Scenic River, a riverside trail from the head of Wynoochee Reservoir to Wynoochee Falls, 3.0 miles, would be constructed. Additional trails along selected segments of the lower river would also be desirable.

During 1988 there was an estimated 25,500 recreation visitor days (RVD's) use within the undeveloped areas of the National Forest portions of the river corridor. Based on current trends, improved access roads, and the "discovery" of the recreational opportunities in the upper Wynoochee Valley, this use is projected to exceed 41,000 RVD's by the year 2000. This greatly exceeds the projection by SCORP. However, because of the localized situation, it is a truer representation of projected growth and use. Use within the National Forest segments of the river corridor has been estimated and is shown in table F-76.

Table F-76. Recreational Activities (Estimated Recreational Use - RVDs and Trends)

	1988	2000
National Forest Developed Sites	22,600	34,000
Undeveloped Recreation	25,500	41,000
Boating (flatwater, whitewater)	Moderate	High
Water Play (swim, wade)	Moderate	Moderate
Fishing	Moderate	High
Hunting	High	High
Camping: Undeveloped	Moderate	High
Hiking	Light	Moderate
Picnicking	Moderate	Moderate
Viewing Scenery	Moderate	Moderate
TOTAL	48,100	75,000

Historical/Cultural - Knowledge of use by Indians is somewhat limited. It is known that fishing for salmon and steelhead along the main stem Wynoochee was done by bands and individuals of the Chehalis tribe. While permanent villages probably existed along the lower Wynoochee, well outside the National Forest boundary not much special data and information is available. No prehistoric sites have been discovered on National Forest land despite professional work associated with construction of the Wynoochee Reservoir.

Settlement along the lower Wynoochee began in the mid 1870's and progressed upstream with homesteading in the mid and upper Wynoochee Valley during the late 1800's. Many of these early subsistence homesteads eventually failed and were ultimately returned to timber production. Early old survey records indicate homestead efforts in this area and one specific site was inventoried and evaluated. The site had no integrity and evidence is scarcely noticeable.

Minerals/Energy - The potential for any locatable minerals is extremely low. There is little or no history of mining activities within the Wynoochee Valley.

Oil and gas exploration in the Grays Harbor area dates back to 1901, and has continued on an intermittent basis since that time. In 1925, the first well within the river corridor was drilled near R.M. 2.0. A trace of natural gas was found. Other drilling has occurred within the general area; some has been within the river corridor. 31/ The most "upstream" locations were near R.M. 16.5.

In the early 1980's, a renewed interest resulted in leases being issued for nearly all of the National Forest lands within the Wynoochee Drainage. Following limited seismic exploration, nearly all of the leases were allowed to lapse. Due to the geologic formation within this area, the potential for future exploration and possible production remains fairly high.

Common variety mineral material, utilized for crushed road rock, is a valuable resource found within the river corridor. Within the National Forest, there are no existing rock sources located within the river corridor. A number of significant rock source sites exist on private lands outside of the Forest boundary.

Timber - Timber types, standing volumes and potential yields from all National Forest lands tentatively suitable within the river corridor, are displayed in the following tables. Acres of timber-producing lands within other Federal, State of Washington, and private ownership are discussed later.

Table F-77. Summary of National Forest Acres (Eligible Segments)

Tentatively Suitable	2,090
Unsuitable	410
TOTAL	2,500

31/ McFarland 1981.

Table F-78. Tentatively Suitable Acres by Age Class and Site

Site/Productivity	BG Bare Ground (0.1-2.9" DBH)	SS Seedling-Sapling (3.0-4.9" DBH)	PL Poles (5.0-8.9" DBH)	MS Small Saw (9.0-20.9" DBH)	LS Large Saw (21+" DBH)
High	100	233	115	98	808
Medium	18	180	139	-	387
Low	-	9	-	-	-
Low, Natural	-	-	-	-	3
TOTAL	118	422	254	98	1,198

Table F-79. Tentatively Suitable Standing Volume by Site and Age Class

	Large Sawtimber				Small Sawtimber				Young Stands			
Site/ Productivity	Acres	MCF/ Acre	MCF	MBF	Acres	MCF/ Acre	MCF	MBF	Acres	MCF/ Acre	MCF	MBF
High	808	11.50	9,292	40,420	98	6.92	678	2,949	115	4.56	524	2,279
Medium	387	11.50	4,450	19,358								
Low	3	7.45	22	96					139	3.09	430	1,870
TOTAL	1,198		13,764	59,874	98		678	2,949	254		954	4,149

Summary: 15,396 MCF or 15.4 MMCF
66,972 MBF or 67.0 MMBF

Table F-80. Tentatively Suitable Land Potential Yield by Site and Elevation

	<1,500' Elevation (Winter Range)				>1,500' Elevation (Summer Range)			
Site/ Productivity	CF/Acre/ Year	Acres	MCF/Year	MBF/Year	CF/Acre/ Year	Acres	MCF/Year	MBF/Year
High	172.14	1,300	223.78	973.44	200.51	54	10.83	47.11
Medium	121.24	455	55.16	239.95	139.43	269	37.51	163.17
Low					77.43	9	0.70	3.04
Low, Natural					39.75	3	0.12	0.52
TOTAL		1,755	278.94	1,213.39		335	49.16	213.84

Summary: 328.10 MCF/Year
1,427.23 MBF/Year

The potential for any significant insect or disease outbreak is low. The 1987 Insect and Disease Survey indicated there were no significant problems within the river corridor at this time.

Transportation/Roads - The existing network of State, county, Forest Service, and private roads that parallel, cross, recross and access the river and its corridor is adequate to meet the objectives of a Recreational and Scenic River. Major access routes include Grays Harbor County Wynoochee Valley Road and its extension, Forest Road 22, plus Forest Roads 2270, 2270760, 2294, and 2275100, all in the Lake Wynoochee area. Acquiring and providing public access and boat launch facilities needs to be evaluated in detail throughout the length of the river.

Nearly all roads within or accessing the river corridor has a mix of timber haul and recreational traffic. The existing roads are generally adequate to accommodate the current and projected use without any unacceptable conflicts. The exception is the Forest Service 22 Road from the end of the county's Wynoochee Valley Road to the Wynoochee Reservoir area. This should be brought up to full double lane standard with appropriate surfacing.

NON-FEDERAL LANDOWNERSHIP AND USES

Private timber lands within the river corridor are being managed to maximize production and return, while meeting constraints and mitigation required adjacent to a major river such as the Wynoochee and the State forest practices. The majority of private ownership is within large timberland holdings. A significant agriculture base, along with large residential tracts and individual lots, comprise the remainder of the land uses, except for a few commercial sites and public recreation facilities.

The existing and projected landownership pattern and uses within the river corridor upstream from R.M. 0.0 to R.M. 44.7 is consistent with the classification of Recreational River.

Upstream from the Forest boundary, the existing ownership and use pattern of the eligible segments is currently consistent with the classification of Recreation River. Acquisition of the private (Simpson Timber Company) lands between the Forest boundary and the fish gathering station would be desirable. This could be accomplished through land exchange.

It is estimated that nearly 80 percent of the private lands within the river corridor is being managed as timberlands. Approximately 15 percent is agriculture. The remaining 5 percent is residential and other. Assuming the private timber lands are at least as productive as National Forest lands, they have the capability to produce over 7.0 mmbf per year.

Washington Department of Wildlife and Army Corps of Engineer lands within the river corridor is being managed for wildlife, with emphasis for big game winter as an offset for winter range lost with the flooding of the valley behind Wynoochee Dam.

FUNDING NEEDS IF DESIGNATED AS A WILD AND SCENIC RIVER (NATIONAL FOREST SEGMENTS ONLY)

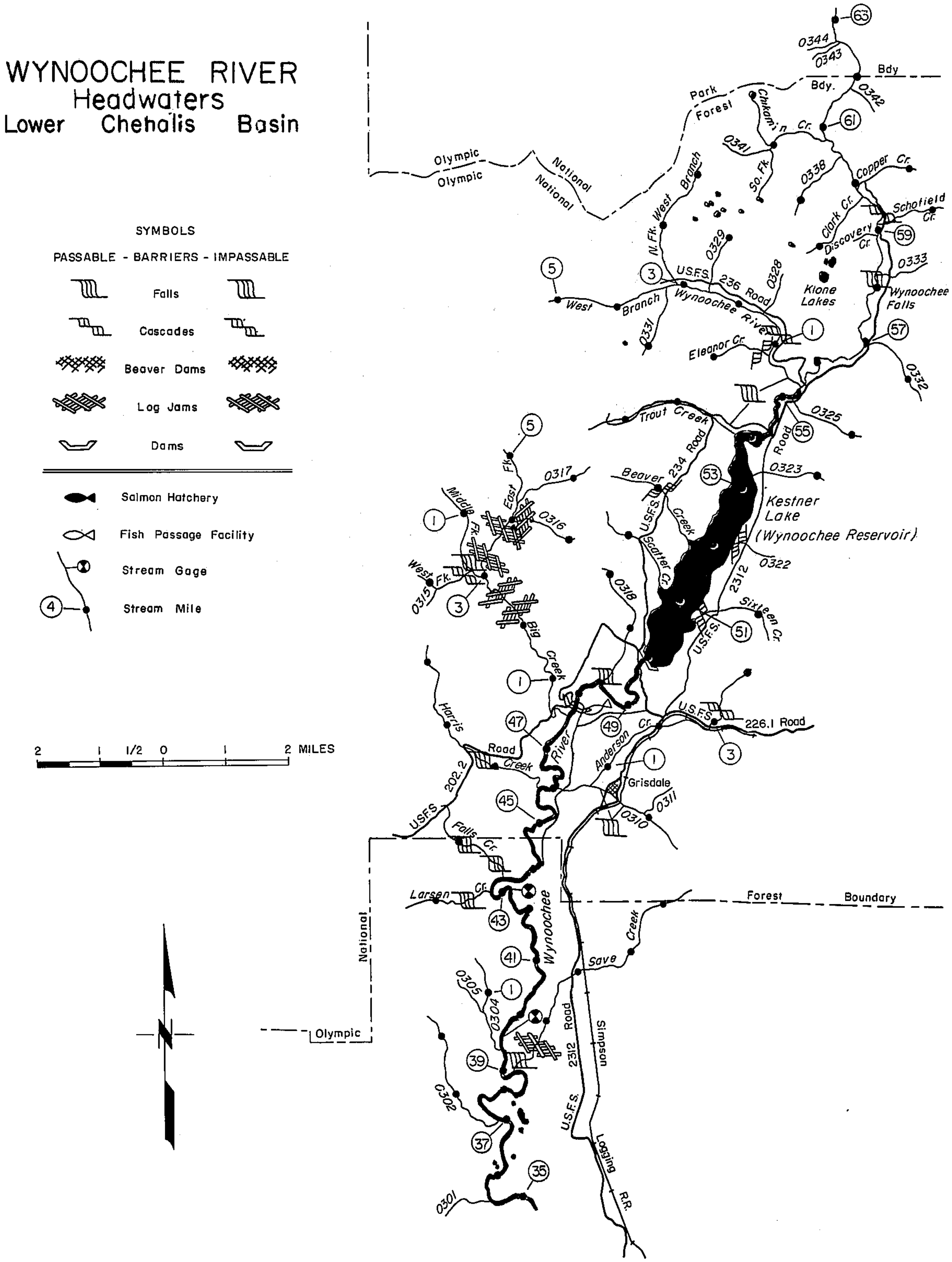
The following are expected funding needs for the Wynoochee River for the first five years following a designation as a Wild and Scenic River:

Table F-81. Estimated Cost of Management if Designated as a Wild and Scenic River

Annual Costs	General Administration Operation and Maintenance	$18,500 24,000
	TOTAL	$42,500
Non-Recurring Costs	Cost of implementation 1/ Preparation of Management Plan 1/ Development costs	$16,000 22,000 83,500
	TOTAL	$133,000
	TOTAL COST--FIRST FIVE YEARS	$223,400

1/Costs primarily in years 1 and 2.

Most of these costs are incurred in the first 2 to 4 years. General administration and operation and maintenance costs would continue at an estimated $9,000 per year. If **all** eligible segments were designated as Wild and Scenic River, the estimated five year costs would be $453,000.


WYNOOCHEE RIVER
Headwaters
Lower Chehalis Basin
SYMBOLS
PASSABLE - BARRIERS - IMPASSABLE
Falls
Cascades
Beaver Dams
Log Jams
Dams
Salmon Hatchery
Fish Passage Facility
Stream Gage
Stream Mile
2 1 1/2 0 1 2 MILES
Olympic National Park
Olympic National Forest
Forest Boundary
Kestner Lake
(Wynoochee Reservoir)
Klone Lakes
Wynoochee Falls
Grisdale
West Branch
Wynoochee River
Trout Creek
Beaver Creek
Scatter Cr.
Sixteen Cr.
Anderson Cr.
Harris Creek
Falls Cr.
Larsen Cr.
Save Creek
Big Creek
Middle Fk.
East Fk.
West Fk.
N. Fk. West Branch
So. Fk.
Chikamin Cr.
Clark Cr.
Discovery Cr.
Copper Cr.
Schofield Cr.
Eleanor Cr.
USFS 236 Road
USFS 234 Road
USFS 2312 Road
USFS 202.2 Road
226.1 Road
Simpson Logging R.R.

SUITABILITY ANALYSIS

The suitability of each of the ten eligible rivers to be analyzed is based on the following:

1. Representation of the Puget Trough and Olympic Mountains sections of the Pacific Border Province.
2. Compatibility with existing uses.
3. Impacts on non-Federal land.
4. Cost of land acquisition or an interest in the land to be administered.
5. Values foregone or foreclosed if the river is designated.
6. Support or opposition by the public, State and local government.
7. Representation of the major ecosystems on the Olympic Peninsula.

DUCKABUSH RIVER

1. Within the Olympic Mountains section, except for the lower reaches which is in the Puget Sound trough section. The area in Olympic Mountain section equal to Dosewallips, greater than Hamma Hamma. Puget trough section similar to Dosewallips, greater than Hamma Hamma. **High suitability.**
2. Wild segment within Olympic National Park and The Brothers Wilderness. Scenic segment includes Collins Campground and Interrorem Guard Station and picnic ground. Little or no conflict with other uses. **High suitability.**
3. Approximately 800 acres of non-Federal land within the river corridor. Nearly 90 percent of this is within Recreational River classification outside the National Forest boundary. Timber harvest generally compatible with Recreational classification. **High suitability.**
4. Cost of land acquisition should be minimal. Little, if any, of the non-Federal land needs to be acquired. **High suitability.**
5. Minimal values foregone. Slightly over 1,000 acres of National Forest lands tentatively suitable for timber management with a potential annual yield of 6.19 MBF acre/year. Actual yield would be much less because of mitigation for riparian management and visual quality objectives. **High suitability.**
6. Local landowners have expressed opposition to any Wild and Scenic River proposal in the area. Supported by State Department of Fisheries and State Department of Game. Supported by local and regional conservation groups and local American Indian tribes. Recommended as a study river in the Canal Front Plan. Previously supported by Congressman Don Bonker. **High suitability.**
7. Excellent representative of range of ecosystems found on the Canal Front of the Olympic Mountains. **High suitability.**

DOSEWALLIPS RIVER

1. Flows through the Olympic Mountains section, except near the mouth where it flows through the Puget Sound trough section. Olympic Mountains section equivalent to Duckabush River; better representation than Hamma Hamma. Puget Trough section similar to Duckabush; better than Hamma Hamma. **High suitability.**

2. The Wild segment is within Olympic National Park. The Scenic segment is from Dosewallips Campground to the National Forest-private land boundary. Elkhorn Campground is found within this section. Recreational use, scenic quality and retention of the fish habitat have been emphasis areas throughout this section. The Recreational River classification from the Forest boundary to the mouth of the river is consistent with the pattern of timber harvest and scattered development. Generally compatible with existing uses. **High suitability.**

3. Approximately 1,900 acres of private land is located within the river corridor. Approximately 75 percent of this is outside the National Forest boundary. Most of the adjacent private lands are forested. Minor river- front development has occurred. Only minor additional constraints on timber harvesting or development would be anticipated. Generally, the existing private land use pattern is consistent with the Scenic and Recreational River classifications. **High suitability.**

4. Cost of land acquisition should be minimal. Little, if any, non-Federal lands would need to be acquired. **High suitability.**

5. Nearly 90 percent of non-Wilderness National Forest lands within the river corridor is tentatively suitable for timber production. The potential timber yield from these lands is nearly 91 MBF/year. Actual programmed yield is significantly less because of the mitigation for riparian management, and maintenance of the visual quality objectives. There could be minor disruptions or opportunities foregone for timber harvest on private lands.

   The Elkhorn Hydropower project, located between Elkhorn Campground and the Olympic National Park boundary would be foregone with a Scenic River classification in that area. A Recreational River classification would permit a low diversion structure and small impoundment. Congress specifically described the boundary of The Brothers Wilderness to provide for this proposed project. **Medium suitability.**

6. Local landowners have previously expressed strong opposition to the inclusion of the Dosewallips as a National Wild and Scenic River. There is support from the State Department of Game, local and regional conservation organizations, and local American Indian tribes. The Dosewallips has been supported as a Wild and Scenic River by former Congressman Bonker through the introduction of Legislation in 1980. **Medium suitability.**

7. Excellent representation of a range of ecosystems found within the "east flank" of the Olympic Mountains. **High suitability.**

GRAY WOLF RIVER

1. This river system is located entirely within the Olympic Mountains section of the Pacific Border Province. A very good representation of this section. **High suitability.**

2. Primarily within the Wild classification, only the short segment (approximately one mile) of the Gray Wolf from the confluence with the Dungeness to the bridge on Road 2870 is currently available for

timber harvesting. The remainder of the Wild classification is within the Olympic National Park, the Buckhorn Wilderness, or the Gray Wolf special management area. **High suitability.**

3. There are no non-Federal lands involved. **High suitability.**

4. No non-Federal lands would need to be acquired. **High suitability.**

5. Approximately 380 acres of land tentatively suitable for timber production is located within the river corridor adjacent to the Scenic segments. This has a potential yield of approximately 270 MBF/year. A reduction in this potential yield has been made to meet visual quality objectives and for management within the riparian zone. Little, if any, additional reductions would have to be made to meet the management objectives for a Scenic River. **High suitability.**

6. There has been significant expressed support for the addition of the Gray Wolf to the Wild and Scenic River System. There should be limited, if any, opposition. It would be supported by local and regional conservation groups, local American Indian tribes, the State Department of Game and the State Department of Fisheries. **High suitability.**

7. Excellent representative of a range of ecosystems found in the rain shadow of the Olympic Mountains. **High suitability.**

DUNGENESS RIVER

1. This river system is located entirely within the Olympic Mountains section of the Pacific Border Province. A very good representation of this section. **High suitability.**

2. Primarily within the Wild classification, only the short segment (approximately one mile) of the Dungeness from the mouth of Royal Creek to the bridge on Road 2825 is currently available for timber harvesting. The remainder of the Wild classification is within the Olympic National Park, and the Buckhorn Wilderness. The Scenic classification is within an area with a visual quality objective of Partial Retention. Outside of the Forest boundary, future timber harvest adjacent to the river corridor may be consistent with a Recreational river. **High suitability.**

3. Approximately 580 acres of State of Washington DNR lands and 510 acres of private land are adjacent to the eligible segments of the Dungeness River. This segment of the river is classified as Scenic. Generally compatible. Limited modification of timber harvest schedules or prescriptions would be required to meet the Scenic criteria. Minor reductions in timber harvest volumes could occur. **High suitability.**

4. Four miles of trail right-of-way across non-Federal lands would need to be acquired. Selected scenic easements could be considered in selected river segment. **High suitability.**

5. Approximately 2,200 acres of land tentatively suitable for timber production is located within the river corridor adjacent to the Scenic segments. This has a potential yield of approximately 1.0 MMBF/year. A reduction of approximately 24 percent in this potential yield has been made to meet visual quality objectives and for management within the riparian zone. An additional 10 percent reduction would have to be made to meet the management objectives for a Scenic River.

   The potential timber yields per acre on non-Federal lands are approximately the same as on National Forest lands, or about 42 MBF/year. To meet the objectives of a Scenic River, this could be reduced by 10-25 percent.

Periodically run-of-the-river hydroelectric projects are proposed on the Dungeness River. These would not be compatible with the Scenic River classification. **Medium suitability.**

6. There has been significant expressed support for the addition of the Dungeness River to the Wild and Scenic River System. There should be limited resistence by adjacent non-Federal owners and hydropower developers. It would be supported by local and regional conservation groups, local American Indian tribes, the State Department of Game and the State Department of Fisheries. **High suitability.**

7. Excellent representative of a wide range of ecosystems found in the "rain shadow" of the Olympic Mountains. **High suitability.**

SOLEDUCK RIVER

1. Located entirely within the Olympic Mountains section of the Pacific Border Province, the Soleduck is the longest river on the Olympic Peninsula. **High suitability.**

2. Compatibility with the existing uses is very good. The Wild segment is entirely within the undeveloped portion of Olympic National Park. Development and activities including limited timber harvest may occur within the Scenic segment. These will normally be consistent with the classification. The existing and envisioned development and activities through the Recreational section should be compatible with that classification. **High suitability.**

3. The primary non-Federal land use within the river corridor is timber management. There is approximately 13,000 acres of non-Federal land within the river corridor. Nearly all of this is within the Recreational River segment based on the potential yield from similar National Forest lands. This would indicate a potential yield of approximately 910 MBF/year. While timber harvesting is compatible with a Recreational River classification, the extent of harvest activities may not be fully compatible. **Medium suitability.**

4. Acquisition for river-oriented recreational activities could include boat launch facilities, parking areas, viewpoints and possible day use facilities. Acquisition of lands to protect key scenic or geologic sections may be necessary. Costs could be significant. **Medium suitability.**

5. Over 90 percent of the National Forest acres within the river corridor are tentatively suitable for timber production. These lands have a potential timber yield of 197 MBF/year. Most of these lands are currently being managed for their scenic quality and to meet riparian objectives. Little reduction in yield is anticipated.

   With the extensive private timber lands within the river corridor the scheduling of timber harvesting and silvicultural prescriptions could be modified to meet the Scenic, and to a lesser degree the Recreational River classification. **Medium suitability.**

6. There is significant support from regional environmentalists, the State Department of Game, the State Department of Fisheries, and local American Indian tribes. There is very strong opposition by most landowners within the river corridor, the City of Forks, and the west end of Clallam County in general. **Low suitability.**

7. The Soleduck corridor provides a very good representation of the ecosystems found along the west side of the Olympic Mountains. **High suitability.**

HUMPTULIPS AND WEST FORK

1. Located on the west flank of the Olympic Mountains, the Humptulips River system is entirely within the Olympic Mountains section of the Pacific Border Province. **Medium suitability.**

2. Compatibility with the existing uses is generally good. The river corridor within the National Forest is being managed to meet the visual quality objective of Partial Retention. This is consistent with a Scenic classification. Existing development and activities within the Recreational River corridor are generally compatible, except recent and planned timber harvesting along the 42 miles of non-Federal ownership could result in extensive evidence of timber harvesting. **Medium suitability.**

3. With nearly 70 percent of the river corridor in non-Federal ownership, approximately 13,400 acres, there is a potential for a significant impact on the non-Federal landowner. Approximately 11,000 acres of this is timber lands with a potential yield of nearly 800 MBF/year. Any modification of timber harvesting would reduce this potential yield.

   Residential housing development along the lower river would be impacted. **Medium suitability.**

4. Acquisition of land for boat launch facilities, parking, viewpoints and day use sites would be required. Limited acquisition of corridor lands or scenic easements necessary to maintain scenic quality and/or to protect geologic features could be anticipated. Acquisiton costs would be moderate. **Medium suitability.**

5. Minor timber values will be foregone on National Forest lands as the river corridor is currently being managed to maintain the visual qualities. The opportunity to maximize timber values on the non-Federal lands may be reduced if the Recreational River classification will be met. A 10-15 percent reduction may be anticipated. This would reduce the potential yield from approximately 800 MBF per year to approximately 700 MBF/year.

   The opportunity for full residential and commercial development along the lower river may be reduced. Extraction of rock from the riverbed would be limited. **Medium suitability.**

6. Support for a Wild and Scenic River classification is primarily with the State Department of Fisheries and regional conservation organizations. This support has been somewhat limited in scope.

   Significant opposition has been expressed by adjacent landowners and communities. **Medium suitability.**

7. The Main Stem and West Fork of the Humptulips provides a rather limited representation of the ecosystems found along the west slopes of the Olympic Mountains. The upper elevation mountain hemlock and alpine zones are not represented within the river corridor. **Medium suitability.**

HAMMA HAMMA RIVER

1. The Hamma Hamma is located primarily within the Olympic Mountains section, except for the very lower reaches located within the Puget Sound trough section. The segment within the Olympic Mountains section is significantly shorter than that of the Dosewallips and Duckabush. The Puget Sound trough section is similar to the Duckabush and Dosewallips. **Medium suitability.**

2. The Wild River segment is entirely within The Brothers Wilderness. The Scenic segment is currently being managed with a visual quality objective of Partial Retention. The Recreational River segment

within the National Forest is being managed for its recreational values and scenic qualities. Timber harvesting and development on private land is generally consistent with the management objectives for a Recreational River. **High suitability.**

3. Approximately 2,200 non-Federal acres are within the river corridor. Most of these are timber management lands. All of these are within the Recreational River segment and timber harvesting is generally compatible with this classification. **High suitability.**

4. Cost of land acquisition should be negligible. Acquisition for one or two viewpoints and limited scenic easements might be necessary along the lower river. **High suitability.**

5. Little, if any, timber values would be foregone on National Forest lands. The potential yield of 121 MBF/year from tentatively suitable lands has already been reduced to meet riparian management and visual quality objectives. Further reduction should not be necessary. The non-Federal lands have a potential yield of approximately 150 MBF/year. A reduction of 10-20 percent could be anticipated to fully meet the objectives of a Recreational River classification.

   Three run-of-the-river hydropower projects have been proposed on the Hamma Hamma River. The opportunity for these would be foreclosed with a Scenic River classification and seriously in doubt on a Recreational River. **Medium suitability.**

6. Opposition to a Wild and Scenic River designation on the Hamma Hamma is primarily from landowners along the river. Support for such a designation is from local and regional conservation organizations, local American Indian tribes, the State Department of Game and State Department of Fisheries. Neither support nor opposition has been very strong. **Medium suitability.**

7. A good representation of the range of the major ecosystem and vegetation zones found on the east side of the Olympics, except for limited or no representation in the mountain hemlock and the subalpine fir vegetation zones. **Medium suitability.**

WYNOOCHEE RIVER

1. Located on the south flank of the Olympic Mountains, the Wynoochee River System is entirely within the Olympic Mountains Section of the Pacific Border Province. A typical representative of rivers within this section. **Medium suitability.**

2. Compatability with existing uses is generally good. The river corridor within the National Forest is managed to retain the riparian area values. This is generally consistent with the classification of recreational river and somewhat meets the requirements of a scenic river classification. Timber management activities, farming and scattered rural residences within the non-federal segments of the river may be consistant with the recreational river classification. **Medium suitability.**

3. With 69 percent of the river corridor in non-federal ownership, approximately 14,000 acres, there is the potential for a significant impact on the non-federal landowner. The majority of these non-federal lands are being managed for timber production. Any modification of timber management practices, especially harvesting activities could reduce potential yields. Current farming activities within the lower river corridor are generally consistent with a recreational river classification. Impacts on the farming operations should be minor. **Medium suitability.**

4. Acquisition of land for additional public access and boat launch facilities, parking, day use facilities and trails would be required. It is not anticipated that acquistion of scenic easements would be necessary. Total acquisition costs would be moderate. **Medium suitability.**

   Limited timber values would be foregone within the National Forest segment of the river. The potential for development of the Oxbow Hydropower Project would be foreclosed.

5. On non-federal lands within the river corridor, the opportunity to maximize timber production may be reduced if the recreational river standards are met. **Medium suitability.**

6. Support for the addition of the Wynoochee River to the Wild and Scenic System is given by Regional Conservation Organizations, Washington Department of Fisheries, and the Washington Department of Wildlife.

   Opposition has been expressed by the adjacent landowners, local communities and local elected officals. **Medium suitability.**

7. The Wynoochee River flows through lands which represent a typical ecosytem find along the mid and lower ecavations fo the western slopes of the Olympic Mountains. **Medium suitability.**

SOUTH FORK SKOKOMISH RIVER

1. Flowing off the southeastern flank of the Olympic Mountains, the South Fork Skokomish is entirely within the Olympic Mountains section of the Puget Sound Province. Quite similiar to other rivers within this Province. **Medium suitability.**

2. From its source to Rule Creek the River flows through the Olympic National Park and the Upper Southfork Non-Motorized Recreation Area. Both are highly compatible with a wild river classification. From Rule Creek to Le Bar Creek the River flows through the South Fork corridor where timber entry and development has been limited. Very compatible with a scenic classification. The activities and uses within the sections from Le Bar Creek to the Gorge and below the Gorge are consistent with the recreational classification. The undeveloped Gorge Section fully meets the wild classification. **High suitability.**

3. Just over one quarter, 2300 acres, of the river corridor is in non-federal ownership. Where suitable, most of this is being managed for timber production. 190 acres are within the scenic classification, the remainder is within the recreational classification. Timber harvesting is generally compatible with these classifications. **High suitability.**

4. Acquistion costs will be associated with rights-of-way for an extension of the trail system. **High suitability.**

5. If designated as a Wild and Scenic river, the ASQ would be 760 MBF less than that in the preferred alternative. Approximately 2,000 acres of the non-federal lands are being managed for timber production. Any modification in harvesting activities could reduce this potential yield.

   Designation as a Wild and Scenic river would foreclose the option of the potential hydropower project near the mouth of the Gorge. **Medium suitability.**

6. Support for a Wild and Scenic river classification is primarily from the Skokomish Indians, Washington Department of Fisheries, and Regional Conservation Organizations.

Opposition is from adjacent landowners and residents in the lower valley who would like to see flood control measures constructed. **Medium suitability.**

7. A good representative of the major ecosystems found at the mid and lower elevations of the Olympic Mountains section of the Pacific Border Province. **Medium suitability.**

EAST FORK HUMPTULIPS RIVER

1. Located on the west flank of the Olympic Mountains, the East Fork Humptulips River is entirely within the Olympic Mountains Section of the Pacific Border Province. A typical representation of this section. Quite similiar to the West Fork of the Humptulips. **Medium suitability.**

2. Compatibility with the existing use is good. The river corridor within the National Forest is being managed to meet the visual quality objective of partial retention. This is consistent with a scenic classification. Existing development and activities between Stovepipe Creek and the forest boundary are compatible with a scenic classification. Downstream from the forest boundary, past timber harvesting and associated activities are generally compatible with a recreational classification. **High suitability.**

3. Approximately 43 percent, 4,290 acres, of the river corridor is in non-federal ownership. Nearly all of these lands are being actively managed for timber production. Any modification of timber management practices, especially harvesting activities, would reduce potential yields. **Medium suitability.**

4. Acquistion of land for boat launch facilities, parking, day use facilities and trails would be required. Limited acquistion of corridor lands or scenic easements necessary to maintain scenic quality and/or to protect geologic features could be anticipated. Acquistion costs would be moderate. **Medium suitability.**

5. Limited timber values would be foregone within the National Forest segment as the river corridor is currently being managed to maintain visual qualities and provide protection of the riparian areas. The opportunity to maximize timber values on the non-federal lands may be reduced if the recreational river standards are met. **Medium suitability.**

6. Support of a Wild and Scenic river classification is primarily with Regional Conservation Organizations, Washington Department of Fisheries, and Washington Department of Wildlife.

   Opposition has been expressed by the adjacent landowners along the Humptulips below the confluence of the East and West Fork. **Medium suitability.**

7. The East Fork of the Humptulips provides a typical representation of the ecosystems found along the mid and lower elevations of the west slopes of the Olympic Mountains. **Medium suitability.**

Table F-82. Summary of Suitability Analysis

	Duck-abush	Dose-wallips	Dung-eness	Gray Wolf	Sole-duck	Hump-tulips	Hamma Hamma	E Fk Hump.	Wyn-oochee	S Fk Skok.
1. Representation of physiographic provinces and section	H	H	H	H	H	M	M	M	M	M
2. Compatibility	H	H	H	H	H	M	H	H	H	H
3. Non-Federal impacts	H	H	H	H	M	M	H	M	M	H
4. Cost of acquisition	H	H	H	H	M	M	H	M	M	M
5. Values foregone	H	M	M	H	M	M	M	M	M	M
6. Support or opposition	H	M	H	H	L	M	M	M	M	M
7. Representation - major ecosystems	H	H	H	H	H	M	M	M	M	M
Summary: H (High)	7	5	6	7	3	-	5	1	-	2
M (Medium)	-	2	1	-	3	7	2	6	7	5
L (Low)	-	-	-	-	1	-	-	-	-	-

Based on the suitability analysis and the objective to add to the Wild and Scenic River System the Nation's best rivers representing a diversity of river types found within each physiographic province and section, the following rivers are recommended for addition to the Wild and Scenic Rivers System.

The Duckabush - Flowing through the Olympic Mountains, and Puget trough sections of the Pacific Border Province, the Duckabush is the best representative river flowing down the east flank of the Olympics. Rising above timberline and flowing to saltwater at Hood Canal, the river flows through a full range of vegetation zones typically found in the area.

The Dungeness - Flowing north out of the Olympic Mountains, the Dungeness is located entirely within the Olympic Mountains section of the Pacific Border Province. This system is the best representative of a river system that flows out of the "Olympic Rain Shadow." Rising above timberline, this river system includes some of the most diverse and unusual ecosystems and vegetative zones on the Olympic Peninsula.

The Gray Wolf - A major tributary to the Dungeness, this river flows northeast out of the Olympic Mountains and is located entirely within the Olympic Mountains section of the Pacific Boarder Province. It is representative of the greater Dungeness River system, which flows out of the "Olympic Rain Shadow." Rising above timberline, this river system, similar to the Dungeness, contains some of the most diverse and unusual ecosystems and vegetative zones on the Olympic Peninsula.

West Flank, Rain Forest River - While the Soleduck, main stem of the Humptulips, West Fork of the Humptulips and East Fork of the Humptulips are eligible rivers that flow down the west flank of the Olympic Mountains within the Olympic Mountains section of the Pacific Border Province, there are three superior representatives to select from. These three river systems have long been recognized as the major rain forest rivers flowing from the heart of the Olympics to the ocean. They are: the Hoh, the Queets, and the Quinault upstream from Lake Quinault. As all three of these rivers are predominantly within Olympic National Park and have little or no lands within Olympic National Forest, the analysis and recommendation should be done by the National Park Service.