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INDIVIDUAL ROADLESS AREA DESCRIPTION

ROADLESS AREA NAME: Kadin (225)

ACRES (NFS): 2,022

BIOGEOGRAPHIC PROVINCE: Etolin Island and Vicinity

ECOLOGICAL SECTION: Inside Passage Fjordlands

2003 WILDERNESS ATTRIBUTE RATING: 20

I. Overview and Description

(1) **Location and Access:** This roadless area consists of two small islands, Kadin Island and Greys Island, located northwest of Wrangell Island. Wrangell, served by the Alaska Marine Highway and regular air service, is approximately 5 air miles southeast of the area. Sumner Strait, Stikine Strait, Eastern Passage, and the Stikine River all converge in this area. At low tides, Kadin Island is nearly surrounded by tideflats formed by the sediments of the Stikine River. These tideflats also extend to the east side of Greys Island, which is located further west. Access is by way of boat or floatplane. There are no sites suitable for landing wheeled aircraft.

(2) **History:** Both islands were claimed by the Stikine Tlingit and evidence of their use is indicated by the presence of petroglyphs on Kadin Island. Kadin and Greys Islands were named for an Aleut member of a Russian surveying party and a Russian ship used to transport land surveyors, respectively. The waters west of these islands were evidently used as an anchorage by the Russians and the islands were likely visited by early fur traders traveling between the Stikine River and Fort Wrangell. The only site currently recorded in the area is the remains of a fox farm begun on Greys Island in 1923. Kadin is known locally as High Island, in reference to its height relative to nearby islands.

(3) **Geography and Topography:** Kadin Island rises fairly steeply and uniformly to a height just above 1,000 feet. Greys Island, which rises fairly gently to a height just above 400 feet, is slightly steeper on the northern side than the southern side. Both islands are heavily influenced by their location at the mouth of the Stikine River. High winds moving down the Stikine River canyon pick up silt from the unvegetated glacial river floodplain and deposit it as loess on islands at the river's mouth, including Kadin and Greys Islands. Both islands are completely covered by forest and contain a combined 10 miles of shoreline on saltwater. There are no significant streams on the islands. The small drainages that do exist are steep and short to saltwater. There are no ice and snow, alpine or rock features mapped in the area.

(4) **Ecosystem:**

(a) **Classification:** Biogeographic Province. The area is in the Etolin Island and Vicinity Biogeographic Province. This province is generally subject to continental influence from the mainland and the Stikine River. Glacial flour is present in the marine environment in this area nearly year round. All forest plant associations except those occurring only on outer coast areas are present.

Ecological Section/Subsection. The Kadin Roadless Area is contained entirely within the Inside Passage Fjordlands Ecological Section (M247E), Stikine River Delta Ecological Subsection (see table below). Silt-laden runoff, entering the Stikine River from the adjacent mountains, has produced an extensive delta in Frederick Sound and Sumner Strait. Much delta silt has blown to nearby islands and valleys forming a productive, well-drained soil that supports stands of hemlock and Sitka spruce. Large sedge meadows are found along the intertidal delta. The delta is an important spring feeding area for bald eagles (> 1,000) and migrating shorebirds (Nowacki et al., 2001).

Ecological Section	Ecological Subsection	Percent of Roadless Area
Inside Passage Fjordlands	Stikine River Delta	100%

(b) Soils: Soils are unique because of the influence of the Stikine River. High winds moving down the Stikine River canyon pick up fine sand and silt from the unvegetated glacial river floodplain and deposit it as loess on islands at the river’s mouth. The continuing rain of loess onto the upper soil layers provides a supply of unleached, nutrient-rich soil material to the forests of the islands. The loess deposition overcomes the process of acid bog formation (paludification) that overtakes most stable sites of moderate topographic relief in the Tongass National Forest. Few areas in the world have a combination of high rainfall and recent loess deposition, so the properties of the soils here are of special interest. Thick loess soils also have a high water storage capacity, so the hydrology of the island is of interest too. The soils are erosive due to a lack of coarse fragments in the loess.

(c) Vegetation: Both islands are heavily vegetated with spruce/hemlock and spruce/devil’s club forest types.

There are approximately 2,005 acres mapped as forest land, of which 1,997 acres or approximately 100 percent are mapped as productive old-growth forest. Of the productive old growth, approximately 1,614 acres or 81 percent are mapped as high-volume, old-growth forest. The productive old growth includes about 207 acres of high-volume, coarse-canopy old growth. There is no mapped second-growth forest where timber harvest has occurred in the past.

(d) Fish Resources: There are no fish-bearing streams on either island.

(e) Wildlife Resources: A small population of Sitka black-tailed deer and black bear range over the roadless area. The concentration of bald eagle nests on Kadin Island is second only to parts of Admiralty Island.

(5) Management Direction and Current Uses: This area is allocated to two Land Use Designations (LUDs) under the 1997 Tongass Land and Resource Management Plan. These two LUDs are Research Natural Area and Semi-remote Recreation.

LUD	Acres
Research Natural Area	1,630
Semi-remote Recreation	392

All of the roadless area was allocated to non-development LUDs (Research Natural Area, Semi-remote Recreation). Kadin Island, which comprises 81 percent of the roadless area, was entirely allocated to the Research Natural Area LUD. The Kadin Island Research Natural Area has loess soils, unusual for the area. The remaining 19 percent of the roadless are on Greys Island was allocated to the Semi-remote Recreation LUD.

Present recreation levels are low except during the fishing season when the area around Greys Island is heavily used. Recreationists accessing the Stikine-LeConte Wilderness via the Stikine River pass by this area. There is some subsistence use in the area. There is a small weather station on the north shore of Kadin Island.

(6) Appearance (Apparent Naturalness): Overall, the roadless area has high scenic quality with a mostly natural appearing landscape. The area is visible from Sumner Strait, Stikine Strait, and Eastern Passage, all of which converge in the general area. The area is also visible to recreationists accessing the Stikine-LeConte Wilderness via the Stikine River and visitors staying at the Public Recreation Cabins on Gut, Little Dry, Sergief and Farm Islands to the northeast, and the Garnet Ledge Cabin on the mainland. The area is also visible from the Mitkof Highway, which follows the south shoreline of Mitkof Island, and the city of Wrangell, each located approximately 5 miles from the islands that comprise the roadless area.

(7) Surroundings (External Influences): The two islands that comprise this roadless area are located at the mouth of the Stikine River. Several nearby islands, especially Liesnoi and Sokolof, have been impacted by

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management activities, mainly timber harvest and road building. These management activities and their effects are visible from this roadless area. Areas of past timber harvest are also visible to the north on Mitkof Island and to the south on Woronkofski and Wrangell Islands. The town of Wrangell can also be seen. The sights and sounds of any future harvesting activities in these nearby areas may also affect the Kadin Roadless Area. Boats frequent the nearby saltwater because the Stikine River is a major destination. The proximity to Wrangell and Petersburg also contributes many pleasure craft to the vicinity. Boats may sometimes be visible from parts of the roadless area. These islands are located on the final approach to the Wrangell airport and low-flying aircraft may temporarily distract visitors in the area at times.

(8) Attractions and Features of Special Interest: The unique soil associations on these islands result in the occurrence of a unique form of high-productivity Sitka spruce/devil's club forest type. The fringe of Kadin Island and part of the fringe of Greys Island are subject to tidal influence and changes in water level due to shifts of the river. There is a high concentration of eagle nests on Kadin Island. The area contains two inventoried recreation places, which cover 1,785 acres, or 88 percent of the roadless area.

(9) Differences between the 1989 and 2003 Roadless Area Boundary: This roadless area only included Kadin Island in 1989. Greys Island, which was identified as a separate roadless area (# 226) in 1989, is now included in the 2003 version of the Kadin Roadless Area.

II. Capability for Management as Wilderness

(1) Natural Integrity and Apparent Naturalness: The natural integrity of this unmodified area is high. The overwhelming natural appearance of the area suggests that it is suitable for wilderness classification if it were an addition to the nearby Stikine-Leconte Wilderness. There is a small weather station on the north shore of Kadin Island.

(2) Opportunity for Solitude and Serenity, Self-reliance, Adventure, Challenging Experiences, and Primitive Recreation: There is a low opportunity for solitude and primitive recreation within the area. Low-flying aircraft and frequent marine traffic pass nearby and may be observed by people in this roadless area. Present recreation use levels are low except during the salmon fishing season when the area around Greys Island is heavily used. Generally, a person camped or traveling inland is unlikely to encounter others. Timber harvest or other activities, which occur periodically in the nearby areas, may significantly affect the opportunity for solitude when they are occurring.

Travel on Kadin Island would require moderate backcountry skills and travel on Greys would require low to moderate skills because of its flatter topography. The presence of black bears presents a degree of challenge and a need for caution.

There are no developed recreation opportunities in the area. Visitors do not generally feel remote from the sights and sounds of human activity around the island. The area is accessible by boat from the community of Petersburg in about 2 hours, and from Wrangell in less than 1 hour. During the salmon fishing season, the area adjacent to Greys Island is a very popular fishing location.

The area provides primarily semi-primitive recreation opportunities. The table below lists the acreage and percent of the various Recreation Opportunity Spectrum (ROS) classes that have been inventoried in the roadless area.

ROS Class	Acres	Percent of Total ROS
Semi-Primitive Motorized (SPM)	2,002	100%

The area contains two inventoried recreation places, which cover 1,785 acres, or 88 percent of the roadless area.

ROS Class	# of Rec. Places	Total Acres
SPM	2	1,785

(3) Wilderness Attribute Rating System: In 1977, the Forest Service, along with public interest groups, developed the Wilderness Attribute Rating System (WARS), which was used to inventory the wilderness

characteristics of roadless areas during the second Roadless Area Review and Evaluation process (referred to as RARE II). The purpose of WARS was to provide a measure of the area's wilderness quality, based on the key attributes of wilderness as defined in the Wilderness Act. It is largely based on the attributes described above in items 1 and 2 of this section (natural integrity, apparent naturalness, outstanding opportunity for solitude, and primitive recreation opportunities).

The inventoried roadless areas of the Tongass National Forest were rated according to this system in 1989 for the Analysis of the Management Situation developed in support of the Forest Plan Revision. At that time, the Kadin Roadless Area was given a rating of 20 out of 28 possible points. The Greys Roadless Area was given a rating of 22 out of 28 possible points. The rating was re-evaluated for this updated version of the Analysis of the Management Situation. Based on this re-evaluation, the Kadin Roadless Area (which now includes Greys Island) was given a rating of 20.

(4) Ecologic and Geologic Values: Both islands are forested. The unique soil associations found on both islands, the hydrology, and the occurrence of a unique form of high-productivity Sitka spruce/devil's club forest type are special values of this area.

(a) Fish Resources: There are no fish-bearing streams on either island.

(b) Wildlife Resources: A small population of Sitka black-tailed deer and black bear range over the roadless area. The concentration of bald eagle nests on Kadin Island is second only to parts of Admiralty Island.

(c) Threatened, Endangered, and Sensitive Species: The only federally listed threatened or endangered species likely to occur within or adjacent to the roadless area are the humpback whale (endangered) and the Steller sea lion (threatened). Both of these species are found in adjacent marine waters. Three Forest Service Region 10 Sensitive Species are suspected or known to occur within the area: the trumpeter swan, Peale's peregrine falcon, and the Queen Charlotte goshawk. Trumpeter swans nest in the lowlands on small lakes and along large rivers and winter in ice-free areas throughout the Tongass. Peale's peregrine falcons nest on cliff faces and islands and feed primarily on seabirds. Inhabitants of late seral forests, Queen Charlotte goshawks are closely associated with productive old growth. In addition, eight sensitive plant species are known or suspected to occur in the Wrangell Ranger District.

(d) Karst, Cave, and Other Geologic Resources: There are no known karst or cave resources in this roadless area. There are no glaciers or unique geologic features, except for unique soil associations. See below (Scientific and Educational Values) for a description of the unique soil associations

(5) Scientific and Educational Values: The unique soil associations found on both islands, the hydrology, and the occurrence of a unique form of high-productivity Sitka spruce/devil's club forest type are special features of this area. The fringe of Kadin Island and part of the fringe of Greys Island are subject to tidal influence and changes in water level due to shifts of the river, and may also be of scientific interest. The island forms part of the gateway for the majority of visitors traveling up the Stikine River. The area is generally accessible to school-age children because it can be reached by boat from the community of Petersburg in about 2 hours, and from Wrangell in less than 1 hour.

Kadin Island was inventoried as a potential Research Natural Area (RNA) by the RNA Task Force because it best represents the influence of the Stikine River on soils and plants associations. As a result, it was assigned the Research Natural Area LUD by the current Forest Plan.

(6) Scenic Values: Overall, the roadless area has high scenic quality with a mostly natural appearing landscape. Kadin Island, which rises fairly steeply and uniformly to a height just above 1,000 feet, is known locally as High Island in reference to its height relative to nearby islands. Greys Island rises fairly gently to a height just above 400 feet.

The area is visible from Sumner Strait, Stikine Strait, and Eastern Passage, all of which converge in the general area. The area is also visible to recreationists accessing the Stikine-LeConte Wilderness via the Stikine River, and by

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visitors staying at the Forest Service cabins on Gut, Little Dry, Sergief, and Farm Islands to the northeast, and the Garnet Ledge Cabin on the mainland. The area is also visible from the Mitkof Highway, which follows the south shoreline of Mitkof Island, and the city of Wrangell, each located approximately 5 miles south of the islands.

Visual Priority Routes and Use Areas identified by the Forest Plan that are within or adjacent to the area include: Stikine Strait (Alaska Marine Highway and Tour Ship Routes); Summer Strait (Tour Ship Route); Dry Strait (Other Marine Travel Route); Mitkof State Highway (Public Use Road); and the city of Wrangell (Community).

The entire area was inventoried Variety Class B (possessing landscape diversity that is common for the character type). Kadin Island (80 percent of the area) has an Existing Visual Condition (EVC) Type I, where the landscape appears to be untouched by human activity. Approximately 19 percent of the area, including Greys Island, has an EVC Type V, where changes to the landscape are obvious to the average visitor and appear to be major disturbances.

(7) Social, Cultural, and Historical Values: Both islands were claimed by the Stikine Tlingit and evidence of their use is indicated by the presence of petroglyphs on Kadin Island. The waters west of these islands were evidently used as an anchorage by the Russians and the islands were likely visited by early fur traders traveling between the Stikine River and Fort Wrangell. The only site currently recorded in the area is the remains of a fox farm begun on Greys Island in 1923. The area is accessible by boat from the community of Petersburg in about 2 hours, and from Wrangell in less than 1 hour.

Present recreation use levels are low except during the salmon fishing season when the area around Greys Island is heavily used. Subsistence use occurs in the area. This area accounted for more than 15 percent of Wrangell's annual average total deer harvest during 1987 to 1994. VCU 455, which encompasses this roadless area, was not included among the VCUs listed as highest community use value but it was listed among the VCUs with the highest sensitivity to disturbance of subsistence areas (ADF&G, 1998).

(8) Manageability as Wilderness and Boundary Conditions/Changes: The area is bounded on all sides by saltwater. The islands do not, however, lend themselves well to being managed as a wilderness by themselves due to their small size, the amount of marine traffic in the area, and the activities in nearby areas. However, this area is adjacent to the existing Stikine-LeConte Wilderness and recreationists accessing the wilderness via the Stikine River generally pass the Kadin Roadless Area. Thus its addition as wilderness, would extend the existing Stikine-LeConte Wilderness. Continued management of these islands in an unroaded condition is likely because of their small size, steep topography, and shorelines which do not provide a practical location for a log transfer facility. Maintenance of the area in an unroaded condition would enhance Kadin Island's status as a potential Research Natural Area.

III. Availability for Management as Wilderness (including effects of wilderness designation on adjacent areas)

(1) Recreation, Including Tourism Potential: There is some potential for outfitter and guide permits, or for developed trails, cabins, or shelters.

(2) Subsistence Uses: The existing patterns of subsistence activities in the area would not be affected by wilderness designation or management in an unroaded condition.

(3) Fish Resources: No fish habitat enhancement projects are identified in the Tongass Land Management Plan (USDA Forest Service, 1997).

(4) Wildlife Resources: As identified in the Tongass Land Management Plan (USDA Forest Service, 1997), wildlife enhancement projects are not planned for this area.

(5) Timber Resources: There are approximately 1,997 acres mapped as productive old growth in the roadless area. There is no second growth due to timber harvest. Of these acres, 324 acres are categorized as tentatively suitable for timber production. Based on the Forest Plan LUDs in this area, none of the acres are classified as suitable for timber production.

- (6) **Fire, Insects, and Disease:** The area has no significant fire history. Endemic tree diseases common to Southeast Alaska are present. There are no known epidemic disease occurrences.
- (7) **Minerals:** The area has low minerals potential.
- (8) **Transportation and Utilities:** There are no known transportation or utility plans for this area. There is, however, a small weather station on the north shore of Kadin Island.
- (9) **Water Availability and Use:** There are no existing or planned hydroelectric or domestic water projects in the area.
- (10) **Areas of Scientific Interest:** Kadin Island was inventoried as a potential Research Natural Area (RNA) by the RNA Task Force because it best represents the influence of the Stikine River on soils and plants associations. As a result, it was assigned the Research Natural Area LUD by the current Forest Plan.

The unique soil associations found on both islands, the hydrology, and the occurrence of a unique form of high-productivity Sitka spruce/devil's club forest type are special features of this area. The fringe of Kadin Island and part of the fringe of Greys Island are subject to tidal influence and changes in water level due to shifts of the river, and may also be of scientific interest. The island forms part of the gateway for the majority of visitors traveling up the Stikine River. Kadin Island also has a high concentration of eagle nest trees.

- (11) **Land Use Authorizations:** There are no special uses in the area.
- (12) **Land Status:** This roadless area is entirely National Forest System land.

IV. Wilderness Evaluation (Need for Wilderness)

(1) **Public and Congressional Interest:**

- (a) **Interest Expressed by Local Users and Residents:** Most use of the area is marine-oriented recreation.
- (b) **Congressional Interest:** In 1989, U.S. House of Representatives Bill HR 987 proposed to designate 23 areas as wilderness on the Tongass National Forest. This bill did not include the Kadin or Greys Roadless Areas. In 2001, HR 2908 did not propose the area for wilderness, but did propose that Greys Island be classified as a Congressionally Designated LUD II area and managed in an unroaded condition. This is likely the case for Kadin Island also. However, a text label covers this island on the map of the proposal.
- (c) **Public Input During Forest Plan Revision and Appeals:** There were no public comments or appeals that directly pertained to this area.
- (d) **Public Input During Roadless Area Conservation Rule and Road Management Policy Review:** This area was not specifically identified in the comments received on the Roadless Area Conservation Rule or Road Management Policy Review. However, some commenters wanted all unroaded lands in the Tongass National Forest to be protected from development.
- (e) **Public Input Expressed for Project-level EISs and Other Input:** No project-level comments on this roadless area have been identified.
- (f) **Public Input Expressed During Supplemental EIS Process:** The U.S. Department of the Interior identified this roadless area as having important fish and wildlife habitat and populations; although not a top priority for protection, it ranked in their top third among all roadless areas. They recommend additional conservation measures be integrated into the area's management to ensure the long-term protection of this island's bald eagle population.

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The city of Petersburg said they were opposed to designation of this area as wilderness because of the potential long-term economic impacts on the city.

The Alaska Rainforest Campaign (a coalition of national and Alaska conservation groups) recommended Roadless Area 225 for permanent protection as LUD II.

(2) Nearby Roadless and Wilderness Areas and Uses: The Stikine-LeConte Wilderness lies just to the east. Recreational use is moderate in the immediate area except during the salmon fishing season when the area around Greys Island is heavily used. The surrounding areas include roadless areas. In most cases, the shorelines of these areas have been developed, forming a buffer between the roadless area and the saltwater. One exception to this is the Madan Roadless Area located immediately south of the Stikine-LeConte Wilderness.

(3) Distance From Population Centers (Accessibility): Approximate distances from population centers are as follows:

Community	Air Miles	Water Miles
Ketchikan (Pop. 14,070)	80	105
Wrangell (Pop. 2,308)	5	5
Petersburg (Pop. 3,224)	25	30
Juneau (Pop. 30,711)	145	155

Wrangell is the nearest stop on the Alaska Marine Highway.

(4) Relative Contribution to the National Wilderness Reservation System: This Kadin Roadless Area consists of two small islands, Kadin Island and Greys Island, located northwest of Wrangell Island. Sumner Strait, Stikine Strait, Eastern Passage, and the Stikine River all converge in this area. Kadin Island rises fairly steeply and uniformly to a height just above 1,000 feet. Greys Island, which rises fairly gently to a height just above 400 feet, is slightly steeper on the northern side than the southern side. Both islands are heavily influenced by their location at the mouth of the Stikine River. High winds moving down the Stikine River canyon pick up fine sand and silt from the unvegetated glacial river floodplain and deposit it as loess on islands at the river's mouth, including Kadin and Greys Islands. There are no significant streams on the islands.

The islands are mostly unmodified. The natural integrity and apparent naturalness is considered to be outstanding. The opportunity for solitude and primitive recreation is low.

None of the roadless area is rated as distinctive for the character type from a visual perspective.

The unique soil associations found on both islands, the hydrology, and the occurrence of a unique form of high-productivity Sitka spruce/devil's club forest type are special values of this area. The islands have both cultural and historic values.

The roadless area includes about 1,614 acres of high-volume, old-growth forest. Of these acres, 207 are mapped as high-volume, coarse-canopy old growth.

The Kadin Roadless Area is classified as being in the Etolin Island and Vicinity Biogeographic Province and makes up less than 1 percent of the province. It is one of 14 inventoried roadless areas found within the province that collectively make up about 54 percent of the province. The South Etolin Wilderness is located in this province and makes up about 16 percent of the province.

The Kadin Roadless Area lies completely within the Inside Passage Fjordlands Ecological Section and represents 0.1 percent of the ecological section. Approximately 20 percent of the Inside Passage Fjordlands Ecological Section is in existing wilderness, 2 percent is in existing LUD II, and 30 percent is protected by other existing non-development LUDs.

The Kadin Roadless Area lies completely within the Stikine River Delta Ecological Subsection and represents 5 percent of the ecological subsection. Approximately 77 percent of the Stikine River Delta Ecological Subsection is in existing wilderness and 5 percent is protected by other existing non-development LUDs.

The Kadin Roadless Area was rated 20 out of a possible 28 points under the Wilderness Attribute Rating System (WARS). As such, its WARS rating is ranked 53rd from the highest (along with 16 other roadless areas) among the 109 Tongass inventoried roadless areas.

There is considerable local and national support for management of the area in an unroaded condition, but very little support for designating the area as wilderness. Designation would create a very small wilderness that is mostly managed as a Research Natural Area, and could be managed with the nearby Stikine-LeConte Wilderness. Overall, the factors identified here indicate that the relative contribution of this area to the National Wilderness Preservation System would be moderate to low.

V. Environmental Consequences

The Kadin Roadless Area would be managed under the existing Forest Plan if Alternative 1, 2, 3, 4, 5, or 7 is implemented. All of the roadless area would be managed under non-development LUDs. The research, recreation, and special use programs would continue. The values associated with the natural settings of the roadless area would be protected by the Forest Plan.

Under Alternative 6, the entire area would be converted to Recommended LUD II. Because the area is already allocated to non-development LUDs, this conversion would have little effect on existing or future uses. The ongoing research, recreation, and special use programs would continue similar to current conditions. The values associated with the natural settings of the roadless area would be provided long-term protection if designated LUD II.

Under Alternative 8, the entire roadless area would be converted to Recommended Wilderness. This would not affect timber sale projects because the roadless area is currently allocated to non-development LUDs. The ongoing research, recreation, and special uses programs may be restricted. The values associated with the natural settings of the roadless area would be provided long-term protection if designated wilderness.

Land Use Designation Allocations and Suitable Timber Lands by Alternative for Roadless Area 225 (in acres)								
Land Use Designation	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7	Alt 8
Recommended Wilderness								2,022
Wilderness								
Recommended Wilderness Nat. Mon.								
Wilderness National Monument								
Non-wilderness National Monument								
Research Natural Area	1,630	1,630	1,630	1,630	1,630		1,630	
Special Interest Area								
Remote Recreation								
Enacted Municipal Watershed								
Old-growth Habitat								
Semi-remote Recreation	392	392	392	392	392		392	
Recommended LUD II						2,022		
LUD II								
Wild, Scenic, Recreational River								
Experimental Forest								
Scenic Viewshed								
Modified Landscape								
Timber Production								
TOTAL	2,022	2,022	2,022	2,022	2,022	2,022	2,022	2,022
Suitable Timber Lands	0	0	0	0	0	0	0	0