

**Wild and Scenic Rivers
Eligibility Assessment**

Okanogan National Forest

APPENDIX G

WILD AND SCENIC RIVERS

INTRODUCTION

The purpose of this appendix is to.

1. Summarize the process for assessing a river for inclusion in the National Wild and Scenic Rivers System
2. Provide information on those rivers assessed by the Okanogan National Forest during the forest planning process for possible inclusion in the National Wild and Scenic Rivers System

SUMMARY OF PROCESS

The Wild and Scenic Rivers Act of 1968 (PL 90-542) established a method for providing federal protection for certain of our country's free-flowing rivers, preserving them and their immediate environments for the use and enjoyment of present and future generations.

The Wild and Scenic Rivers Act provides two methods for adding a river to the National Wild and Scenic Rivers System

1. By an Act of Congress
2. Through the authority granted to the Secretary of Interior, whereby upon application by the Governor of the State involved, the Secretary of Interior can designate a river as a component of the National Wild and Scenic Rivers System.

The assessment of a river for inclusion in the National Wild and Scenic Rivers System follows this process

DETERMINATION OF ELIGIBILITY

Determination of eligibility is based upon criteria in Sections 1(b) and 2(b) of the Wild and Scenic Rivers Act of 1968.

Section 1(b) of the Act states that to be eligible "the river, which, with their immediate environments, possess outstandingly remarkable scenic, recreation, geologic, fish and wildlife, historic, cultural or other similar values "

Section 2(b) of the Act states that to be eligible "the river is a free-flowing stream and the related adjacent land area possesses one or more of the values referred to in Section 1(b)."

In applying the criteria for eligibility, the following points are relevant:

1. Because a river segment may flow between large impoundments, this will not necessarily preclude its designation. Such segments may qualify if conditions within the segment meet the criteria

- 2 Only one outstandingly remarkable value is needed for eligibility
- 3 In addition to the specific values listed in Section 1(b) of the Act, other similar values, such as ecological, if outstandingly remarkable, can justify inclusion of the river in the national system
4. The determination of whether a river area contains outstandingly remarkable values is a professional judgment.
5. There are no specific requirements concerning the length or the amount of water flow of an eligible river segment. A river segment has sufficient water flow if, when managed as a wild, scenic, or recreational river, the outstandingly remarkable values are protected. Water flows are sufficient if they sustain or complement the outstandingly remarkable values for which the river would be designated

DETERMINATION OF POTENTIAL CLASSIFICATION

Determination of potential classification of eligible river segments is based on existing conditions at the time of the assessment. The classifications are

WILD

Those rivers or segments 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. These criteria are interpreted as follows:

- 1 River area shall be free of impoundments
- 2 River area shall not contain roads or other provisions for vehicular travel. The existence of a few inconspicuous roads leading to the boundary of the river area will not necessarily bar wild river classification
3. River area shall show little or no evidence of human activity. Shorelines and watersheds should be essentially free from such things as buildings, pipelines, powerlines, dams, pumps, generators, diversion works, rip-rap and other modifications of the waterway or adjacent lands. The existence of a few inconspicuous structures, particularly those of historic or cultural value, need not bar wild classification. A limited amount of livestock grazing or hay production may be considered essentially primitive. There should be no row crops or ongoing timber harvest and the river area should show little or no evidence of past logging activity
- 4 The water quality of a wild river shall meet or exceed federal criteria or federally approved state standards for aesthetics, for propagation of fish and wildlife normally adapted to the habitat of the stream, and for primary contact recreation except where exceeded by natural conditions

SCENIC

Those rivers or segments of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines undeveloped, but accessible in places by roads. These criteria are interpreted as follows.

- 1 River area shall be free of impoundments.
- 2 River area shorelines and immediate environment should not show substantial evidence of human activity. The portion of the watershed within the boundary of the river area may have some discernible existing development. Largely primitive means that the shorelines and the immediate river environment still present an overall natural character, but that in places may be developed for agricultural purposes. Row crops would be considered as meeting the test of largely primitive, as would timber harvest and other resource use, providing such activity is accomplished without a substantial adverse effect on the natural appearance of the river or its immediate environment.
3. Structures or concentration of structures must be limited to relatively short reaches of the total river area.
- 4 Roads may reach the river area and occasionally bridge the river. The presence of short stretches of conspicuous or longer stretches of inconspicuous and well screened roads will not necessarily preclude scenic classification. In addition to the physical and scenic relationship of the free flowing river area to roads, consideration should be given to the type of use for which such roads were constructed and the type of use that would occur within the river area.

RECREATIONAL

Those rivers or segments of rivers that are readily accessible by road, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past. These criteria are interpreted as follows:

1. River area may have some existing impoundments, diversions and other modifications of the waterway having an impact on the river area. Existing low dams, diversion works, rip-rap and other minor structures will not bar recreational classification, provided the waterway remains generally natural in appearance.
2. River area may have been developed for the full range of agricultural and forestry uses, may show evidence of past and ongoing timber harvest and may include some residential, commercial or similar development.
- 3 River area may contain existing parallel roads in close proximity to one or both banks of the river as well as bridge crossings and roads fording or ending at the river.

DETERMINATION OF SUITABILITY

Determination of suitability provides the basis for the decision to recommend designation or non-designation of a river as a component of the National Wild and Scenic River System. Some factors considered in the determination of suitability include cost of land acquisition or partial interest in the land to be administered, impacts on non-federal lands, support or opposition by the public or government entities, compatibility with other resource uses, and values foregone or foreclosed if the river were designated.

OKANOGAN NATIONAL FOREST ASSESSMENT

The remainder of this appendix provides specific information regarding the assessment of the Methow River, Chewuch River, Twisp River, Lost River, Pasayten River, Wolf Creek, Canyon Creek, Granite Creek and Ruby Creek.

CHANGES BETWEEN DRAFT AND FINAL - EIS, APPENDIX G

- Canyon, Granite and Ruby Creeks were added as candidate rivers for Wild and Scenic river designation.
- Information was reformatted to comply with current direction
- *Eligibility and potential classification information was updated.*
- Other resources information was updated
- Discussion of river status under the Washington State Scenic Rivers Program was added

METHOW RIVER POTENTIAL WILD AND SCENIC RIVER

State of Washington
Okanogan County

Okanogan National Forest

The Methow River was studied for potential Wild and Scenic River designation by the Okanogan National Forest in conjunction with the forest planning process. Eligibility and potential classification were determined for all river segments. Suitability was determined for only those eligible river segments within the proclaimed boundary of the Okanogan National Forest

The Methow River was identified as a potential Wild and Scenic River in the *Nationwide Rivers Inventory (NRI)* published by the National Park Service in 1982. The public identified the river as a potential candidate for Wild and Scenic River designation during issue scoping in the forest planning process.

LOCATION

From the mouth of Brush Creek in NW 1/4 of Section 11, T36N, R17E to the slack waters of Lake Pateros in SW 1/4 of Section 35, T30N, R23E

Segment 1 - From the mouth of Brush Creek to Rattlesnake Creek in SW 1/4 of Section 2, T36N, R18E (6.5 miles). Brush Creek was chosen as the terminus because flow is very intermittent above this point

Segment 2 - From Rattlesnake Creek to the private land boundary near Lost River in NW 1/4 of Section 5, T36N, R19E (3.5 miles).

Segment 3 - From the private land boundary near Lost River to the Okanogan National Forest Boundary near Little Boulder Creek in SE 1/4 of Section 31, T36N, R20E (8.7 miles).

Segment 4 - From the Okanogan National Forest Boundary to the slack water of Lake Pateros (64.2 miles).

POTENTIAL FOR DESIGNATION

Segments 1 through 3, from the mouth of Brush Creek to the Okanogan National Forest Boundary, are suitable for designation (18.7 miles).

Potential for designation of Segment 4 has not been determined.

RIVER MILEAGE

Study	90.6 miles
Eligible	82.9 miles
Draft EIS, FS Preferred Alternative	14.5 miles recommended for further study
Final EIS, FS Preferred Alternative	18.7 miles recommended for designation

OUTSTANDINGLY REMARKABLE VALUES

The outstandingly remarkable values are scenic, wildlife, fish and recreation

The headwaters are in a narrowly incised valley and the lower stretches run through a pastoral valley. This, combined with the nearby backdrop of Cascade Peaks, makes the river visually appealing. Scenery from the river is relatively natural because of streamside vegetation and cliffs.

Portions of the river corridor between South Fork Trout Creek and Brush Creek provide important summer and winter habitat for a resident mountain goat herd. The Methow Valley mule deer herd is the largest migratory deer herd in the State of Washington. The herd provides approximately 10 percent of the statewide mule deer harvest. Portions of river corridor below Rattlesnake Creek are an important mule deer migration route and a major wintering area for raptors, including bald eagles (a threatened species).

The Northwest Power Planning Council has proposed increasing anadromous fish runs in the Columbia River Basin. That portion of river below Rattlesnake Creek has an excellent pool/riffle ratio and provides important spawning and rearing habitat for spring chinook and summer steelhead.

That portion of river below Mazama supports a wide variety of recreational activities. Rafting and tubing use on this portion of river has increased in recent years.

POTENTIAL CLASSIFICATION

Segment 1	Wild	6.5 miles
Segment 2	Scenic	3.5 miles
Segment 3	Recreational	8.7 miles
Segment 4	Recreational	64.2 miles

Landownership status along eligible river segments is displayed in Table G-1.

TABLE G - 1: Methow River Land Ownership

Landownership	River Miles	Corridor Acres ¹
Segment 1 Okanogan National Forest	6.5 miles	2,080 acres
Segment 2 Okanogan National Forest Private Land	3.5 miles 0.0 miles	800 acres 320 acres
Segment 3 Okanogan National Forest Private Land	8.7 miles 0.0 miles	480 acres 2,304 acres
Segment 4 Private Land State of Washington	64.2 miles 0.0 miles	20,344 acres 200 acres
Total	82.9 miles	26,528 acres

¹ Acres based on a 1/4 mile corridor on each side of river

MINERAL AND ENERGY RESOURCE ACTIVITIES

There are two oil and gas leases along Segment 1. There are no known mineral claims along Segments 1, 2 and 3

Mineral potential for copper, zinc, tungsten, silver, gold, and uranium is moderate to high along Segment 1. Mineral potential is low or unknown along Segments 2 through 4.

Designation of Segment 1 as a Wild River would withdraw approximately 2,100 acres of land with moderate to high mineral potential from mineral entry

WATER RESOURCE DEVELOPMENTS

There are no current or known potential water developments along Segments 1 and 2. There are several diversions for irrigation along Segment 4.

Potential water development sites have been inventoried in Segments 3 and 4 (Table G-2). These sites were identified by the U.S.G.S. and other agencies over the past 40 years.

TABLE G - 2: Methow River Potential Water Development Sites

Name	Description
Caloway Creek (Segment 3)	Dam with powerhouse, 68.2 megawatts power potential; 198,130 acre feet storage capacity.
Goat Creek (Segment 3)	Dam with powerhouse; 66.3 megawatts power potential, 134,123 acre feet storage capacity.
Twisp River (Segment 4)	Dam with powerhouse, 77.8 megawatts power potential, 1,273,100 acre feet storage capacity.
Squaw Creek (Segment 4)	Dam with powerhouse; 554.0 megawatts power potential; 1,451,000 acre feet storage capacity.

None of these sites have been evaluated in detail for feasibility. It is unlikely any of these sites are currently feasible for development. Wild and Scenic River designation would prevent development of these sites.

The Northwest Power Planning Council has amended the *Columbia River Basin Fish and Wildlife Program* and the *Northwest Conservation and Electric Power Plan* to incorporate "Protected Area" designations to protect critical fish and wildlife habitat from new hydroelectric development. Segment 1 and that portion of Segment 2 from Rattlesnake Creek to Robinson Creek is protected for anadromous and resident fish or wildlife. That portion of Segment 2 from Robinson Creek to Lost River is protected for anadromous fish only. Segments 3 and 4 are protected for anadromous and resident fish and wildlife.

TRANSPORTATION, FACILITIES, AND OTHER DEVELOPMENTS

There is no road access along Segment 1. Road access along the north side of Segments 2 and 3 is provided by Forest Roads 5400 and 5400060 and County Roads 9140 and 1163. Road access along the south side of Segment 3 is provided by County Road 1183 and State Highway 20. Road access along Segment 4 is provided by State Highways 20 and 153 and County Roads 1163, 9129, 1131, 9105, 1029 and 1543. All roads

parallel the river, generally within 1/4 mile. In certain locations, these roads are visible from the river; while in other locations, they are not readily apparent.

Bridges cross the river near Mazama in Segment 3, and near Cassel Creek, Winthrop, Twisp, Carlton, Cow Creek, Gold Creek, Morse Flat, McFarland Creek (2), Methow and Pateros (2) in Segment 4.

Roads 5400 and 5400060 are groomed snowmobile routes in the winter.

Several local roads provide access to the Methow River and private land along Segments 2 and 3. One of these roads is under Special Use Permit. Numerous local roads provide access to the Methow River and private land along Segment 4.

Trail access along Segment 1 is provided by Trail 480. Additional trail access to the upper portion of Segment 1 is provided by Trails 2000, 755 and 756. These trails are closed to motorized vehicles.

A portion of the Early Winters Ranger Station Administrative Site is adjacent to the river in Segment 3. This site was constructed by the Civilian Conservation Corps (CCC) and provides year-round and seasonal housing for Forest Service employees. The office is used as a Visitor Information Center during summer and fall.

Ballard and River Bend Campgrounds and Rattlesnake Trailhead are located in the upper portion of Segment 2. Several private campgrounds are located along Segment 4.

Established communities include Mazama along Segment 3; and Winthrop, Twisp, Carlton and Methow along Segment 4.

Most of the private land along Segments 2 and 3 has been subdivided and developed or is planned for development with year-round and seasonal homes and year-round resorts. A portion of the private land along Segment 3 would be used as base area for the Proposed Early Winters Alpine Winter Sports Site. Most of the land along Segment 4 is in a rural, ranch type setting. High density subdivision has not occurred because of current zoning ordinances. Residential development outside established communities is less dense and more scattered.

RECREATION ACTIVITIES

Semiprimitive recreation opportunities are generally provided along Segment 1. Roaded Natural recreation opportunities are generally provided along Segment 2. Roaded Natural and Rural recreation opportunities are provided along Segments 3 and 4.

An estimate of recreation use on National Forest System land in Segments 1 through 3 is displayed in Table G-3.

TABLE G - 3: Methow River Recreation Activities and Estimated Recreation Visitor Days.

Activity	1987	2000
Boating	500	600
Viewing Scenery	1,000	1,200
Hiking	2,000	2,300
Horseback Riding	1,000	1,100
Fishing	1,000	1,200
Camping: Developed	9,500	11,100
Camping: Dispersed	3,000	3,500
Picnicking	1,000	1,100
Hunting	1,000	1,100
Total	20,000	23,200

Rafting and tubing use on that portion of Segment 3 below Mazama and on Segment 4 has increased in recent years.

Segment 1 received an overall recreation rating of above average in the *Pacific Northwest Rivers Study*. The overall rating was based on backpacking and wildlife viewing receiving a rating of above average and camping and picnicking receiving a rating of average. Segment 2 and that portion of Segment 3 between Lost River and Mazama received an overall recreation rating of high based on general recreation. That portion of Segment 3 below Mazama and that portion of Segment 4 between the Okanogan National Forest Boundary and Carlton received an overall recreation rating of above average based on whitewater boating and kayaking opportunities. That portion of Segment 4 downstream from Carlton received an overall recreation rating of high based on whitewater boating and kayaking opportunities.

WILDLIFE AND FISHERIES

Portions of Segment 1 between South Fork Trout Creek and Brush Creek provide important summer and winter range for mountain goats. Segment 2 and portions of Segment 3 are an important mule deer migration route for the largest migratory mule deer herd in the State of Washington. Segments 2 through 4 are also important wintering nesting areas for raptors, including bald eagles (a Threatened species).

The grizzly bear is a Threatened wildlife species. National Forest System land along Segments 1 through 3 is part of an evaluation to determine status of the grizzly bear population. The evaluation will also determine if suitable habitat is present to support a grizzly bear population.

The gray wolf is an Endangered wildlife species. Gray wolf sightings have been reported in the general vicinity, but no verified sightings recorded.

Segments 2 through 4 have an excellent pool/riffle ratio and provide important spawning and rearing habitat for spring chinook and summer steelhead.

Chelan County Public Utility District has proposed constructing fish rearing ponds for summer chinook salmon. The ponds would be located along Segment 4, two miles down river from Twisp. The ponds would be used during March and April. Consumptive water requirements would be limited to the initial filling of the ponds. After that, all water withdrawn from the river would be circulated through the ponds and discharged back into the river. Wild and Scenic River designation should not affect the proposal.

STREAMFLOW

There are no major structures present which affect streamflow

Average peak flow where Rattlesnake Creek enters the Methow River during May and June is 600 cubic feet per second and average low flow during September to February is 10 cubic feet per second.

Where the Methow River crosses the Okanogan National Forest Boundary, average peak flow is 1000 cubic feet per second and average low flow is 70 feet per second.

In low flow years, portions of the river between Mazama in Segment 3 and Winthrop in Segment 4 have no surface water flowing by late summer or early fall

GEOLOGY

Along Segments 1 through 3, the river is underlain by shale, sandstone and conglomerates of Cretaceous age. Upstream from Segment 1, the river is underlain by granite and granodiorite of the Tertiary Golden Horn Batholith. This intrusive has altered and mineralized the older sedimentary rocks along Segment 1.

BOTANY

No Threatened and Endangered plant species listed by the U.S. Fish and Wildlife Service (1988) have been identified. *Cryptogramma stellar* - Steller's rockbrake, a plant on the Regional Forester's Sensitive Plant List (1988), has been identified in the vicinity of the proposed river corridor. A complete Sensitive plant survey has not been completed. Consequently, additional species could occur.

CULTURAL RESOURCES

Inventoried cultural resources along Segment 2 include remnants of Robinson Townsite and a narrow gauge wagon road. CCC era buildings at the Early Winters Administrative Site along Segment 3 are on the National Register of Historic Places. Remnants of a miner's cabin and mine are also located in Segment 3. Inventoried cultural resources along Segment 4 include remnants of Silver Townsite, 4 sets of pictographs, a fishing platform, Native American burial site, 3 Native American housepits, and a Native American campground/racetrack. Except for the CCC buildings, no known evaluation has been completed on the remaining sites to determine significance for inclusion on the National Register of Historic Places.

That portion of Segment 1 below South Fork Trout Creek and Segments 2 and 3 received a Cultural Resource Value of 5 (unknown potential or insufficient information to classify) in the *Pacific Northwest Rivers Study*. That portion of Segment 4 between the Okanogan National Forest Boundary and Beaver Creek received a Cultural Resource Value of 2 (high known or potential cultural resource value). That portion of Segment 4 between Beaver Creek and Gold Creek received a Cultural Resource Value of 5. That portion of Segment 4 downstream from Gold Creek received a Cultural Resource Value of 2.

TIMBER

Approximately 70 percent of the National Forest System land along Segments 1 through 3 is tentatively suitable for timber production. Approximately 90 percent of the land tentatively suitable for timber production is classified as most productive mixed conifer, with the remainder classified as low productive.

Table G-4 displays timber volume and yield information.

TABLE G - 4: Methow River Timber Volume and Estimated Yields.

Total Timber Volume	Estimated Maximum Timber Yield With Legal Requirements	FS Preferred Alternative	Designated as Wild and Scenic River as Classified
43 MMBF	81 MMBF	48 MMBF	.48 MMBF

Land suitable for timber production on private lands along Segments 2 through 3 and along Segment 4 is scattered and not managed for timber production.

LIVESTOCK GRAZING

There are no commercial livestock grazing allotments along Segments 1 through 3. A band of 1200 sheep passes through Segment 1 near Rattlesnake Creek in alternate years while going to the Hart's Pass Sheep Allotment, which lies north of Segment 1. Along Segment 4, livestock grazing is confined to family ranch operations. Wild and Scenic River designation should have no effect on current operations.

SOCIO-ECONOMIC

A recreation and tourism economy is becoming increasingly important in the Methow Valley. This is evidenced by the number of tourist accommodations and number of recreation businesses, particularly in Winthrop, the nearest town, and around Mazama. However, even with the increasing importance of recreation and tourism, the timber industry, cottage industry, government employment and, to a lesser extent, the livestock industry and mineral industry remain an important part of the economic scene.

Wild and Scenic River designation could benefit the Methow Valley economically without affecting the contribution made by the timber industry and livestock industry and with only moderate effects on the contribution made by the mineral industry.

CURRENT ADMINISTRATION

National Forest System land along Segments 1 through 3 is managed by the Okanogan National Forest under direction contained in the *Winthrop Ranger District Multiple Use Plan*.

Approximately 200 acres of land along the lower portion of Segment 4 is managed by the Washington State Department of Natural Resources.

Private lands along Segments 2 through 4 are subject to Okanogan County land use ordinances. The *Methow Valley Plan: An Addendum to Okanogan County Comprehensive Plan-1976*, is the primary land use ordinance for private land use. *Okanogan County Zoning Ordinance*, *Short Subdivision Platting Ordinance*, *Platting Ordinance*, and *Master Program for Okanogan County Shorelines*, provide for nearly all private land use concerns. These documents specify types, density and location of residential, commercial and industrial development. Wild and Scenic River designation would generally be supported by existing zoning.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER

Expected funding requirements for administration of Segments 1 through 3 for the next five years are displayed in Table G-5.

TABLE G - 5: Methow River Estimated Funding Needs.

Activity	Expenses Expected Independent of Designation	Additional Expenses Expected with Designation
General Administration	\$10,000	\$ 6,000
Costs of Implementation	0	3,000
Development of Management Plan	0	50,000
Development Costs	0	0
Operation and Maintenance Costs	5,000	3,000
Total - First Five Years	\$15,000	\$62,000

If Segment 4 is included for administration, an additional \$250,000 would be required for the next five years

General administration and operation and maintenance costs for Segments 1 through 3 are estimated to continue at \$5,000 annually.

FINAL EIS ALTERNATIVES

Table G-6 displays how the final EIS alternatives treat National Forest System land along Segments 1 through 3 regarding Wild and Scenic River designation

TABLE G - 6: Methow River Recommended Designation and Allocation by Alternative.

Segment	Alternatives	Recommended Designation	Allocation
1	M (Preferred), NC, A, B, G (Departure)	Scenic (Because of moderate to high mineral potential)	Unroaded recreation with high visual and riparian habitat protection and no scheduled timber harvest
	C, E, I, J, L	Wild	Unroaded recreation with high visual and riparian habitat protection and no scheduled timber harvest.
	K	Unsuitable (Alternative proponents want no river designation)	Unroaded recreation with high visual and riparian habitat protection and no scheduled timber harvest.
	D	Unsuitable	Intensive timber management

Segment	Alternatives	Recommended Designation	Allocation
2	M (Preferred), NC, A, B, C, D, G (Departure), I, J	Scenic	Roaded recreation with high visual and riparian habitat protection and reduced timber harvest.
	L	Scenic	High visual protection with moderate resource management. No new road construction.
	K	Unsuitable (Alternative proponents want no river designation)	Roaded recreation with high visual and riparian habitat protection and reduced timber harvest.
	E	Unsuitable	Intensive timber management.
3	M (Preferred), NC, A, B, C, D, G (Departure), I, J	Recreational	Roaded recreation with high visual and riparian habitat protection and reduced timber harvest.
	L	Recreational	High visual protection with moderate resource management. No new road construction.
	K	Unsuitable (Alternative proponents want no river designation)	Roaded recreation with high visual and riparian habitat protection and reduced timber harvest.
	E	Unsuitable	Intensive timber management.

OTHER INFORMATION

The Methow River is one of eighteen rivers recommended for inclusion in the Washington State Scenic Rivers Program.

CHEWUCH RIVER POTENTIAL WILD AND SCENIC RIVER

State of Washington
Okanogan County

Okanogan National Forest

The Chewuch (Chewack) River was studied for potential Wild and Scenic River designation by the Okanogan National Forest in conjunction with the forest planning process. Eligibility and potential classification were determined for all river segments. Suitability was determined for only those river segments within the proclaimed boundary of the Okanogan National Forest

The Chewuch River was identified as a potential Wild and Scenic River in the *Nationwide Rivers Inventory (NRI)* published by the National Park Service in 1982. The public identified the river as a potential candidate for Wild and Scenic River designation during issue scoping in the forest planning process

LOCATION

From the mouth of Tungsten Creek in NE 1/4 of Section 33, T40N, R22E, to confluence with the Methow River in NW 1/4 of Section 2, T34N, R21E

Segment 1 - From the mouth of Tungsten Creek to the Pasayten Wilderness Boundary in NE 1/4 of Section 36, T39N, R22E (7.1 miles). Tungsten Creek was chosen as the terminus because flow is very intermittent above this point

Segment 2 - From the Pasayten Wilderness Boundary to 30-mile Campground in NE 1/4 of Section 1, T38N, R22E (1.0 miles).

Segment 3 - From 30-mile Campground to the Okanogan National Forest Boundary in NE 1/4 of Section 2, T35N, R21E (26.5 miles).

Segment 4 - From the Okanogan National Forest Boundary to confluence with the Methow River (8.2 miles)

POTENTIAL FOR DESIGNATION

Segments 1 through 3 from the mouth of Tungsten Creek to the Okanogan National Forest Boundary, are suitable for designation (34.6 miles)

Potential for designation of Segment 4 has not been determined

RIVER MILEAGE

Study	46.2	miles
Eligible	42.8	miles
Draft EIS, FS Preferred Alternative	00.0	miles recommended for designation or further study
Final EIS, FS Preferred Alternative	34.6	miles recommended for designation

OUTSTANDINGLY REMARKABLE VALUES

The outstandingly remarkable values are scenic, wildlife, fish and recreation.

That portion of river upstream from the Okanogan National Forest Boundary runs through a natural appearing forest setting. High mountain ridges and peaks can be viewed. Chewuch Falls is a scenic view approximately two miles north of 30-mile Campground. Downstream from the Okanogan National Forest Boundary, the river runs through a pastoral agricultural setting.

That portion of corridor above Andrews Creek provides important hiding and denning habitat for the largest concentration of lynx in the Lower 48 States. The Methow Valley mule deer herd is the largest migratory deer herd in the State of Washington. The herd provides approximately 10 percent of the statewide mule deer harvest. That portion of corridor below Leroy Creek provides important mule deer winter range. That portion of corridor between Andrews Creek and Camp 4 Campground provides important mule deer fawning habitat. The entire corridor is an important mule deer migration route.

The Northwest Power Planning Council has proposed increasing anadromous fish runs in the Columbia River Basin. That portion of river below the Pasayten Wilderness Boundary provides important spawning and rearing habitat for spring chinook and summer steelhead.

That portion of river below the Pasayten Wilderness Boundary supports a wide variety of recreation activities. Rafting and tubing use downstream from Camp 4 Campground has increased in recent years. The Chewuch River drainage receives some of the highest amount of recreation use on the forest.

POTENTIAL CLASSIFICATION

Segment 1	Wild	7.1 miles
Segment 2	Wild	1.0 miles
Segment 3	Scenic	26.5 miles
Segment 4	Recreational	8.2 miles

Landownership status along eligible river segments is displayed in Table G-7.

TABLE G - 7: Chewuch River Landownership

Landownership	River Miles	Corridor Acres¹
Segment 1 Okanogan National Forest (Pasayten Wilderness)	7.1 miles 7.1 miles	2,272 acres 2,272 acres
Segment 2 Okanogan National Forest	1.0 miles	320 acres
Segment 3 Okanogan National Forest State of Washington Private Land	25.5 miles 0.0 miles 1.0 miles	8,050 acres 275 acres 155 acres
Segment 4 State of Washington Private Land	0.0 miles 8.2 miles	100 acres 2,524 acres
Total	42.8 miles	13,696 acres

¹Acres based on a 1/4 mile corridor on each side of river

MINERAL AND ENERGY RESOURCE ACTIVITIES

Segment 1 is entirely within the Pasayten Wilderness and except for valid claims has been withdrawn from mineral entry

There are no known mineral leases or mineral claims along Segments 1 through 3.

Mineral potential along Segments 1 and 2 is low or unknown. Mineral potential for uranium is moderate to low in Segment 3 between Sheep Creek and Buck Creek. The rest of Segment 3 and Segment 4 have low or unknown mineral potential.

Designation of Segment 2 as a Wild River would withdraw approximately 320 acres of land with low or unknown mineral potential from mineral entry.

WATER RESOURCE DEVELOPMENTS

There is currently one water transmission line and one irrigation ditch under Special Use Permit in Segment 3. There are several diversions for irrigation along Segment 4.

Potential water development sites have been inventoried in Segment 3 (Table G-8). These sites were identified by the U.S.G.S and other agencies over the past 40 years.

TABLE G - 8: Chewuch River Potential Water Development Sites

Name	Description
Chewuch Creek	Dam with powerhouse, 9.2 megawatts power potential; 13,000 acre feet storage potential
Sheep Creek	Dam with powerhouse, 21.6 megawatts power potential, 35,400 acre feet storage potential
Eight Mile	Dam with powerhouse; 145.8 megawatts power potential; 368,900 acre feet storage potential.

None of these sites have been evaluated in detail for feasibility. It is unlikely any of these sites are currently feasible for development.

Portions of a 590 acre and a 168 acre power withdrawal are located in Segment 3.

Wild and Scenic River designation would prevent the development of these potential water development sites and could affect the power withdrawal sites.

The Northwest Power Planning Council has amended the *Columbia River Basin Fish and Wildlife Program* and the *Northwest Conservation and Electric Power Plan* to incorporate "Protected Area" designations to protect critical fish and wildlife habitat from new hydroelectric development. Segments 1 and 2 and that portion of Segment 3 upstream from Andrews Creek are protected for resident fish and wildlife. That portion of Segment 3 between Andrews Creek and Lake Creek is protected for wildlife only. That portion of Segment 3 between Lake Creek and Boulder Creek is protected for anadromous and resident fish and wildlife. That portion of Segment 3 below Boulder Creek and Segment 4 is protected for anadromous and resident fish or wildlife.

TRANSPORTATION, FACILITIES, AND OTHER DEVELOPMENTS

There is no road access along Segments 1 and 2. Although not planned at this time, designation of Segment 2 as a Wild River would foreclose the option of completing the road tie-through between the Chewuch River and Toats Coulee. Road access along the west side of Segments 3 and 4 is provided by Forest Roads 51, 5160 and 5160250; and County Road 1213. Road access along the east side of Segments 3 and 4 is provided by Forest Roads 37, 5010 and 5010800, and County Road 9137. These roads parallel the river, generally within 1/4 mile. In certain locations, these roads are visible from the river; while in other locations they are not readily apparent.

Bridges cross the river near Camp 4 Campground in Segment 3 and 1/4 mile below the Okanogan National Forest Boundary in Segment 4.

Roads 51, 37 and 5010 are groomed snowmobile routes in winter.

Approximately 30 local roads provide access to the Chewuch River and private land in Segment 3. Two of these roads are under Special Use Permit. Numerous local roads provide access to private land in Segment 4.

Trail access along Segments 1 and 2 is provided by Trail 510. Additional trail access to Segments 1 and 2 is provided by Trails 360, 362, 534 and 561. Trails 504, 517 and 520 begin within Segment 3. Except for Trail 520, these trails are closed to motorized vehicles.

Falls Creek, Chewuch, Camp 4 and 30-mile Campgrounds and Farewell Creek, Andrews Creek and 30-mile Trailheads are widely spaced along Segment 3

Brevicombis Recreation Residence Site is located in Segment 3. Nine lots are under Special Use Permit.

A 120 acre Forest Service Ranch is located at the mouth of 8-mile Creek in Segment 3. This site is used for storage and grazing by Forest Service pack and saddle stock. A portion of the site is also used as a designated Sno-Park in winter.

In addition to the two roads and the water transmission line and irrigation ditch under Special Use Permit, a powerline right of way and buried telephone line right of way are under Special Use Permit in Segment 3.

A portion of the State of Washington Department of Wildlife land in Segment 4 is used as a designated Sno-Park in winter.

Winthrop is the only established community and is located along the lower portion of Segment 4.

Some of the private land along Segment 3 has been subdivided and developed or is planned for development with seasonal homes. Most of the land along Segment 4 is in a rural, ranch type setting. High density subdivision has not occurred because of current zoning ordinances. Residential development outside Winthrop is less dense and more scattered.

RECREATION OPPORTUNITIES

Primitive recreation opportunities are provided along Segment 1. Chewuch Falls is a popular scenic attraction. Semiprimitive recreation opportunities are provided along Segment 2. Roded Natural recreation opportunities are generally provided along Segment 3. Roded Natural and Rural recreation opportunities are provided along Segment 4.

An estimate of recreation use on National Forest System land in Segments 1 through 3 is displayed in Table G-9.

TABLE G - 9: Chewuch River Recreation Activities and Estimated Recreation Visitor Days.

Activity	1987	2000
Boating	1,700	2,000
Viewing Scenery	3,600	4,200
Hiking	6,800	7,900
Horseback Riding	3,400	3,700
Fishing	3,400	3,900
Camping, Developed	17,900	21,000
Camping, Dispersed	10,200	12,000
Picnicking	4,000	4,500
Hunting	3,400	3,800
Recreation Residence	5,600	6,400
Total	60,000	69,400

Rafting and tubing use on that portion of Segment 3 below Camp 4 Campground and on Segment 4 has increased in recent years.

Approximately 5 percent of the recreation occurs along Segments 1 and 2 and 95 percent along Segment 3

No river segment received a Recreation Evaluation Rating in the *Pacific Northwest Rivers Study*.

WILDLIFE AND FISHERIES

The Chewuch River drainage provides habitat for a variety of wildlife species

Segments 1 and 2 and that portion of Segment 3 upstream from Andrews Creek provide important hiding and denning habitat for the largest concentration of lynx in the Lower 48 States

That portion of Segment 3 downstream from Leroy Creek provides important winter range for the largest migratory mule deer herd in the State of Washington. That portion of Segment 3 between Andrews Creek and Camp 4 Campground provides important mule deer fawning habitat. All river segments are an important mule deer migration route

The grizzly bear is a Threatened wildlife species. National Forest System land along Segments 1 through 3 is part of an evaluation to determine status of the grizzly bear population. The evaluation will also determine if suitable habitat is present to support a grizzly bear population.

The gray wolf is an Endangered wildlife species. Gray wolf sightings have been reported in the general vicinity, but no verified sightings recorded.

Segments 2 through 4 provide important spawning and rearing habitat for spring chinook and summer steelhead.

Douglas County Public Utility District is considering constructing a fish rearing pond for summer chinook salmon. The pond would be located along Segment 3, near 8-mile Creek. The pond would be used during March and April. Consumptive water requirements would be limited to the initial filling of the pond. After that, all water withdrawn from the river would be circulated through the pond and discharged back into the river. Wild and Scenic River designation should not affect the proposal.

STREAMFLOW

There are no major structures that affect stream flow

Near 30-mile Campground, average peak flow during May and June is 75 cubic feet per second and average low flow during September to February is 30 cubic feet per second.

Where the Chewuch River crosses the Okanogan National Forest Boundary, average peak flow is 4000 cubic feet per second and average low flow is 40 cubic feet per second

GEOLOGY

All river segments are underlain by a complex of Mesozoic intrusive rocks; consisting mainly of granodiorite and quartz monzonite. Glacial and alluvial sands and gravels mantle the valley floor along Segment 3 below Falls Creek and along Segment 4

BOTANY

No Threatened and Endangered plant species listed by the U.S. Fish and Wildlife Service (1988) have been identified. *Sanicula marilandica* - black snakeroot and *Listera borealis* - Northern twayblade, plants on the Regional Forester's Sensitive Plant List (1988), have been identified in the vicinity of the proposed river corridor. A complete Sensitive plant survey has not been completed. Consequently, additional species could occur.

CULTURAL RESOURCES

Inventoried cultural resources include the Fire Creek Shelter, built in the early 1960's, in Segment 1 and three sets of pictographs in Segment 3. No known evaluation has been completed on these sites to determine significance for inclusion on the National Register of Historic Places.

That portion of Segment 3 upstream from Boulder Creek received a Cultural Resource Value of 5 (unknown potential or insufficient information to classify) in the *Pacific Northwest Rivers Study*. That portion of Segment 3 downstream from Boulder Creek and Segment 4 received a Cultural Resource Value of 2 (high known or potential cultural resource value).

TIMBER

Segment 1 is within wilderness and has been withdrawn from timber production. Approximately 40 percent of the National Forest System land along Segments 2 and 3 is tentatively suitable for timber production. Approximately 25 percent of the land tentatively suitable for timber production is classified as moist productive mixed conifer, 50 percent as dry productive mixed conifer, and 25 percent classified as low productive. Table G-10 displays timber volume and yield information.

TABLE G - 10: Chewuch River Timber Volume and Estimated Yields

Total Timber Volume	Estimated Maximum Timber Yield With Legal Requirements	FS Preferred Alternative	Designated as Wild and Scenic River as Classified
21 MMBF	47 MMBF	28 MMBF	28 MMBF

Land suitable for timber production on private and State of Washington lands along Segments 3 and 4 is scattered and not managed for timber production.

LIVESTOCK GRAZING

The west boundary of the Long Swamp Unit of the Toats Coulee Cattle Allotment runs within 1/4 to 1/2 mile of the Chewuch River from Meadows Creek in Segment 1 to 30-mile Creek in Segment 3. The west boundary of the East Chewuch Cattle Allotment parallels the East Chewuch Road from 20-mile Creek to Boulder Creek in Segment 3. Along Segment 4, livestock grazing is confined to family ranch operations. Wild and Scenic River designation should have no effect on current operations.

WILDERNESS

Segment 1 is entirely within the Pasayten Wilderness

SOCIO-ECONOMIC

A recreation and tourism economy is becoming increasingly important in the Methow Valley. This is evidenced by the number of tourist accommodations and number of recreation businesses in Winthrop, the nearest town. However, even with the increasing importance of recreation and tourism, the timber industry, cottage industry, government employment, and, to a lesser extent, the livestock industry and mineral industry, remain an important part of the economic scene

Wild and Scenic River designation could benefit the Methow Valley economically without affecting the contribution made by the timber industry and livestock industry and with only slight effects on the contribution made by the mineral industry.

CURRENT ADMINISTRATION

National Forest System land along Segments 1 through 3 is managed by the Okanogan National Forest under direction contained in the *Winthrop Ranger District Multiple Use Plan* and the *Pasayten Wilderness Management Plan*

The State of Washington Department of Wildlife manages approximately 300 acres of land along Segment 3 and approximately 100 acres of land along Segment 4 in an undeveloped state for wildlife purposes.

Private lands along Segments 3 and 4 are subject to Okanogan County land use ordinances. The *Methow Valley Plan: An Addendum to Okanogan County Comprehensive Plan-1976*, is the primary land use ordinance for private land. *Okanogan County Zoning Ordinance, Short Subdivision Platting Ordinance, Platting Ordinance, and Master Program for Okanogan County Shorelines*, provide for nearly all private land concerns. These documents specify types, density and location of residential, commercial and industrial development. Wild and Scenic River designation would generally be supported by existing zoning

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER

Expected funding requirements for administration of Segments 1 through 3 for the next five years are displayed in Table G-11

TABLE G - 11: Chewuch River Estimated Funding Needs

Activity	Expenses Expected Independent of Designation	Additional Expenses Expected with Designation
General Administration	\$20,000	\$ 5,000
Costs of Implementation	0	6,000
Development of Management Plan	0	40,000
Development Costs	0	0
Operation and Maintenance Costs	15,000	5,000
Total - First Five Years	\$35,000	\$56,000

If Segment 4 is included for administration, an additional \$75,000 would be required for the next five years

General administration and operation and maintenance costs for Segments 1 through 3 are estimated to continue at \$9,000 annually

FINAL EIS ALTERNATIVES

Table G-12 displays how the final EIS alternatives treat National Forest System land along Segments 1 through 3 regarding Wild and Scenic River designation

TABLE G - 12: Chewuch River Recommended Designation and Allocation by Alternative

Segment	Alternatives	Recommended Designation	Allocation
1	M (Preferred), NC, A, B, C, D, E, G (Departure), I, J, L	Wild	Wilderness
	K	Unsuitable (Alternative proponents want no river designation)	Wilderness
2	M (Preferred), NC, A, G (Departure)	Scenic (To maintain option for completing road tie through)	Roaded recreation with high visual and riparian habitat protection and reduced timber harvest
	C, E, I, J, L	Wild	Unroaded recreation with high visual and riparian habitat protection and no scheduled timber harvest
	K	Unsuitable (Alternative proponents want no river designation)	Roaded recreation with high visual and riparian habitat protection and reduced timber harvest.
	B, D	Unsuitable	Intensive timber management.
3	M (Preferred), NC, A, C, G (Departure), I, J	Scenic	Roaded recreation with high visual and riparian habitat protection and reduced timber harvest
	L	Scenic	High visual protection with moderate resource management. No new road construction.

Segment	Alternatives	Recommended Designation	Allocation
	K	Unsuitable (Alternative proponents want no river designation)	Roaded recreation with high visual and riparian habitat protection and reduced timber harvest.
	B, D	Scenic (4.5 miles) Unsuitable (22.0 miles)	Roaded recreation with high visual and riparian habitat protection and reduced timber harvest. Intensive timber management.
	E	Unsuitable	Intensive timber management

OTHER INFORMATION

The Chewuch River is not treated as a separate river by the State of Washington in the review of the Washington State Scenic Rivers Program. It is considered as part of the Methow River, which is one of eighteen rivers recommended for inclusion in the Washington State Scenic Rivers Program.

TWISP RIVER POTENTIAL WILD AND SCENIC RIVER

State of Washington
Okanogan County

Okanogan National Forest

The Twisp River was studied for potential Wild and Scenic River designation by the Okanogan National Forest in conjunction with the forest planning process. Eligibility and potential classification were determined for all river segments. Suitability was determined for only those segments within the proclaimed boundary of the *Okanogan National Forest*.

The Twisp River was not identified as a potential Wild and Scenic River in the *Nationwide Rivers Inventory (NRI)* published by the National Park Service in 1982. The public identified the river as a potential candidate for Wild and Scenic River designation during issue scoping in the forest planning process.

LOCATION

From the confluence of North Fork and South Fork Twisp River in NW 1/4 of Section 10, T34N, R18E to confluence with the Methow River in SW 1/4 of Section 8, T33N, R22E

Segment 1 - From the confluence of North Fork and South Fork Twisp River to the Lake Chelan/Sawtooth Wilderness Boundary in NE 1/4 of Section 10, T34N, R18E (1.0 miles). The confluence of the North Fork and the South Fork Twisp River was chosen as the terminus because flow is extremely intermittent above this point.

Segment 2 - From the Lake Chelan/Sawtooth Wilderness Boundary to the private land boundary near Lime Creek in SE 1/4 of Section 18, T33N, R20E (13.0 miles).

Segment 3 - From the private land boundary near Lime Creek to the Okanogan National Forest Boundary in NE 1/4 of Section 9, T33N, R21E (9.5 miles).

Segment 4 - From the Okanogan National Forest Boundary to confluence with the Methow River (5.4 miles).

POTENTIAL FOR DESIGNATION

Segments 1 through 3, from the confluence of North Fork and South Fork Twisp River to the Okanogan National Forest Boundary, are suitable for designation (23.5 miles).

Potential for designation of Segment 4 has not been determined.

RIVER MILEAGE

Study	32.8	miles
Eligible	28.9	miles
Draft EIS, FS Preferred Alternative	00.0	miles recommended for designation or further study
Final EIS, FS Preferred Alternative	23.5	miles recommended for designation

OUTSTANDINGLY REMARKABLE VALUES

The outstandingly remarkable values are scenic, wildlife, fish and recreation

That portion of river upstream from the private land boundary near Lime Creek runs through a natural appearing forest setting. High mountain ridges and peaks can be viewed. Downstream from the private land boundary, the river generally runs through a pastoral agricultural setting.

Portions of the river corridor between North Fork Twisp River and Little Slate Creek provide important summer and winter range for mountain goats. The Methow Valley mule deer herd is the largest migratory deer herd in the State of Washington. That portion of corridor below Little Bridge Creek provides important mule deer winter range and is an important mule deer migration route. That portion of corridor below Roads End Campground provides important mule deer fawning habitat.

The Northwest Power Planning Council has proposed increasing anadromous fish runs in the Columbia Basin. That portion of river below the Lake Chelan/Sawtooth Wilderness Boundary provides important spawning and rearing habitat for spring chinook and summer steelhead.

The portion of river below the Lake Chelan/Sawtooth Wilderness Boundary supports a wide variety of recreation uses. Only minor amounts of rafting, kayaking and tubing use occurs. The drainage receives some of the highest amounts of recreation use on the forest.

POTENTIAL CLASSIFICATION

Segment 1	Wild	1.0 miles
Segment 2	Scenic	13.0 miles
Segment 3	Recreational	9.5 miles
Segment 4	Recreational	5.4 miles

Landownership status along eligible river segments is displayed in Table G-13.

TABLE G - 13: Twisp River Land Ownership

Landownership	River Miles	Corridor Acres ¹
Segment 1 Okanogan National Forest (Lake Chelan/Sawtooth Wilderness)	1.0 miles 1.0 miles	320 acres 320 acres)
Segment 2 Okanogan National Forest Private Land	13.0 miles 0.0 miles	4,120 acres 40 acres
Segment 3 Okanogan National Forest Private Land	0.0 miles 9.5 miles	230 acres 2,810 acres
Segment 4 Private Land	5.4 miles	1,728 acres
Total	28.9 miles	9,248 acres

¹ Acres based on a 1/4 mile corridor on each side of river

MINERAL AND ENERGY RESOURCE ACTIVITIES

Segment 1 is entirely within the Lake Chelan/Sawtooth Wilderness and except for valid claims has been withdrawn from mineral entry

There are no known mineral leases along any river segment. There are 21 mineral claims along Segment 1 and 42 mineral claims along Segment 2.

Mineral potential for gold, zinc, silver, copper, lead and molybdenum is high along Segment 1 and along that portion of Segment 2 upstream from South Creek. Mineral potential for uranium, copper, zinc, lead, gold, silver, molybdenum and Tungsten is moderate to high along that portion of Segment 2 downstream from South Creek. Mineral potential along Segments 3 and 4 is low or unknown.

WATER RESOURCE DEVELOPMENTS

There is currently one water transmission line under Special Use Permit in Segment 3. There are several diversions for irrigation along Segment 4.

A potential water development site has been inventoried at Little Bridge Creek in Segment 3. This is described as a dam with powerhouse, with a power potential of 77.8 megawatts and a storage capacity of 204,600 acre feet. This site was identified by the U.S. G.S. and other agencies over the past 40 years. The site has not been evaluated in detail for feasibility. It is unlikely the site is currently feasible for development. Wild and Scenic River designation would prevent development of this site.

The Northwest Power Planning Council has amended the *Columbia River Basin Fish and Wildlife Program* and the *Northwest Conservation and Electric Power Plan* to incorporate "Protected Area" designations to protect critical fish and wildlife habitat from new hydroelectric development. Segments 1 and 2 and that portion of Segment 3 upstream from Buttermilk Creek are protected for anadromous fish only. That portion of Segment 3 downstream from Buttermilk Creek and Segment 4 are protected for anadromous and resident fish or wildlife.

TRANSPORTATION, FACILITIES, AND OTHER DEVELOPMENTS

There is no road access along Segment 1 and the upper 1/2 mile of Segment 2. Road access along the north side of most of Segment 2 and along Segments 3 and 4 is provided by Forest Roads 44 and 4440 and County Road 9114. Road access along the south side of most of Segment 2 and along Segments 3 and 4 is provided by Forest Roads 4420, 4430 and 4435 and County Roads 1090, 1091 and 1071. These roads parallel the river, generally within 1/4 mile. In certain locations, the roads are visible from the river, while in other locations they are not readily apparent.

Bridges cross the river near War Creek and Mystery Campground in Segment 2, near Buttermilk Creek and Newby Creek in Segment 3, and near Dead Horse Creek and Twisp in Segment 4.

A portion of Road 44 along with Roads 4440, 4420 and 4430 are groomed snowmobile routes in the winter.

Approximately 20 local roads provide access to the Twisp River and private land in Segments 2 and 3. Two of these roads are under Special Use Permit. Numerous roads provide access to private land in Segment 4.

Trail access along Segment 1 and the upper 1/2 mile of Segment 2 is provided by Trail 432. Trails 401 and 422 begin within Segment 2 below Roads End Campground. These trails are closed to motorized use.

Roads End, South Creek, Poplar Flat, Mystery and War Creek Campgrounds and Twisp River Horsecamp are widely spaced along Segment 2

In addition to the two roads and the water transmission line under Special Use Permit, a residence and storage building are under Special Use Permit in Segment 3

Twisp is the only established community and is located along the lower portion of Segment 4. Much of the private land along Segments 2 and 3 has been subdivided and developed or is planned for development with year-round and seasonal homes. Most of the land along Segment 4 is in a rural, ranch type setting. High density subdivision has not occurred because of current zoning ordinances. Residential development outside Twisp is less dense and more scattered.

RECREATION ACTIVITIES

Primitive recreation opportunities are provided along Segment 1. Roaded Natural recreation opportunities are provided along Segments 2 and 3. Roaded Natural and Rural recreation opportunities are provided along Segment 4.

An estimate of recreation use on National Forest System land in Segments 1 through 3 is displayed in Table G-14.

TABLE G - 14: Twisp River Recreation Activities and Estimated Recreation Visitor Days

Activity	1987	2000
Boating	1,100	1,200
Viewing Scenery	2,300	2,700
Hiking	4,700	5,500
Horseback Riding	2,300	2,500
Fishing	2,300	2,600
Camping, Developed	8,100	9,500
Camping, Dispersed	6,900	8,100
Picnicking	2,000	2,200
Hunting	2,300	2,600
Total	32,000	36,900

Approximately 5 percent of the use occurs along Segment 1 and 95 percent along Segments 2 and 3.

Segment 1 and that portion of Segment 2 above Gilbert received an overall recreation rating of high in the *Pacific Northwest Rivers Study*. The overall rating was based on general recreation, hiking and backpacking receiving a rating of high. That portion of Segment 2 below Gilbert and Segments 3 and 4 received an overall recreation rating of high for general recreation.

WILDLIFE AND FISHERIES

The drainage provides habitat for a variety of wildlife species.

That portion of Segment 1 north of the Twisp River and that portion of Segment 2 north of the Twisp River upstream from Little Slate Creek provides important summer and winter habitat for mountain goats.

That portion of Segment 3 downstream from Little Bridge Creek provides important winter range and is an important migration route for the largest migratory mule deer herd in the State of Washington. That portion of Segment 2 below Roads End Campground and Segments 3 and 4 provide important mule deer fawning habitat.

The grizzly bear is a Threatened wildlife species. National Forest System land along Segments 1 through 3 is part of an evaluation to determine status of the grizzly bear population. The evaluation will also determine if suitable habitat is present to support a grizzly bear population.

The gray wolf is an Endangered wildlife species. Gray wolf sightings have been reported in the vicinity, but no verified sightings have been recorded.

Segments 2 through 4 provide important spawning and rearing habitat for spring chinook and summer steelhead.

Douglas County Public Utility District has proposed constructing a fish hatchery near Newby Creek in Segment 3. The hatchery would raise approximately 50,000 pounds of fish per year. The hatchery would be a year-round facility. Water use would come from ground water (10 CFS) and the Twisp River (up to 17 CFS during late spring). Water would be discharged back into the Twisp River a short distance below the hatchery. Wild and Scenic River designation should not affect the proposal.

STREAMFLOW

There are no major structures present which affect stream flow.

Average peak flow near Road's End Campground during May and June is 200 cubic feet per second and average low flow during September to February is 5 cubic feet per second.

Where the Twisp River crosses the Okanogan National Forest Boundary, average peak flow is 950 cubic feet per second and average low flow is 10 cubic feet per second.

GEOLOGY

All river segments follow a major normal fault juxtaposing Cretaceous sedimentary and volcanic rocks on the north side and older, medium grade metamorphic units on the south side. Along Segment 1, these rocks are intruded by younger Mesozoic and Tertiary plutons, including the Black Peak and Golden Horn Batholiths. The intrusives have altered and mineralized the rocks several miles from their contact. Glacial and alluvial sediments in the valley bottom obscure bedrock along all river segments.

BOTANY

No Threatened and Endangered plant species listed by the U.S. Fish and Wildlife Service (1988) have been identified. *Parnassia kotzebuei* - Kotzebue's grass of barnassus, a plant on the Regional Forester's Sensitive Plant List, has been identified in the vicinity of the proposed river corridor. A complete Sensitive plant survey has not been completed. Consequently, additional species could occur.

CULTURAL RESOURCES

Inventoried cultural resources include remnants of Gilbert Townsite (a late 1800 mining camp), a trapper cabin, CCC Community Kitchen, War Creek CCC Camp Site and War Creek Guard Station Site in Segment 2, Culbertson Ranger Station Site, CCC Campsite, Native American Campsite and Native American Burial Site.

in Segment 3; and a CCC Campsite and mining dredge in Segment 4. No known evaluation has been completed on the sites to determine significance for inclusion on the National Register of Historic Places.

That portion of river between War Creek in Segment 2 and Buttermilk Creek in Segment 3 received a Cultural Resource Value of 5 (unknown potential or insufficient information to classify) in the *Pacific Northwest Rivers Study*. That portion of Segment 3 downstream from Buttermilk Creek and Segment 4 received a Cultural Resource Value of 2 (high known or potential cultural resource value).

TIMBER

Segment 1 is within wilderness and has been withdrawn from timber production. Approximately 65 percent of the National Forest System land along Segments 2 and 3 is tentatively suitable for timber production. Approximately 85 percent of the land tentatively suitable for timber production is classified as moist productive mixed conifer, with the remainder classified as dry productive mixed conifer. Table G-15 displays timber volume and yield information.

TABLE G - 15: Twisp River Timber Volume and Estimated Yields

Total Timber Volume	Estimated Maximum Timber Yield With Legal Requirements	FS Preferred Alternative	Designated as Wild and Scenic River as Classified
31 MMBF	.62 MMBF	36 MMBF	36 MMBF

Land suitable for timber production on private land along Segments 3 and 4 is scattered and not managed for timber production.

LIVESTOCK GRAZING

There is no commercial livestock grazing on National Forest System land along Segments 1 through 3. Grazing on private land along Segments 3 and 4 is confined to family ranch operations. Wild and Scenic River designation should have no effect on current operations.

WILDERNESS

Segment 1 is entirely within the Lake Chelan/Sawtooth Wilderness.

SOCIO-ECONOMIC

A recreation and tourism economy is becoming increasingly important in the Methow Valley. This is evidenced by the number of tourist accommodations in Twisp, the nearest town. However, even with the increasing importance of recreation and tourism, the timber industry, cottage industry, government employment, and, to a lesser extent, the livestock industry and the mineral industry, remain an important part of the economic scene.

Wild and Scenic River designation could benefit the Methow Valley economically without affecting the contribution made by the timber, livestock and mineral industries.

CURRENT ADMINISTRATION

National Forest System land along Segments 1 through 3 managed by the Okanogan National Forest under direction contained in the *Twisp Ranger District Multiple Use Plan*

Private lands along Segments 2 through 4 are subject to Okanogan County land use ordinances. The *Methow Valley Plan*, an Addendum to Okanogan County Comprehensive Plan-1976, is the primary land use ordinance for private land use. Okanogan County Zoning Ordinance, Short Subdivision Platting Ordinance, "Platting Ordinance, and Master Program for Okanogan County Shorelines, provide for nearly all private land use concerns. These documents specify types, density and location of residential, commercial and industrial development. Wild and Scenic River designation would generally be supported by existing zoning.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER

Expected funding requirements for administration of Segments 1 through 3 for the next five years are displayed in Table G-16

TABLE G - 16: Twisp River Estimated Funding Needs

Activity	Expenses Expected Independent of Designation	Additional Expenses Expected with Designation
General Administration	\$20,000	\$ 5,000
Costs of Implementation	0	6,000
Development of Management Plan	0	40,000
Development Costs	0	0
Operation and Maintenance Cost	15,000	5,000
Total - First Five Years	\$35,000	\$56,000

If Segment 4 is included for administration, an additional \$75,000 would be required for the next five years

General administration and operation and maintenance costs for Segments 1 through 3 estimated to continue at \$9,000 annually

FINAL EIS ALTERNATIVES

Table G-17 displays how the final EIS alternatives treat National Forest System land along Segments 1 through 3 as follows regarding Wild and Scenic River designation

TABLE G - 17: Twisp River Recommended Designation and Allocation by Alternative

Segment	Alternatives	Recommended Designation	Allocation
1	M (Preferred), NC, A, B, C, D, E, G (Departure), I, J, L	Wild	Wilderness
	K	Unsuitable (Alternative proponents want no river designation)	Wilderness
2	M (Preferred), NC, A, C, G (Departure), I, J	Scenic	Roaded recreation with high visual and riparian habitat protection and reduced timber harvest
	L	Scenic	High visual protection with moderate resource management No new road construction
	B, D	Scenic (9.0 miles)	Roaded recreation with high visual and riparian habitat protection and reduced timber harvest Intensive timber management.
		Unsuitable (4.0 miles)	
	K	Unsuitable (Alternative proponents want no river designation)	Roaded recreation with high visual and riparian habitat protection and reduced timber harvest
	E	Unsuitable	Intensive timber management
	3	M (Preferred), NC, A, B, C, D, G (Departure), I, J	Recreational
L		Recreational	High visual protection and optimum management of winter range Limited new road construction
K		Unsuitable (Alternative proponents want no river designation)	Roaded recreation with high visual and riparian habitat protection and reduced timber harvest

Segment	Alternatives	Recommended Designation	Allocation
	E	Unsuitable	Intensive timber management

OTHER INFORMATION

The Twisp River is not treated as a separate river by the State of Washington in the review of the Washington State Scenic Rivers Program. It is considered as part of the Methow River, which is one of eighteen rivers recommended for inclusion in the Washington State Scenic Rivers Program.

LOST RIVER POTENTIAL WILD AND SCENIC RIVER

State of Washington
Okanogan County

Okanogan National Forest

The Lost River was studied for potential Wild and Scenic River designation by the Okanogan National Forest in conjunction with the forest planning process. Eligibility, potential classification and suitability were determined for all river segments.

The Lost River was not identified as a potential Wild and Scenic River in the *Nationwide Rivers Inventory (NRI)* published by the National Park Service in 1982. The public identified the river as a potential candidate for Wild and Scenic River designation during issue scoping in the forest planning process.

LOCATION

From the mouth of Rampart Creek in NE 1/4 of Section 12, T38N, R19E, to confluence with the Methow River in SW 1/4 of Section 5, T36N, R19E.

Segment 1 - From the mouth of Rampart Creek to the Pasayten Wilderness Boundary in SW 1/4 of Section 21, T37N, R19E (11.3 miles). Rampart Creek was chosen as the terminus because flow is very intermittent above this point.

Segment 2 - From the Pasayten Wilderness Boundary to a point just north of Lost River Bridge in SE 1/4 of Section 32, T37N, R19E (2.8 miles).

Segment 3 - From a point just north of Lost River Bridge to confluence with the Methow River (0.5 miles).

POTENTIAL FOR DESIGNATION

Segments 1 through 3, from the mouth of Rampart Creek to the confluence with the Methow River, is suitable for designation (14.6 miles).

RIVER MILEAGE

Study	18.3	miles
Eligible	14.6	miles
Draft EIS, FS Preferred Alternative	00.0	miles recommended for designation or further study
Final EIS, FS Preferred Alternative	14.6	miles recommended for designation.

OUTSTANDINGLY REMARKABLE VALUES

The outstandingly remarkable values are scenic, geologic, wildlife and fish.

In the Pasayten Wilderness, the river runs through a high, open alpine setting. Below the Pasayten Wilderness Boundary, the river runs through a natural appearing forest setting. High mountain ridges and peaks can be viewed.

A portion of the river runs through Lost River Gorge, a deep gorge with a variety of geologic features and formations.

Portions of the river corridor between Drake Creek and the Pasayten Wilderness Boundary provide important summer and winter range for mountain goats. The Methow Valley mule deer herd is the largest migratory deer herd in the State of Washington. The herd provides approximately 10 percent of the statewide mule deer harvest. The lower portion of river corridor is an important mule deer migration route.

The Northwest Power Planning Council has proposed increasing anadromous fish runs in the Columbia River Basin. That portion of river corridor below the Pasayten Wilderness Boundary provides important spawning and rearing habitat for spring chinook.

POTENTIAL CLASSIFICATION

Segment 1	Wild	11.3 miles
Segment 2	Wild	2.8 miles
Segment 3	Scenic	0.5 miles

Landownership status along eligible river segments is displayed in Table G-18.

TABLE G - 18: Lost River Land Ownership.

Landownership	River Miles	Corridor Acres ¹
Segment 1 Okanogan National Forest (Pasayten Wilderness)	11.3 miles 11.3 miles	3,616 acres 3,616 acres)
Segment 2 Okanogan National Forest	2.8 miles	896 acres
Segment 3 Okanogan National Forest Private	0.5 miles 0.0 miles	80 acres 80 acres
Total	14.6 miles	4,672 acres

¹Acres based on a 1/4 mile corridor on each side of river.

MINERAL AND ENERGY RESOURCE ACTIVITIES

Segment 1 is entirely within the Pasayten Wilderness and except for valid claims has been withdrawn from mineral entry.

There are no known mineral leases or mineral claims along any river segment.

Mineral potential for copper, molybdenum, lead, zinc, gold and tin is high in a small area near Drake Creek and moderate to high between Auburn Creek and Rampart Creek, both along Segment 1. Mineral potential for copper, zinc, tungsten, gold and silver is moderate to high along the last 1/2 mile of Segment 2 and along Segment 3. The remaining portions of Segments 1 and 2 have low or unknown mineral potential.

Designation of Segment 2 as a Wild River would withdraw approximately 160 acres of land with moderate to high mineral potential and approximately 740 acres of land with low or unknown mineral potential from mineral entry.

WATER RESOURCE DEVELOPMENTS

There are no current or known potential water developments or small hydro proposals

The Northwest Power Planning Council has amended the *Columbia River Basin Fish and Wildlife Program* and the *Northwest Conservation and Electric Power Plan* to incorporate "Protected Area" designations to protect critical fish and wildlife habitat from new hydroelectric development. That portion of Segment 1 upstream from Monument Creek is unprotected. That portion of Segment 1 downstream from Monument Creek and Segments 2 and 3 are protected for anadromous fish only

TRANSPORTATION, FACILITIES, AND OTHER DEVELOPMENTS

There is no road access along Segments 1 and 2. Road access to Segment 3 is provided by County Road 9140 and Forest Road 5400.

A bridge crosses the river in Segment 3.

Road 5400 is a groomed snowmobile route in the winter

Several local roads provide access to private land along Segment 3, one of which is under Special Use Permit.

Trail access to the upper portion of Segment 1 is provided by Trails 477 and 459. That portion of Segment 1 in Lost River Gorge has no trails. Trail access along the lower 1/2 mile of Segment 1 and along Segment 2 and the upper 1/2 mile of Segment 3 is provided by Trail 484. Several other trails begin within Segment 1. All trails are closed to motorized use.

Lost River Airstrip lies in close proximity to the lower portion of Segment 3.

Mazama is the nearest community and is located approximately six miles southeast of Segment 3. Portions of the private land along Segment 3 have been subdivided and developed with year-round and seasonal homes and year-round recreation resorts. High density subdivision will continue to occur on private land.

RECREATION ACTIVITIES

Primitive recreation opportunities are provided along Segment 1. Semiprimitive recreation opportunities are provided along that portion of Segment 2 between the Pasayten Wilderness Boundary and a point approximately 1.5 miles below the boundary. Roaded Natural recreation opportunities are provided along the remaining portion of Segment 2. Roaded Natural and Rural recreation opportunities are provided along Segment 3.

An estimate of recreation use on National Forest System land in all segments is displayed in Table G-19.

TABLE G - 19: Lost River Recreation Activities and Estimated Recreation Visitor Days

Activity	1987	2000
Viewing Scenery	500	600
Hiking	1,500	1,700
Horseback Riding	500	600
Fishing	200	300
Camping: Dispersed	800	1,000
Hunting	500	600
Total	4,000	4,800

Approximately 25 percent of the use occurs along Segment 1 and 75 percent along Segments 2 and 3

Segments 2 and 3 received an overall recreation rating of high in the *Pacific Northwest Rivers Study*. The overall rating was based on hiking and backpacking receiving a rating of high and camping and picnicking receiving a rating of average.

WILDLIFE AND FISHERIES

Portions of Segment 1 between Drake Creek and the Pasayten Wilderness Boundary provide important summer and winter range for mountain goats. Segment 3 is an important migration route for the largest migratory mule deer herd in the State of Washington.

The grizzly bear is a Threatened wildlife species. National Forest System land along all river segments is part of an evaluation to determine status of the grizzly bear population. The evaluation will also determine if suitable habitat is present to support a grizzly bear population.

The gray wolf is an Endangered wildlife species. Gray wolf sightings have been reported in the vicinity, but no verified sightings recorded.

Segments 2 and 3 provide important spawning and rearing habitat for spring chinook.

STREAMFLOW

There are no major structures present which affect stream flow.

Average peak flow where Lost River crosses the Pasayten Wilderness Boundary during May and June is 1950 cubic feet per second and average low flow during September to February is 100 cubic feet per second.

Where Lost River enters the Methow River, average peak flow is 2000 cubic feet per second and average low flow is 100 cubic feet per second.

GEOLOGY

The river is entirely underlain by arkosic sandstone of Cretaceous age. Above Sunshine Creek in Segment 1, the river follows a half-mile wide finger of Monument Peak brotite-granite. This forms Lost River Gorge, a deep gorge with a variety of geologic features and formations.

BOTANY

No Threatened and Endangered plant species listed by the U S Fish and Wildlife Service (1988) have been identified in the vicinity of the proposed river corridor. No plants on the Regional Forester's Sensitive Plant List (1988) have been identified in the vicinity of the proposed river corridor. A complete Sensitive plant survey has not been completed. Consequently, Sensitive plant species could occur.

CULTURAL RESOURCES

Inventoried cultural resources include a stone ax site in Segment 1 and remnants of Ventura Townsite (a late 1800's mining camp) in Segment 3. The stone ax site is a small cedar grove prehistorically used as a source of canoe logs by Native Americans. No known evaluation has been completed for either site to determine significance for inclusion on the National Register of Historic Places

That portion of Segment 1 below Monument Creek and Segments 2 and 3 received a Cultural Resource Value of 5 (unknown potential or insufficient information to classify) in the *Pacific Northwest Rivers Study*.

TIMBER

Segment 1 is within wilderness and has been withdrawn from timber production. Approximately 82 percent of the National Forest System land along Segments 2 and 3 are tentatively suitable for timber production. Approximately 33 percent of the land tentatively suitable for timber production is classified as dry productive mixed conifer with the remainder classified as low productive. Table G-20 displays timber volume and yield information

TABLE G - 20: Lost River Timber Volume and Estimated Yields

Total Timber Volume	Estimated Maximum Timber Yield With Legal Requirements	FS Preferred Alternative	Designated as Wild and Scenic River as Classified
4 MMBF	09 MMBF	06 MMBF	06 MMBF

Land suitable for timber production on private land along Segment 3 is scattered and not managed for timber production.

LIVESTOCK GRAZING

The west boundary of the Goat Creek Cattle Allotment parallels Lost River along Segments 2 and 3. Livestock grazing on private land along Segment 3 is confined to recreational pack and saddle stock. Wild and Scenic River designation should have no effect on current operations.

WILDERNESS

Segment 1 is entirely within the Pasayten Wilderness

SOCIO-ECONOMIC

A recreation and tourism economy is becoming increasingly important in the Methow Valley. This is evidenced by the number of tourist accommodations and the number of recreation businesses, particularly around Mazama. However, even with the increasing importance of recreation and tourism, the timber industry, cottage industry, government employment, and, to a lesser extent, the livestock industry and mineral industry, remain an important part of the economic scene.

Wild and Scenic River designation could benefit the Methow Valley economically without affecting the contribution made by the timber industry and livestock industry and with only a slight effect on the contribution made by the mineral industry.

CURRENT ADMINISTRATION

National Forest System land along Segments 1 through 3 managed by the Okanogan National Forest under direction contained in the *Winthrop Ranger District Multiple Use Plan* and the *Pasayten Wilderness Management Plan*.

Private lands along Segment 3 are subject to Okanogan County land use ordinances. The *Methow Valley Plan: An Addendum to Okanogan County Comprehensive Plan-1976*, is the primary land use ordinance for private land use. *Okanogan County Zoning Ordinance*, *Short Subdivision Platting Ordinance*, *Platting Ordinance* and *Master Program for Okanogan County Shorelines*, provide for nearly all private land use concerns. These documents specify types, density and location of residential, commercial and industrial development. Wild and Scenic River designation would generally be supported by existing zoning.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER

Expected total funding requirements for administration of Segments 1 through 3 for the next five years are displayed in Table G-21.

TABLE G - 21: Lost River Estimated Funding Needs.

Activity	Expenses Expected Independent of Designation	Additional Expenses Expected with Designation
General Administration	\$ 8,000	\$ 3,000
Costs of Implementation	0	3,000
Development of Management Plan	0	25,000
Development Costs	0	0
Operation and Maintenance Costs	4,000	2,000
Total - First Five Years	\$12,000	\$33,000

General administration and operation and maintenance costs for Segments 1 through 3 are estimated to continue at \$4,000 annually.

FINAL EIS ALTERNATIVES

Table G-22 displays how the final EIS alternatives treat National Forest System land along Segments 1 through 3 regarding Wild and Scenic River designation.

TABLE G - 22: Lost River Recommended Designation and Allocation by Alternative.

Segment	Alternatives	Recommended Designation	Allocation
1	M (Preferred), NC, A, B, C, D, E, G (Departure), I, J, L	Wild	Wilderness
	K	Unsuitable (Alternative proponents want no river designation)	Wilderness
2	M (Preferred), NC, A, G (Departure)	Scenic	Roaded recreation with high visual and riparian habitat protection and reduced timber harvest
	I, J	Wild	Unroaded recreation with high visual and riparian habitat protection and no scheduled timber harvest.
	B, C	Wild (1.8 miles)	Unroaded recreation with high visual and riparian habitat protection and no scheduled timber harvest.
		Scenic (1.0 miles)	Roaded recreation with high visual and riparian habitat protection and reduced timber harvest
	L	Wild (1.8 miles)	Unroaded recreation with high visual and riparian habitat protection and no scheduled timber harvest.
Scenic (1.0 miles)	High visual protection with moderate resource management. No new road construction		
	E	Wild (1.8 miles)	Unroaded recreation with high visual and riparian habitat protection and no scheduled timber harvest.
		Unsuitable (1.0 miles)	Intensive timber management

Segment	Alternatives	Recommended Designation	Allocation
	D, K	Unsuitable	Intensive timber management.
3	M (Preferred), NC, A, B, C, D, G (Departure), I, J	Scenic	Roaded recreation with high visual and riparian habitat protection and reduced timber harvest.
	L	Scenic	High visual protection with moderate resource management. No new road construction.
	K	Unsuitable (Alternative proponents want no river designation)	Roaded recreation with high visual and riparian habitat protection and reduced timber harvest.
	E	Unsuitable	Intensive timber management

PASAYTEN RIVER POTENTIAL WILD AND SCENIC RIVER

State of Washington
Okanogan County

Okanogan National Forest

The Pasayten River was studied for potential Wild and Scenic River designation by the Okanogan National Forest in conjunction with the forest planning process. Eligibility, potential classification and suitability were determined for all river segments.

The Pasayten River was not identified as a potential Wild and Scenic River in the *Nationwide Rivers Inventory (NRI)* published by the National Park Service in 1982. The public identified the river as a potential candidate for Wild and Scenic River designation during issue scoping in the forest planning process.

LOCATION

From the confluence of Holman Creek with West Fork Pasayten in SE 1/4 of Section 35, T39N, R17E; and the confluence of unnamed tributary draining Fred's Lake with Middle Fork Pasayten in SW 1/4 of Section 4, T38N, R18E, to the United States-Canadian Border in NW 1/4 of Section 1, T40N, R18E.

Segment 1 - From the confluence of Holman Creek with West Fork Pasayten and the confluence of unnamed tributary draining Fred's Lake to the United States-Canadian Border (23.0 miles). These points were chosen as the termini because flow is very intermittent above these points.

POTENTIAL FOR DESIGNATION

The entire river segment from the mouth of Holman Creek on the West Fork Pasayten and from the mouth of the unnamed tributary draining Fred's Lake on the Middle Fork Pasayten to the United States-Canadian Border is suitable for designation (23.0 miles).

RIVER MILEAGE

Study	50.9	miles
Eligible	23.0	miles
Draft EIS, FS Preferred Alternative	00.0	miles recommended for designation or further study.
Final EIS, FS Preferred Alternative	23.0	miles recommended for designation.

OUTSTANDINGLY REMARKABLE VALUES

The outstandingly remarkable value is scenic.

The upper portions of the Middle Fork Pasayten and West Fork Pasayten run through an open, high alpine setting. The lower portions run through a natural forest setting. High mountain ridges and peaks can be viewed.

POTENTIAL CLASSIFICATION

Segment 1	Wild	23.0 miles
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Landownership status along Segment 1 is displayed in Table G-23.

TABLE G - 23: Pasayten River Land Ownership

Landownership	River Miles	Corridor Acres ¹
Segment 1 Okanogan National Forest (Pasayten Wilderness)	23.0 miles 23.0 miles	7,360 acres 7,360 acres)
Total	23.0 miles	7,360 acres

¹ Acres based on a 1/4 mile corridor on each side of river

MINERALS AND ENERGY RESOURCE ACTIVITIES

The river segment is entirely within the Pasayten Wilderness and has been withdrawn from mineral entry.

There are no known mineral leases or mineral claims along the river segment

The entire river segment has low or unknown mineral potential.

WATER RESOURCE DEVELOPMENTS

There are no current water developments.

A potential water development site has been inventoried where the Pasayten River crosses the United States-Canadian Border. This is described as a dam with power house with a power potential of 6.5 megawatts and a storage capacity of 213,000 acre feet. This site was identified by the U.S.G.S and other agencies over the past 40 years. The Okanogan Public Utility District discussed the potential of developing the site in the early 1980's. The site has not been evaluated in detail for feasibility. Because the site is in wilderness, it is unlikely the site is feasible for development. Wild and Scenic River designation would prevent development of this site.

The Northwest Power Planning Council has amended the *Columbia River Basin Fish and Wildlife Program* and the *Northwest Conservation and Electric Power Plan* to incorporate "Protected Area" designations to protect critical fish and wildlife habitat from new hydroelectric development. The entire river segment is classified as unprotected.

TRANSPORTATION, FACILITIES, AND OTHER DEVELOPMENTS

The entire river segment is within the Pasayten Wilderness. There is no road access.

Trail access is provided by Trails 472, 478, 461 and 533. Numerous other trails begin along the river segment.

There are no other facilities or developments along the entire river segment.

RECREATION ACTIVITIES

Primitive recreation opportunities are provided along the entire river segment

An estimate of recreation use along the river segment is displayed in Table G-24.

TABLE G - 24: Pasayten River Recreation Activities and Estimated Recreation Visitor Days.

Activity	1987	2000
Hiking	300	400
Horseback Riding	500	600
Fishing	200	300
Camping: Dispersed	300	400
Hunting	200	200
Total	1,500	1,900

The river segment did not receive a Recreation Evaluation Rating in the *Pacific Northwest Rivers Study*.

WILDLIFE AND FISHERIES

The upper portions of both the Middle Fork Pasayten and West Fork Pasayten are important migration routes for the largest migratory mule deer herd in the State of Washington.

The grizzly bear is a Threatened wildlife species. The entire river segment is part of an evaluation to determine status of the grizzly bear population. The evaluation will also determine if suitable habitat is present to support a grizzly bear population.

The gray wolf is an Endangered wildlife species. Gray wolf sightings have been reported in the vicinity, but no verified sightings recorded.

The Pasayten River supports a resident fish population

STREAMFLOW

There are no major structures present which affect stream flow

At the confluence of the West Fork Pasayten and Middle Fork Pasayten, average peak flow during May and June is 1,300 cubic feet per second and average low flow during September to February is 50 cubic feet per second

Where the Pasayten River crosses the United States-Canadian Border, average peak flow is 2,500 cubic feet per second and average low flow is 100 cubic feet per second.

GEOLOGY

The entire river segment is underlain by Cretaceous arkose sandstone and argillite. Much of the drainage is also lined with glacial and alluvial sand and gravel.

BOTANY

No Threatened and Endangered plant species listed by the U.S. Fish and Wildlife Service (1988) have been identified. No plants on the Regional Forester's Sensitive Plant List (1988) have been identified in the vicinity of the proposed river corridor. A complete Sensitive plant survey has not been completed. Consequently, Sensitive plant species could occur.

CULTURAL RESOURCES

The Parson Smith Tree Site is on the National Register of Historic Places. This site was the approximate location of a lodgepole pine tree which contained a carved poem by trapper and prospector Alfred E. Smith. The carving was dated 1886. The tree section containing the carving was moved to the Early Winters Visitor Center near Mazama for preservation and display purposes. Additional inventoried cultural resources include an airstrip (built in 1935 by the Forest Service as an emergency landing strip for fire protection) and nine trapper and miner cabins. Except for the Parson Smith Tree Site, no known evaluation has been completed to determine significance for inclusion on the National Register of Historic Places.

That portion of river segment between the confluence of West Fork and Middle Fork Pasayten and East Fork Pasayten received a Cultural Resource Value of 5 (unknown potential or insufficient information to classify) in the *Pacific Northwest Rivers Study*. That portion of river segment between the East Fork Pasayten and the United States-Canadian Border received a Cultural Resource Value of 2 (high known or potential cultural resource value).

TIMBER

The entire river segment is within wilderness and has been withdrawn from timber production.

LIVESTOCK GRAZING

There is no commercial livestock grazing along the river segment. Recreational pack and saddle stock grazing occurs along the river segment.

WILDERNESS

The river segment is entirely within the Pasayten Wilderness.

SOCIO-ECONOMIC

A recreation and tourism economy is becoming increasingly important in the Methow Valley. This is evidenced by the number of tourist accommodations and the number of recreation businesses, particularly in Winthrop, the nearest town and around Mazama. However, even with the increasing importance of recreation and tourism, the timber industry, cottage industry, government employment, and, to a lesser extent, the livestock and mineral industries, remain an important part of the economic scene.

Wild and Scenic River designation would provide only slight economic benefits to the Methow Valley because of the distance of the river from communities and because recreation use is not expected to greatly increase. Designation would not affect the economic contribution made by the timber, livestock and mineral industries.

CURRENT ADMINISTRATION

The entire river segment is managed by the Okanogan National Forest under direction contained in the *Pasayten Wilderness Management Plan*.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER

Expected funding requirements for administration of the entire river segment for the next five years are displayed in Table G-25

TABLE G - 25: Pasayten River Estimated Funding Needs.

Activity	Expenses Expected Independent of Designation	Additional Expenses Expected with Designation
General Administration	\$5,000	\$ 1,000
Costs of Implementation	0	1,000
Development of Management Plan	0	10,000
Development Costs	0	0
Operation and Maintenance Costs	3,000	1,000
Total - First Five Years	\$8,000	\$13,000

General administration and operation and maintenance costs for the entire river segment are estimated to continue at \$2,000 annually.

FINAL EIS ALTERNATIVES

Table G-26 displays how the final EIS alternatives treat the entire river segment regarding Wild and Scenic River designation

TABLE G - 26: Pasayten River Recommended Designation and Allocation by Alternative.

Segment	Alternatives	Recommended Designation	Allocation
1	M (Preferred), NC, A, B, C, D, E, G (Departure), I, J, L	Wild	Wilderness
	K	Unsuitable (Alternative proponents want no river designation)	Wilderness

WOLF CREEK POTENTIAL WILD AND SCENIC RIVER

State of Washington
Okanogan County

Okanogan National Forest

Wolf Creek was studied for potential Wild and Scenic River designation by the Okanogan National Forest in conjunction with the forest planning process. Eligibility and potential classification were determined for all river segments. Suitability was determined for only those segments within the proclaimed boundary of the Okanogan National Forest.

Wolf Creek was not identified as a potential Wild and Scenic River in the *National Rivers Inventory (NRI)* published by the National Park Service in 1982. The public identified the river as a potential candidate for Wild and Scenic River designation during issue scoping in the forest planning process.

LOCATION

From the confluence of South Fork Wolf Creek with Wolf Creek in SE 1/4 of Section 2, T34N, R19E, to confluence with the Methow River in SE 1/4 of Section 32, T35N, R21E.

Segment 1 - From the confluence of South Fork Wolf Creek with Wolf Creek to the Lake Chelan/Sawtooth Wilderness Boundary in NW 1/4 of Section 2, T34N, R20E (6.8 miles). Confluence of South Fork Wolf Creek with Wolf Creek was chosen as the terminus because flow is very intermittent above this point.

Segment 2 - From the Lake Chelan/Sawtooth Wilderness Boundary to the Okanogan National Forest Boundary in NE 1/4 of Section 6, T34N, R21E (2.2 miles).

Segment 3 - From the Okanogan National Forest Boundary to confluence with the Methow River (2.6 miles).

POTENTIAL FOR DESIGNATION

Segments 1 and 2, from the mouth of South Fork Wolf Creek to the Okanogan National Forest Boundary, are suitable for designation (9.0 miles).

Potential for designation of Segment 3 has not been determined.

RIVER MILEAGE

Study	23.6 miles
Eligible	11.6 miles
Draft EIS, FS Preferred Alternative	00.0 miles recommended for designation or further study.
Final EIS, FS Preferred Alternative	09.0 miles recommended for designation

OUTSTANDINGLY REMARKABLE VALUES

The outstandingly remarkable values are scenic, wildlife and fish

In the Lake Chelan/Sawtooth Wilderness, Wolf Creek runs through an open alpine setting. Below the Lake Chelan/Sawtooth Wilderness Boundary, Wolf Creek runs through a natural appearing forest setting. High mountain ridges and peaks can be viewed.

Portions of the river corridor near the mouth of South Fork Wolf Creek provide important summer and winter range for mountain goats. The Methow Valley mule deer herd is the largest migratory deer herd in the State of Washington. The herd provides approximately 10 percent of the statewide mule deer harvest. Portions of the river corridor are an important mule deer migration route.

The Northwest Power Planning Council has proposed increasing anadromous fish runs in the Columbia River Basin. The lower 1.5 miles of river provides important spawning and rearing habitat for spring chinook and summer steelhead.

POTENTIAL CLASSIFICATION

Segment 1	Wild	6.8 miles
Segment 2	Recreational	2.2 miles
Segment 3	Recreational	2.6 miles

Landownership along eligible river segments is displayed in Table G-27

TABLE G - 27: Wolf Creek Land Ownership.

Landownership	River Miles	Corridor Acres ¹
Segment 1 Okanogan National Forest (Lake Chelan/Sawtooth Wilderness)	6.8 miles 6.8 miles	2,176 acres 2,176 acres)
Segment 2 Okanogan National Forest	2.2 miles	704 acres
Segment 3 Private Land	2.6 miles	832 acres
Total	11.6 miles	3,712 acres

¹ Acres based on a 1/4 mile corridor on each side of river

MINERAL AND ENERGY RESOURCE ACTIVITIES

Segment 1 is entirely within the Lake Chelan/Sawtooth Wilderness and except for valid claims has been withdrawn from mineral entry.

There are 2 mineral lease applications pending along Segment 1 and one application pending along Segment 2. There are 18 mineral claims along Segment 1

Mineral potential along all river segments is low or unknown

WATER RESOURCE DEVELOPMENTS

There is currently one water diversion and aqueduct under Special Use Permit in Segment 2. Wild and Scenic River designation could require removal of the existing diversion and aqueduct sometime in the future, because of its effect on stream flow

The Northwest Power Planning Council has amended the *Columbia River Basin Fish and Wildlife Program* and the *Northwest Conservation and Electric Power Plan* to incorporate "Protected Area" designations to protect critical fish and wildlife habitat from new hydroelectric development. That portion of Segment 1 upstream from North Fork Wolf Creek is unprotected. That portion of Segment 1 downstream from North Fork Wolf Creek and Segments 2 and 3 are protected for wildlife only.

TRANSPORTATION, FACILITIES, AND OTHER DEVELOPMENTS

There is no road access along Segment 1. Road access to Segment 2 is provided by Forest Road 5005 and County Road 1131. Road access to Segment 3 is provided by County Roads 1131 and 1145. Only segments of these roads are actually within or seen along Segments 2 and 3.

A bridge crosses Wolf Creek near the confluence with the Methow River in Segment 3.

Several local roads provide access to private land along Segment 3.

Trail access along Segments 1 and 2 is provided by Trail 527. Several other trails begin along Segment 1. These trails are closed to motorized use.

Sun Mountain Lodge has a system of cross-country ski trails along portions of Segment 2 and 3. Those trails along Segment 2 are under Special Use Permit.

The south boundary of the 150 acre Wolf Creek Research Natural Area parallels Segment 2 for approximately 0.6 miles.

Winthrop is the nearest community and is located approximately 3 miles east of Segment 3.

Most of the land along Segment 3 is in a rural, ranch type setting. High density subdivision has not occurred because of current zoning ordinances. Residential development outside Winthrop is less dense and more scattered.

RECREATION ACTIVITIES

Primitive recreation opportunities are provided along Segment 1. Roaded Natural recreation opportunities are provided along Segment 2. Roaded Natural and Rural recreation opportunities are provided along Segment 3.

An estimate of recreation use on National Forest System land along Segments 1 and 2 is displayed in Table G-28.

TABLE G - 28: Wolf Creek Recreation Activities and Estimated Recreation Visitor Days

Activity	1987	2000
Viewing Scenery	700	800
Hiking	1,300	1,500
Horseback Riding	2,000	2,200
Fishing	300	400
Camping Dispersed	1,600	1,900
Picnicking	300	400
Hunting	300	400
Total	6,500	7,600

Approximately 70 percent of the use occurs along Segment 1 and 30 percent along Segment 2.

No river segment received a Recreation Evaluation Rating in the *Pacific Northwest Rivers Study*.

WILDLIFE AND FISHERIES

That portion of Segment 1 near the mouth of South Fork Wolf Creek provides important summer and winter range for mountain goats.

The lower portion of Segment 2 is an important migration route for the largest migratory mule deer herd in the State of Washington.

The grizzly bear is a Threatened wildlife species. National Forest land along Segments 1 and 2 is part of an evaluation to determine status of the grizzly bear population. The evaluation will also determine if suitable habitat is present to support a grizzly bear population.

The gray wolf is an Endangered wildlife species. Gray wolf sightings have been reported in the vicinity, but no verified sightings recorded.

The lower 1.5 miles of Segment 3 provides important spawning and rearing habitat for spring chinook and summer steelhead.

STREAMFLOW

The diversion dam and aqueduct in Segment 2 affects streamflow, particularly in below average snowpack years, when portions of Segments 2 and 3 dry up late in the summer.

Where Wolf Creek crosses the Lake Chelan/Sawtooth Wilderness Boundary, average peak flow during May and June is 500 cubic feet per second and average low flow during September to February is 20 cubic feet per second.

Where Wolf Creek crosses the Okanogan National Forest Boundary, average peak flow is 1,300 cubic feet per second and average low flow is 10 cubic feet per second. The lower flow is because of the diversion in Segment 2.

GEOLOGY

Bedrock exposed along all river segments includes Cretaceous age shales, sandstones and conglomerates. Some volcanic flow and clastic rocks also occur.

BOTANY

The Wolf Creek Research Natural Area was established to preserve a sample of a bitterbrush/bunchgrass cell in a natural state.

No Threatened and Endangered plant species listed by the U.S. Fish and Wildlife Service (1988) have been identified. No plants on the Regional Forester's Sensitive Plant List (1988) have been identified in the vicinity of the proposed river corridor. A complete Sensitive plant survey has not been completed. Consequently, Sensitive plant species could occur.

CULTURAL RESOURCES

There are no inventoried cultural resources along any river segment. No river segment received a Cultural Resource Value in the *Pacific Northwest Rivers Study*.

TIMBER

Segment 1 is within wilderness and has been withdrawn from timber production. Approximately 80 percent of the National Forest System land along Segment 2 is tentatively suitable for timber production. All land tentatively suitable for timber production is classified as dry productive mixed conifer. Table G-29 displays timber volume and yield information.

TABLE G-29: Wolf Creek Volume and Estimated Yields

Total Timber Volume	Estimated Maximum Timber Yield With Legal Requirements	FS Preferred Alternative	Designated as Wild and Scenic River as Classified
5 MMBF	14 MMBF	.08 MMBF	.08 MMBF

Land suitable for timber production along Segment 3 is scattered and not managed for timber production.

LIVESTOCK GRAZING

Segments 1 and 2 are within the Wolf Creek Cattle Allotment. This allotment is grazed yearly by 210 cattle. Along Segment 3, livestock grazing is confined to family ranch operations. Designation of Segment 1 as a Wild River could affect current grazing operations.

WILDERNESS

Segment 1 is entirely within the Lake Chelan/Sawtooth Wilderness.

SOCIO-ECONOMIC

A recreation and tourism economy is becoming increasingly important in the Methow Valley. This is evidenced by the number of tourist accommodations in Winthrop, the nearest town. Even with the increasing importance of recreation and tourism, the timber industry, cottage industry, government employment, and, to a lesser extent, the livestock and mineral industries, remain an important part of the economic scene.

Wild and Scenic River designation could benefit the Methow Valley economically without affecting the contribution made by the timber and mineral industry and with only moderate effects on the contribution made by the livestock industry.

CURRENT ADMINISTRATION

National Forest System land along Segments 1 and 2 is managed by the Okanogan National Forest under direction contained in the *Winthrop Ranger District Multiple Use Plan*.

Private lands near Segment 2 and along Segment 3 are subject to Okanogan County land use ordinances. The *Methow Valley Plan: An Addendum to Okanogan County Comprehensive Plan-1976*, is the primary land use ordinance for private land use. *Okanogan County Zoning Ordinance*, *Short Subdivision Platting Ordinance*, *Platting Ordinance* and *Master Plan for Okanogan County Shorelines*, provide for nearly all private land use concerns. These documents specify types, density and location of residential, commercial and industrial development. Wild and Scenic River designation would generally be supported by existing zoning.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER

Expected funding requirements for administration of Segments 1 and 2 for the next five years are displayed in Table G-30.

TABLE G - 30: Wolf Creek Estimated Funding Needs

Activity	Expenses Expected Independent of Designation	Additional Expenses Expected with Designation
General Administration	\$ 5,000	\$ 3,000
Costs of Implementation	0	3,000
Development of Management Plan	0	15,000
Development Costs	0	0
Operation and Maintenance Costs	2,000	1,000
Total - First Five Years	\$ 7,000	\$22,000

If Segment 3 is included for administration, an additional \$30,000 would be required for the next five years.

General administration and operation and maintenance costs for Segments 1 and 2 are estimated to continue at \$3,000 annually.

FINAL EIS ALTERNATIVES

Table G-31 displays how the final EIS alternatives treat National Forest System land along Segments 1 and 2 regarding Wild and Scenic River designation

TABLE G - 31: Wolf Creek Recommended Designation and Allocation by Alternative

Segment	Alternatives	Recommended Designation	Allocation
1	M (Preferred), NC, A, B, C, D, E, G (Departure), I, J, L	Wild	Wilderness
	K	Unsuitable (Alternative proponents want no river designation)	Wilderness
2	M (Preferred), NC, A, G (Departure), I, J	Recreational	Roaded recreation and Research Natural Area with high visual and riparian habitat protection and reduced or no scheduled timber harvest.
	L	Recreational	High visual protection and optimal management of winter range.
	C, E	Recreational (1.5 miles) Unsuitable (1.0 miles)	Unroaded recreation and Research Natural Area with high visual and riparian habitat protection and no scheduled timber harvest. Intensive timber management
	B, D, K	Unsuitable	Intensive timber management

CANYON CREEK POTENTIAL WILD AND SCENIC RIVER

State of Washington
Whatcom County

Okanogan National Forest

Canyon Creek was studied for potential Wild and Scenic River designation by the Okanogan National Forest in conjunction with the forest planning process. Eligibility and potential classification were determined for all river segments. Determination of suitability was not completed because Canyon Creek was not identified as a potential Wild and Scenic River until February, 1988 and no public review has occurred to date.

Canyon Creek was not identified as a potential Wild and Scenic River in the *Nationwide Rivers Inventory (NRI)* published by the National Park Service in 1982. It was first identified as a potential candidate for Wild and Scenic River designation when the Northwest Rivers Council received funding from the Skagit Environmental Endowment Commission to document the outstandingly remarkable values.

LOCATION

From the Pasayten Wilderness Boundary in SW 1/4 of Section 16, T38N, R17E to confluence with Ruby Creek in NE 1/4 of Section 12, T37N, R14E.

Segment 1 - From the Pasayten Wilderness Boundary to a point on the range line between Section 12, R14E and Section 17, R16E (9.8 miles). The Pasayten Wilderness Boundary was chosen as the terminus because flow is intermittent above this point.

Segment 2 - From a point on the range line between Section 12, R14E and Section 17, R16E to confluence with Ruby Creek (.5 miles).

POTENTIAL FOR DESIGNATION

Potential for designation of Segments 1 and 2 has not been determined.

RIVER MILEAGE

Study	15.3	miles
Eligible	10.3	miles
Draft EIS, FS Preferred Alternative	00.0	miles identified as a potential candidate for Wild and Scenic River designation.
Final EIS, FS Preferred Alternative	10.3	miles recommended for further study

OUTSTANDINGLY REMARKABLE VALUES

The outstandingly remarkable values are scenic, recreation and fish.

Canyon Creek runs through a natural forest setting. High mountain ridges and peaks can be viewed. The lower 0.8 mile is in the North Cascades Scenic Highway. This 87,600 acre area was designated by Congress in recognition of its remarkable scenic values. State Highway 20 is part of the State of Washington Scenic Highway System.

The Canyon Creek drainage provides a wide variety of non-motorized recreation opportunities. The drainage receives some of the highest amount of recreation use in an unroaded setting on the forest.

Ross Lake provides a resident fish population of statewide importance. Portions of Canyon Creek provide important spawning habitat for bull trout, rainbow and cutthroat trout.

POTENTIAL CLASSIFICATION

Segment 1	Wild	9.8 miles
Segment 2	Scenic	0.5 miles

Landownership status along eligible river segments is displayed in Table G-32.

TABLE G - 32: Canyon Creek Land Ownership

Landownership	River Miles	Corridor Acres ¹
Segment 1 Okanogan National Forest (North Cascades Scenic Highway)	9.8 miles 3 miles	3,136 acres 96 acres)
Segment 2 Okanogan National Forest (North Cascades Scenic Highway)	5 miles 5 miles	160 acres 160 acres)
Total	10.3 miles	3,296 acres

¹ Acres based on a 1/4 mile corridor on each side of river.

MINERAL AND ENERGY RESOURCE ACTIVITIES

A small portion of Segment 2 at the mouth of Canyon Creek is currently withdrawn from mineral entry as part of the North Cascades Highway Mineral Withdrawal. The withdrawal is being reviewed under the Withdrawal Review Program. The result will be modification of the existing withdrawal to protect scenic, recreation and fishery values, optimize mineral resource availability, and provide feasible administration.

There are no known mineral leases along either river segment. There are 47 mineral claims along both river segments. Most are placer claims. Most of the land between Slate Creek in Segment 1 and the mouth in Segment 2 is staked for mineral entry.

Mineral potential for gold, silver, copper, molybdenum, lead and zinc is high along Segment 1 from the Pasayten Wilderness Boundary to Barron Creek. Mineral potential for copper, zinc, tungsten, gold, silver and uranium is moderate to high along Segment 1 from Barron Creek to Mill Creek. Mineral potential for copper, zinc, molybdenum, gold and silver is high along Segment 1 downstream from Mill Creek and along Segment 2.

Canyon Creek drains and is part of the Slate Creek Mining District, which has produced some \$3,000,000 in precious and base metals

Designation of Segment 1 as a Wild River would withdraw approximately 1,300 acres of land with high mineral potential and approximately 1,900 acres of land with moderate to high mineral potential from mineral entry

WATER RESOURCE DEVELOPMENTS

There are no current water developments along either river segment

A potential water development site has been inventoried near Boulder Creek in Segment 1. This is described as a conduit diversion with powerhouse with a power potential of 8.6 megawatts and a storage capacity of 43,600 acre feet. The site was identified by the U S G S and other agencies over the past 40 years. In the mid-1980's, interest was shown by a consulting firm in developing this site, along with two other small hydro sites on Canyon Creek. The firm received Preliminary Permits to determine the feasibility of site development and potential outputs from each site. Because of projected terms and conditions that would have been submitted to the Federal Energy Regulatory Commission by the Forest Service to protect scenic values, the Preliminary Permits were allowed to expire without any effort by the project proponent to extend them. It is unlikely these sites are currently feasible for development. Wild and Scenic River designation would prevent development of these sites.

The Northwest Power Planning Council has amended the *Columbia River Basin Fish and Wildlife Program* and the *Northwest Conservation and Electric Power Plan* to incorporate "Protected Area" designations to protect critical fish and wildlife habitat from new hydroelectric development. That portion of Segment 1 downstream from Mill Creek and Segment 2 are protected for wildlife only.

TRANSPORTATION, FACILITIES, AND OTHER DEVELOPMENTS

Road access is very limited. Road access to the upper portion of Segment 1 is provided by Forest Road 5400700, which ends at the mouth of Slate Creek. Road access to the lower portion of Segment 2 is provided by State Highway 20. Highway activity is only noticeable along Segment 2.

Trail access along Segments 1 and 2 is provided by Trail 754. Trails 729 and 755 begin within Segment 1. All trails are closed to motorized vehicles.

Canyon Creek Trailhead and a short local road are located near the mouth of Canyon Creek in Segment 2.

RECREATION ACTIVITIES

Semiprimitive recreation opportunities are generally provided along Segment 1 and along those portions of Segment 2 out of view of State Highway 20. Roaded Natural recreation opportunities are provided along those portions of Segment 2 viewed from State Highway 20.

An estimate of total recreation use along both river segments is displayed in Table G-33.

TABLE G - 33: Canyon Creek Recreation Activities and Estimated Recreation Visitor Days

Activity	1987	2000
Viewing Scenery & Interpretive Signs	2,100	2,500
Hiking	3,000	3,600
Horseback Riding	1,000	1,100
Fishing	1,000	1,200
Camping Dispersed	3,000	3,600
Picnicking	800	900
Hunting	500	600
Total	11,400	13,500

Neither river segment received a Recreation Evaluation Rating in the *Pacific Northwest Rivers Study*.

WILDLIFE AND FISHERIES

Portions of both river segments contain old-growth vegetation, which provides important habitat for spotted owls (proposed to be listed as Threatened)

That portion of Segment 1 between Mill Creek and Boulder Creek provides important summer and winter range for mountain goats. Both river segments provide important summer range for mule deer

The grizzly bear is a Threatened wildlife species. Both river segments are part of an evaluation to determine status of the grizzly bear population. The evaluation will also determine if suitable habitat is present to support a grizzly bear population.

The gray wolf is an Endangered wildlife species. Gray wolf sightings have been reported in the vicinity, but no verified sightings have been recorded.

Portions of both river segments provide important spawning habitat for bull trout, rainbow and cutthroat trout, the major resident fish species in Ross Lake.

STREAMFLOW

There are no major structures present which affect stream flow.

Average peak flow at the mouth of Canyon Creek during May and June is 1500 cubic feet per second and average low flow during September to February is 30 cubic feet per second.

GEOLOGY

Canyon Creek is underlain largely by arkose sandstone and argillite of Cretaceous age, but also by Pre-Cretaceous phyllites. These rocks have been strongly altered, particularly along Segment 1 downstream from Mill Creek and along Segment 2.

BOTANY

No Threatened and Endangered plant species listed by the U.S. Fish and Wildlife Service (1988) have been identified. No plants on the Regional Forester's Sensitive Plant List (1988) have been identified in the vicinity of the proposed river corridor. A complete Sensitive plant survey has not been completed. Consequently, Sensitive plant species could occur.

CULTURAL RESOURCES

Inventoried cultural resources along Segment 1 include remnants of the Chancellor Mine Site, remnants of Chancellor Townsite (a large mining settlement in the late 1800's) and a miner's cabin. Inventoried cultural resources along Segment 2 include a Forest Service Guard Station and Barn. No known evaluation has been completed on any site to determine significance for inclusion on the National Register of Historic Places.

It is unknown if a Cultural Resource Value was assigned to either river segment in the *Pacific Northwest Rivers Study*.

TIMBER

Approximately 20 percent of the land along both river segments is tentatively suitable for timber production. Approximately 50 percent of the land tentatively suitable for timber production is classified as moist productive mixed conifer and the other 50 percent is classified as low productive. Table G-34 displays timber volume and yield information.

TABLE G - 34: Canyon Creek Volume and Estimated Yields.

Total Timber Volume	Estimated Maximum Timber Yield With Legal Requirements	FS Preferred Alternative	Designated as Wild and Scenic River as Classified
10 MMBF	.09 MMBF	0 MMBF	0 MMBF

LIVESTOCK GRAZING

There is no commercial livestock grazing along either river segment. Recreational pack and saddle stock grazing occurs.

SOCIO-ECONOMIC

There are no established communities in close proximity to Canyon Creek. The nearest community is Newhelem, which is located approximately 20 miles west of Canyon Creek.

Petroleum refining, agriculture, forest products related industry, food processing and retail trade are the major contributors to the economy of Whatcom County. Most of this activity is centered in the west portion of the County. Recreation and tourism is becoming increasingly important to those communities in the east portion of the County because of their proximity to the North Cascades National Park Complex and the Mount Baker-Snoqualmie National Forest.

Wild and Scenic River designation would provide only slight economic benefits to Whatcom County because of the distance of Canyon Creek from communities. Designation would not affect the major economic contributors.

CURRENT ADMINISTRATION

Both river segments are managed by the Okanogan National Forest under direction contained in the *Winthrop Ranger District Multiple Use Plan*. Those portions within the North Cascades Scenic Highway are managed to maintain "existing scenic values" as per Public Law 98-339.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER

Expected total funding requirements for administration of both river segments for the next five years are displayed in Table G-35

TABLE G - 35: Canyon Creek Estimated Funding Needs.

Activity	Expenses Expected Independent of Designation	Additional Expenses Expected with Designation
General Administration	\$5,000	\$ 2,000
Costs of Implementation	0	2,000
Development of Management Plan	0	10,000
Development Costs	0	0
Operation and Maintenance Costs	3,000	1,000
Total - First Five Years	\$8,000	\$15,000

General administration and operation and maintenance costs for both river segments are estimated to continue at \$3,000 annually.

FINAL EIS ALTERNATIVES

Table G-36 displays how the final EIS alternatives treat river segments regarding Wild and Scenic River designation

TABLE G - 36: Canyon Creek Recommended Designation and Allocation by Alternative.

Segment	Alternatives	Recommended Designation	Allocation
1	M (Preferred), NC, A, E, I, J, L	9.5 miles further study	Unroaded non-motorized recreation with high visual and riparian habitat protection and no scheduled timber harvest.
	C, G (Departure)	9.5 miles further study	Unroaded non-motorized and motorized recreation with high visual and riparian habitat protection and no scheduled timber harvest.
	B	9.5 miles further study	Unroaded motorized recreation with high visual and riparian habitat protection and no scheduled timber harvest
	D	9.5 miles further study	Intensive timber management.
	K	9.5 miles Unsuitable (Alternative proponents want no river designation)	Unroaded non-motorized recreation with high visual and riparian habitat protection want no river and no scheduled timber harvest.
	M (Preferred), NC, A, B, G (Departure)	3 miles further study	A high quality roaded and unroaded scenic setting with a moderate expansion of recreation facilities and opportunities
	C, E, I, J, L	3 miles further study	A high quality roaded and unroaded scenic setting with no expansion of existing recreation facilities and opportunities.
	D	3 miles further study	Roaded recreation with high visual and riparian habitat protection and reduced timber harvest
	K	.3 miles Unsuitable (Alternative proponents want no river designation)	A high quality roaded and unroaded scenic setting with a moderate expansion of recreation facilities and opportunities
2	M (Preferred), NC, A, B, G (Departure)	.5 miles further study	A high quality roaded and unroaded scenic setting with a moderate expansion of recreation facilities and opportunities.

Segment	Alternatives	Recommended Designation	Allocation
	C, E, I, J, L	.5 miles further study	A high quality roaded and unroaded scenic setting with no expansion of existing recreation facilities and opportunities
	D	.5 miles further study	Roaded recreation with high visual and riparian habitat protection and reduced timber harvest.
	K	.5 miles Unsuitable (Alternative proponents want no river designation)	A high quality roaded and unroaded scenic setting with a moderate expansion of recreation facilities and opportunities

GRANITE CREEK POTENTIAL WILD AND SCENIC RIVER

State of Washington
Skagit and Whatcom County

Okanogan National Forest

Granite Creek was studied for potential Wild and Scenic River designation by the Okanogan National Forest in conjunction with the forest planning process. Eligibility and potential classification were determined. Determination of suitability was not completed because Granite Creek was not identified as a potential Wild and Scenic River until February, 1988 and no public review has occurred to date.

Granite Creek was not identified as a potential Wild and Scenic River in the *Nationwide Rivers Inventory (NRI)* published by the National Park Service in 1982. It was first identified as a potential candidate for Wild and Scenic River designation when the Northwest Rivers Council received funding from the Skagit Environmental Endowment Commission to document the outstandingly remarkable values.

LOCATION

From the mouth of Swamp Creek in SE 1/4 of Section 6, T35N, R17E to confluence with Ruby Creek in NE 1/4 of Section 12, T37N, R14E.

Segment 1 - From the mouth of Swamp Creek to confluence with Ruby Creek (11.1 miles). Swamp Creek was chosen as the terminus because flow is very intermittent above this point.

POTENTIAL FOR DESIGNATION

Potential for designation of the river segment has not been determined.

RIVER MILEAGE

Study	15.1	miles
Eligible	11.1	miles
Draft EIS, FS Preferred Alternative	00.0	miles identified as a potential candidate for Wild and Scenic River designation.
Final EIS, FS Preferred Alternative	11.1	miles recommended for further study.

OUTSTANDINGLY REMARKABLE VALUES

The outstandingly remarkable values are scenic, recreation and fish.

Granite Creek runs through a natural forest setting. Spectacular high mountain ridges and peaks can be viewed. The entire river segment is in the North Cascades Scenic Highway. This 87,600 acre area was designated by Congress in recognition of the remarkable scenic values. State Highway 20 is part of the State of Washington Scenic Highway System.

A variety of recreation opportunities is provided along Granite Creek. Driving for pleasure and viewing scenery are the major recreation activities.

Ross Lake provides a resident fish population of statewide importance. Lower portions of the river segment provide important spawning habitat for bull trout, rainbow and cutthroat trout.

POTENTIAL CLASSIFICATION

Segment 1 Scenic 11.1 miles
Land ownership status is displayed in Table G-37.

TABLE G - 37: Granite Creek Land Ownership.

Landownership	River Miles	Corridor Acres ¹
Segment 1 Okanogan National Forest (North Cascades Scenic Highway)	11.1 miles 11.1 miles	3,552 acres 3,552 acres)
Total	11.1 miles	3,552 acres

¹Acres based on a 1/4 mile corridor on each side of river

MINERAL AND ENERGY RESOURCE ACTIVITIES

The entire river segment is withdrawn from mineral entry as part of the North Cascades Highway Mineral Withdrawal. The withdrawal is being reviewed under the Withdrawal Review Program. The result will be modification of the existing withdrawal to protect scenic, recreation and fishery values, optimize mineral resource availability, and provide feasible administration.

No known mineral leases exist along the river segment. There are two mineral placer claims near the mouth.

Mineral potential for uranium is moderate to low from Swamp Creek to Cabinet Creek. Mineral potential is low or unknown from Cabinet Creek to East Creek. Mineral potential for copper, zinc, molybdenum, gold and silver is high downstream from East Creek.

WATER RESOURCE DEVELOPMENTS

There are no current water developments along the river segment.

Potential water development sites have been inventoried along the river segment (Table G-38). These sites were identified by the U.S.G.S. and other agencies over the past 40 years.

TABLE G - 38: Granite Creek Potential Water Development Sites.

Name	Description
Upper Granite	Dam with powerhouse, 2.5 megawatts power potential; 48,400 acre feet storage capacity
Cabinet Creek	Conduit diversion with powerhouse, 5.6 megawatts power potential, no water storage
Fourmile Camp	Conduit diversion with powerhouse; 5.6 megawatts power potential, no water storage

In the mid-1980's, interest was shown by a consulting firm in developing these sites. The firm received Preliminary Permits to determine the feasibility of site development and potential outputs from each site. Because of the projected terms and conditions that would have been submitted to the Federal Energy Regulatory Commission by the Forest Service to protect scenic values, the Preliminary Permits were allowed to expire without any effort from the project proponent to extend them. It is unlikely these sites are currently feasible for development. Wild and Scenic River designation would prevent development of these sites.

The Northwest Power Planning Council has amended the *Columbia River Basin Fish and Wildlife Program* and the *Northwest Conservation and Electric Power Plan* to incorporate "Protected Area" designations to protect critical fish and wildlife habitat from new hydroelectric development. The entire river segment is protected for wildlife only.

TRANSPORTATION, FACILITIES, AND OTHER DEVELOPMENTS

Road access is provided by State Highway 20. The highway parallels the entire river segment, generally within 1/4 mile, and crosses the river segment between Kiting and Cabinet Creeks.

Trail access is generally not provided along the river segment. Trails 741 and 756 begin along the river segment and cross the river segment at Easy Pass Creek and East Creek. These trails are closed to motorized use. Trail 741 also is closed to pack and saddle stock.

Easy Pass and East Creek Trailheads and two local roads are located along the river segment.

RECREATION ACTIVITIES

Roaded Natural recreation opportunities are provided along the entire river segment.

An estimate of recreation use along the river segment is displayed in Table G-39.

TABLE G - 39: Granite Creek Recreation Activities and Estimated Recreation Visitor Days.

Activity	1987	2000
Viewing Scenery	4,000	4,600
Hiking	1,500	1,700
Horseback Riding	200	300
Fishing	200	300
Camping: Dispersed	1,000	1,100
Picnicking	500	600
Hunting	500	600
Total	7,900	9,200

That portion of river segment between Beebe Creek and Ruby Creek received an overall recreation rating of above average in the *Pacific Northwest Rivers Study*. The overall rating was based on whitewater boating receiving a rating of high and whitewater kayaking receiving a rating of above average.

WILDLIFE AND FISHERIES

Portions of the river segment contain old-growth vegetation which provides important habitat for spotted owls (proposed to be listed as Threatened).

The river segment provides important summer range for mule deer. A portion of the river segment near East Creek provides important summer and winter range for mountain goats.

The grizzly bear is a Threatened wildlife species. The river segment is part of an evaluation to determine status of the grizzly bear population. The evaluation will also determine if suitable habitat is present to support a grizzly bear population.

The gray wolf is an Endangered wildlife species. Gray wolf sightings have been reported in the vicinity, but no verified sightings recorded.

Lower portions of the river segment provide important spawning habitat for bull trout, rainbow and cutthroat trout, the major resident fish species in Ross Lake.

STREAMFLOW

There are no major structures present along the river segment which affect stream flow.

Average peak flow at the mouth of Granite Creek during May and June is 1200 cubic feet per second and average low flow during September to February is 20 cubic feet per second.

GEOLOGY

That portion of river segment downstream from Cabinet Creek is underlain by Pre-Cretaceous phyllite and Cretaceous arkose sandstone and argillite. These rocks have been highly altered and mineralized by the adjacent Black Peak and Golden Horn Batholiths. The bedrock on that portion of river segment upstream from Cabinet Creek is granite of the Golden Horn intrusive.

BOTANY

No Threatened and Endangered plant species listed by the U.S. Fish and Wildlife Service (1988) have been identified. No plants on the Regional Forester's Sensitive Plant List (1988) have been identified in the vicinity of the proposed river corridor. A complete Sensitive plant survey has not been completed. Consequently, Sensitive plant species could occur.

CULTURAL RESOURCES

No cultural resources have been inventoried along the river segment.

It is unknown if a Cultural Resource Value was assigned to the river segment in the *Pacific Northwest Rivers Study*.

TIMBER

Approximately 60 percent of the land along the river segment is tentatively suitable for timber production. All land tentatively suitable for timber production is classified as moist productive mixed conifer. Table G-40 displays timber volume and yield information.

TABLE G - 40: Granite Creek Timber Volume and Estimated Yields.

Total Timber Volume	Estimated Maximum Timber Yields With Legal Requirements	FS Preferred Alternative	Designated as Wild and Scenic River as Classified
45 MMBF	41 MMBF	0 MMBF	0 MMBF

LIVESTOCK GRAZING

There is no commercial livestock grazing along the river segment. A limited amount of recreational pack and saddle stock grazing occurs.

SOCIO-ECONOMIC

There are no established communities in close proximity to Granite Creek. The nearest community is Newhelem, which is located approximately 20 miles west of Granite Creek.

Petroleum refining, agriculture, forest product related industry, food processing and retail trade are the major contributors to the economy of Whatcom County and Skagit County. Most of this activity is centered in the west portion of the counties. Recreation and tourism is becoming increasingly important to those communities in the east portion of Whatcom County and Skagit County, because of their proximity to the North Cascades National Park Complex and the Mount Baker-Snoqualmie National Forest.

Wild and Scenic River designation would provide only slight economic benefits to either Whatcom County or Skagit County because of the distance of Granite Creek from communities. Designation would not affect the major economic contributors.

CURRENT ADMINISTRATION

The river segment is managed by the Okanogan National Forest under direction contained in the *Winthrop Ranger District Multiple Use Plan*. The entire river segment is within the North Cascades Scenic Highway and managed to maintain "existing scenic values" as instructed by Public Law 98-339.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER

Expected funding requirements for administration of the river segment for the next five years are displayed in Table G-41.

TABLE G - 41: Granite Creek Estimated Funding Needs.

Activity	Expenses Expected Independent of Designation	Additional Expenses Expected with Designation
General Administration	\$5,000	\$ 2,000
Costs of Implementation	0	2,000
Development of Management Plan	0	10,000
Development Costs	0	0
Operation and Maintenance Costs	3,000	1,000
Total - First Five Years	\$8,000	\$15,000

Total general administration and operation and maintenance costs for the river segment are estimated to continue at \$3,000 annually

FINAL EIS ALTERNATIVES

Table G-42 displays how the final EIS alternatives treat the river segment regarding Wild and Scenic River designation

TABLE G - 42: Granite Creek Recommended Designation and Allocation by Alternative.

Segment	Alternatives	Recommended Designation	Allocation
1	M (Preferred), NC, A, B, G (Departure)	11.1 miles further study	A high quality roaded scenic setting with a moderate expansion of recreation facilities and opportunities
	C, E, I, J, L	11.1 miles further study	A high quality roaded scenic setting with no expansion of existing recreation facilities and opportunities
	D	11.1 miles further study	Roaded recreation with high visual and riparian habitat protection and reduced timber harvest
	K	11.1 miles Unsuitable (Alternative proponents want not river designation)	A high quality roaded scenic setting with a moderate expansion of recreation facilities and opportunities

RUBY CREEK POTENTIAL WILD AND SCENIC RIVER

State of Washington
Whatcom County

Okanogan National Forest
North Cascades National Park

Ruby Creek was studied for potential Wild and Scenic River designation by the Okanogan National Forest in conjunction with the forest planning process. Eligibility and potential classification were determined for all river segments. Determination of suitability was not completed because Ruby Creek was not identified as a potential Wild and Scenic River until February, 1988 and no public review has occurred to date. The *General Management Plan for the North Cascades National Park and Ross Lake and Lake Chelan National Recreation Areas (6/88)*, states "The National Park Service will cooperate with the Forest Service in their study of the tributaries within their jurisdiction, including Ruby Creek, to determine suitability for inclusion in the Wild and Scenic Rivers System "

Ruby Creek was not identified as a potential Wild and Scenic River in the *Nationwide Rivers Inventory (NRI)* published by the National Park Service in 1982. It was first identified as a potential candidate for Wild and Scenic River designation when the Northwest Rivers Council received funding from the Skagit Environmental Endowment Commission to document the outstandingly remarkable values.

LOCATION

From the confluence of Canyon and Granite Creeks in NE 1/4 of Section 12, T37N, R14E to the slack water of Ross Lake in NW 1/4 of Section 9, T37N, R15E

Segment 1 - From the confluence of Canyon and Granite Creeks to the Ross Lake National Recreation Area Boundary in NE 1/4 of Section 10, T37N, R14E (2.3 miles)

Segment 2 - From the Ross Lake National Recreation Area Boundary to the slack water of Ross Lake (1.8 miles)

POTENTIAL FOR DESIGNATION

Potential for designation of Segments 1 and 2 has not been determined.

RIVER MILEAGE

Study	4.1	miles
Eligible	4.1	miles
Draft EIS, FS Preferred Alternative	0.0	miles identified as a potential candidate for Wild and Scenic River designation
Final EIS, FS Preferred Alternative	4.1	miles recommended for further study

OUTSTANDINGLY REMARKABLE VALUES

The outstandingly remarkable values are scenic, recreation and fish.

Ruby Creek runs through a generally natural setting. Spectacular high mountain ridges and peaks can be viewed. The upper portion of river corridor is in the North Cascades Scenic Highway. This 87,600 acre area was designated by Congress in recognition of the remarkable scenic values. The lower portion of river corridor is in the Ross Lake National Recreation Area. State Highway 20 is part of the State of Washington Scenic Highway System.

A variety of recreation opportunities is provided along Ruby Creek. Driving for pleasure, viewing scenery and hiking are the major recreation activities.

Ross Lake provides a resident fish population of statewide importance. Ruby Creek provides important spawning habitat for Dolly Varden, rainbow and cutthroat trout.

POTENTIAL CLASSIFICATION

Segment 1	Scenic	2.3	miles
Segment 2	Scenic	1.8	miles

Landownership status for eligible river segments is displayed in Table G-43.

TABLE G - 43: Ruby Creek Land Ownership

Landownership	River Miles	Corridor Acres ¹
Segment 1 Okanogan National Forest (North Cascades Scenic Highway)	2.3 miles 2.3 miles	736 acres 736 acres)
Segment 2 North Cascades National Park (Ross Lake National Recreation Area)	1.8 miles 1.8 miles	576 acres 576 acres)
Total	4.1 miles	1,312 acres

¹Acres based on a 1/4 mile corridor on each side of river.

MINERAL AND ENERGY RESOURCE ACTIVITIES

Both river segments are withdrawn from mineral entry. Segment 1 is withdrawn as part of the North Cascades Highway Mineral Withdrawal. The withdrawal is being reviewed under the Withdrawal Review Program. The result will be modification of the existing withdrawal to protect scenic, recreation and fishery values, optimize mineral resource availability, and provide feasible administration.

There are no known mineral leases or mineral claims along either river segment.

Mineral potential for copper, zinc, molybdenum, gold and silver is high along Segment 1 from the confluence of Canyon and Granite Creeks to the unnamed drainage in SW 1/4 of Section 11, T37N, R14E. Mineral potential along Segment 1 downstream from the unnamed drainage and along Segment 2 is low or unknown.

An estimated \$200,000 in placer gold has been recovered from auriferous stream gravel along both river segments.

WATER RESOURCE DEVELOPMENTS

The lower .3 miles of Segment 1 and all of Segment 2 is located within the Ross Lake Water Resource Development Project Boundary. This project is authorized by Federal Energy Regulatory Commission License 553. Wild and Scenic River designation will require review of the current permit boundary and may require an amendment to the license.

A potential water development site has been inventoried in Segment 1. This is described as a dam with powerhouse; with a power potential of 19.3 megawatts and a storage capacity of 126,800 acre feet. This site was identified by the U.S.G.S. and other agencies over the past 40 years. In the mid-1980's, interest was shown by a consulting firm in developing this site, along with another small hydro site on Ruby Creek. The firm received Preliminary Permits to determine the feasibility of site development and potential outputs from each site. Because of projected terms and conditions that would have been submitted to the Federal Energy Regulatory Commission by the Forest Service to protect scenic values, the Preliminary Permits were allowed to expire without any effort by the proponent to extend them. It is unlikely these sites are currently feasible for development. Wild and Scenic River designation would prevent development of these sites.

The Northwest Power Planning Council has amended the *Columbia River Basin Fish and Wildlife Program* and the *Northwest Conservation and Electric Power Plan* to incorporate "Protected Area" designations to protect critical fish and wildlife habitat from new hydroelectric development. That portion of Segment 1 from the confluence of Canyon and Granite Creeks to Crater Creek is protected for wildlife only. That portion of Segment 1 downstream from Crater Creek and Segment 2 is protected for resident fish and wildlife.

TRANSPORTATION, FACILITIES, AND OTHER DEVELOPMENTS

Road access is provided by State Highway 20. The highway parallels, within 1/4 mile, the south side of both river segments.

Trail access along both river segments is provided by Trails 736 and the East Bank Trail. The East Bank Trail crosses Segment 2 near Panther Creek. These trails are closed to motorized vehicles.

East Bank Trailhead is located in Segment 2 near Panther Creek.

RECREATION ACTIVITIES

Roaded Natural recreation opportunities are provided along both river segments.

An estimate of recreation use along Segment 1 is displayed in Table G-44.

TABLE G - 44: Ruby Creek Recreation Activities and Estimated Recreation Visitor Days

Activity	1987	2000
Viewing Scenery	3,000	3,400
Hiking	2,000	2,200
Horseback Riding	200	300
Fishing	200	300
Camping: Dispersed	800	900
Picnicking	300	400
Hunting	400	500
Total	6,900	8,000

Both river segments received an overall recreation rating of above average in the *Pacific Northwest Rivers Study*. The overall rating was based on whitewater boating receiving a rating of high and whitewater kayaking receiving a rating of above average.

WILDLIFE AND FISHERIES

Both river segments contain old-growth vegetation, which provides important habitat for spotted owls (proposed to be listed as Threatened).

Both river segments provide important summer range and fawning habitat for mule deer.

The grizzly bear is a Threatened wildlife species. Both river segments are part of an evaluation to determine status of the grizzly bear population. The evaluation will also determine if suitable habitat is present to support a grizzly bear population.

The gray wolf is an Endangered wildlife species. Gray wolf sightings have been reported in the vicinity, but no verified sightings have been recorded.

Both river segments provide important spawning habitat for bull trout, rainbow and cutthroat trout, the major resident fish species for Ross Lake.

STREAMFLOW

There are no major structures present which affect stream flow.

Average peak flow where Ruby Creek enters Ross Lake during May and June is 3000 cubic feet per second and average low flow during September to February is 60 cubic feet per second.

GEOLOGY

Both river segments are underlain by Pre-Jurassic metamorphic rocks. Bedrock along Segment 2 downstream from Panther Creek is altered and mineralized phyllite and Cretaceous arkose sandstone and argillite.

BOTANY

No Threatened and Endangered plant species listed by the U.S. Fish and Wildlife Service (1988) have been identified. No plants on the Regional Forester's Sensitive Plant List (1988) have been identified in the vicinity of the proposed river corridor. A complete Sensitive plant survey has not been completed. Consequently, Sensitive plant species could occur.

CULTURAL RESOURCES

No cultural resources have been inventoried along Segment 1. Inventoried cultural resources along Segment 2 include several abandoned exploratory mining sites. No known evaluation has been completed on these sites to determine significance for inclusion on the National Register of Historic Places.

It is unknown if a Cultural Resource Value was assigned to either river segment in the *Pacific Northwest Rivers Study*.

TIMBER

There is no land suitable for timber production along Segment 1. Segment 2 is in the Ross Lake National Recreation Area and timber harvest is not allowed. Table G-45 displays timber volume and yield information.

TABLE G - 45: Ruby Creek Timber Volume and Estimated Yields.

Total Timber Volume	Estimated Maximum Timber Yields With Legal Requirements	Forest Preferred Alternative	Designated as Wild and Scenic River as Classified
0 MMBF	0 MMBF	0 MMBF	0 MMBF

LIVESTOCK GRAZING

There is no commercial livestock grazing along either river segment. A limited amount of recreational pack and stock grazing occurs.

SOCIO-ECONOMIC

There are no established communities in close proximity to Ruby. The nearest community is Newhelem, which is located approximately 15 miles west of Ruby Creek.

Petroleum refining, agriculture, forest products related industry, food processing and retail trade are the major contributors to the economy of Whatcom County. Most of this activity is centered in the west portion of the county. Recreation and tourism is becoming increasingly important to those communities in the east portion of the county because of their proximity to the North Cascades National Park Complex and the Mount Baker-Snoqualmie National Forest.

Wild and Scenic River designation would provide only slight economic benefits to Whatcom County because of the distance of Ruby Creek from communities.

CURRENT ADMINISTRATION

Segment 1 is managed by the Okanogan National Forest under direction contained in the *Winthrop Ranger District Multiple Use Plan*. Segment 1 is within the North Cascades Scenic Highway and is managed to maintain "existing scenic values" as per Public Law 98-339.

Segment 2 is managed by the North Cascades National Park under direction contained in the *General Management Plan for North Cascades National Park and Ross Lake and Lake Chelan National Recreation Areas*. Under this plan, Segment 2 is managed as part of the Special Use Zone. Segment 2 will continue to be managed primarily for scenic and recreation values. The potential of Segment 2 for existing hydroelectric power generation development is also recognized.

FUNDING NEEDS IF CLASSIFIED AS A WILD AND SCENIC RIVER

Expected funding requirements for administration of Segment 1 for the next five years are displayed in Table G-46.

TABLE G - 46: Ruby Creek Estimated Funding Needs

Activity	Expenses Expected Independent of Designation	Additional Expenses Expected with Designation
General Administration	\$2,000	\$ 2,000
Costs of Implementation	0	2,000
Development of Management Plan	0	5,000
Development Costs	0	0
Operation and Maintenance Costs	1,000	1,000
Total - First Five Years	\$3,000	\$10,000

No additional funding is required for administration of Segment 2 over the next five years

General administration and operation and maintenance costs for Segment 1 are estimated to continue at \$2,000 annually.

FINAL EIS ALTERNATIVES

Table G-47 displays how the final EIS alternatives treat Segments 1 and 2 regarding Wild and Scenic River designation:

TABLE G - 47: Ruby Creek Recommended Designation and Allocation by Alternative.

Segment	Alternatives	Recommended Designation	Allocation
1	M (Preferred), NC, A, B, G (Departure)	2.3 miles further study	A high quality roaded scenic setting with a moderate expansion of recreation facilities and opportunities.
	C, E, I, J, L	2.3 miles further study	A high quality roaded scenic setting with no expansion of existing recreation facilities and opportunities
	D	2.3 miles further study	Roaded recreation with high visual and riparian habitat protection and reduced timber harvest.
	K	2.3 miles Unsuitable (Alternative proponents want no river designation)	A high quality roaded scenic setting with a moderate expansion of recreation facilities and opportunities.
2	M (Preferred), NC, A, B, C, D, E, G (Departure), I, J, L	1.8 miles further study	Managed as part of Special Use Zone under General Management Plan for Ross Lake National Recreation Area.
	K	1.8 miles Unsuitable (Alternative proponents want no river designations)	Managed as part of Special Use Zone under General Management Plan for Ross Lake National Recreation Area