

Appendix C

INDIVIDUAL ROADLESS AREA DESCRIPTION

ROADLESS AREA NAME: Calder (516)

ACRES (NFS): 12,218

BIOGEOGRAPHIC PROVINCE: North Central Prince of Wales Island

ECOLOGICAL SECTION: Kuiu-Prince of Wales Fjordlands

2003 WILDERNESS ATTRIBUTE RATING: 22

I. Overview and Description

(1) **Location and Access:** The Calder Roadless Area is located on the northwest end of Prince of Wales Island, approximately 50 air miles northwest of Hollis, currently the nearest stop on the Alaska Marine Highway. Funding has been made available for a second ferry that will provide service between Coffman Cove and Wrangell in 2003, providing closer access and potentially more visitors to this roadless area. The roadless area is bounded on the north and east by areas developed for timber management. These roaded areas separate the Calder Roadless Area from the El Capitan Roadless Area (517). Calder Bay lies to the southeast. Sumner Strait lies to the west and Shakan Bay and Shakan Strait lie to the south. Access is by the Prince of Wales Island road system or by boat and floatplane. Access to the interior is by foot or helicopter. There are no developed trails or places suitable for landing wheeled aircraft.

(2) **History:** The coastal area was used since prehistoric times by Native people. The islands in Shakan Bay were homesites for aboriginal people, and historically used as a gathering area for the fishing fleet which continues into present time. Approximately 82 percent of this roadless area was designated Land Use Designation (LUD) II by Congress in the 1990 Tongass Timber Reform Act.

(3) **Geography and Topography:** The area includes alpine and subalpine zones, the rugged terrain of Mount Calder, extensive karst topography, a long, rocky coastal shoreline along Prince of Wales Island, and lower relief on the smaller islands just to the south. Mount Calder is the highest point, with an elevation of 3,400 feet. Numerous small streams drain to Shakan Bay. There are 4,398 acres of islands in the roadless area, including the Barrier Islands in Sumner Strait and Hamilton, Divide, and Middle Islands in Shakan Bay, as well as numerous small islands and rocks along the coast. There are no glaciers or alpine features mapped in the roadless area. There are approximately 68 miles of saltwater shoreline and 350 acres of rock.

(4) **Ecosystem:**

(a) **Classification:** Biogeographic Province. The area is in the North Central Prince of Wales Island Biogeographic Province. This province is characterized by rolling, gentle landforms but with localized rugged topography. Limestone is common and overall forest productivity is high. Karst topography and caves are present. Precipitation is relatively low due to interception by lands to the south and southwest.

Ecological Section/Subsection. The Calder Roadless Area is contained entirely within the Kuiu-Prince of Wales Fjordlands Ecological Section (247F). This area is represented by two ecological subsections (see table below). The North Prince of Wales Complex Ecological Subsection (63% of roadless area) is characterized by rolling hills and wide U-shaped valleys underlain by non-carbonate conglomerate and granodioritic rocks. Productive hemlock and hemlock-spruce forests comprise about two thirds of the landscape, and the remainder is low productive mixed-conifer and lodgepole pine forested wetlands. The North Prince of Wales-Kuiu Carbonates Ecological Subsection (37% of roadless area) is characterized by low-elevation hills and mountain slopes underlain by limestone and marble karstlands. Hemlock and hemlock-spruce forests are found on karst soils, which can be highly productive (Nowacki et al., 2001).

Ecological Section	Ecological Subsection	Percent of Roadless Area
Kuiu-Prince of Wales Fjordlands	North Prince of Wales Complex	63%
	North Prince of Wales-Kuiu Carbonates	37%

(b) Soils: These highly organic, low clay content soils are generally formed over bedrock and are typically about 40 inches deep. Generally, steeper areas have better-drained soils and flat areas are poorly drained. Areas over 2,000 feet elevation are alpine.

(c) Vegetation: Vegetation is typical Southeast Alaska coastal temperate rain forest. The forest is primarily western hemlock and Sitka spruce with large components of cedar. Mount Calder-Virginia Mountain contains the only known coastal population of subalpine fir (USDA Forest Service, 1997; FEIS Appendix D, p 28). Less than 100 acres of muskeg are mapped for the area; however, due to their small size and association with forested sites, accurate acreage estimates are difficult.

There are approximately 11,559 acres mapped as forest land of which 8,983 acres or 78 percent are mapped as productive old-growth forest. Of the productive old growth, 6,083 acres (68 percent) are mapped as high-volume old-growth forest. The productive old growth includes about 1,403 acres of high-volume, coarse-canopy old growth. The area includes 629 acres of second growth, all resulting from older beach logging.

(d) Fish Resources: Calder Creek and several small, unnamed streams in the roadless area provide habitat for coho, pink, and chum salmon, as well as steelhead trout (ADF&G, 2000).

(e) Wildlife Resources: Sitka black-tailed deer, black bear, wolves, mink, and bald eagles are the best known species that inhabit the area. Moose inhabit Prince of Wales Island, but brown bear and mountain goats do not.

(5) Management Direction and Current Uses: This roadless area was allocated to five Land Use Designations (LUDs) under the 1997 Tongass Land and Resource Management Plan. These five LUDs are Timber Production, Modified Landscape, LUD II, Special Interest Area, and Semi-remote Recreation.

LUD	Acres
Timber Production	741
Modified Landscape	384
LUD II	10,278
Special Interest Area	791
Semi-remote Recreation	25

Approximately 9 percent of the roadless area was allocated to a development LUD, which allows timber harvest and the associated road construction (Timber Production, Modified Landscape). Approximately 6 percent of the roadless area was allocated to the Timber Production LUD. Near Calder Bay, approximately 3 percent of the roadless area was allocated to the Modified Landscape LUD.

Most of the roadless area, approximately 91 percent, was allocated to a non-development LUD (LUD II, Special Interest Area, Semi-remote Recreation). The majority of the roadless area, 84 percent, was allocated to the LUD II designation. This LUD created the Mount Calder/Mount Holbrook LUD II area, which is one of the 12 areas that were allocated to permanent LUD status under the Tongass Timber Reform Act of 1990. On Mount Calder, approximately 7 percent of the roadless area was allocated the Special Interest LUD in recognition of the extensive karst developed here. Less than 1 percent of the roadless area was allocated to the Semi-remote Recreation LUD, primarily located in small islands along the perimeter of the area.

A portion of the roadless area is part of the 42,763-acre Shakan Mineral Tract that contains molybdenum and has a gross value of \$2,837,000. Shakan Bay receives considerable use by the fishing fleet and by recreation boaters.

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Recreation use levels are not well documented but are likely low throughout most of the roadless area. Most recreation activities include hiking to Mount Calder and boating along the outer islands and coast of the roadless area. There are no developed recreation facilities. The roadless area receives some subsistence use, primarily in Shakan Bay. The VCUs in this area were not included among the highest value community use areas identified by the Alaska Department of Fish and Game (ADF&G) in their comments of the Tongass Land and Resource Management Plan EIS (1996). No outfitter/guide permits were issued for the roadless area in 2000. There is currently an application and special use permit request for an aquaculture facility in T65N, R77E, Sections 31 or 32.

(6) Appearance (Apparent Naturalness): This area is unmodified and in a natural condition, except for older beach-logged areas on the south coast and on the major islands. Trees have re-grown in these areas and harvest areas are no longer visually evident. Extensive timber related development in adjacent areas to the north and east influence the apparent naturalness along these boundaries. The topography within the roadless area varies greatly and the majority of views are confined to the immediate vicinity of the viewer or are limited by the ridgeline that separates the roadless area from the existing harvest. The most visible harvest is along the north boundary and is visible downslope from within the heart of the northern part of the roadless area in several places. Harvest units along the more extensive east boundary are mostly visible from the edge of the roadless area, which in most places, is the ridgeline.

(7) Surroundings (External Influences): The adjacent areas to the north and east have been extensively roaded and logged, affecting the east side of the Mount Calder ridge. There is a State parcel in the northwest of the roadless area around Hole-in-the-Wall. The State land is separated from the roadless area by roaded and harvested areas, except for a narrow strip along the beach. Disturbances such as traffic on forest roads are generally low.

(8) Attractions and Features of Special Interest: In addition to the scenic features, attractions include Mount Calder Special Interest Area with nationally significant karst formations; fishing and boating along the coast, outer islands, and associated uplands; the opportunity to see wildlife; the opportunity to study the geologic processes which formed the area; and the opportunity to enjoy the fishing and solitude of Shakan Bay. The area contains 10 inventoried recreation places, which cover 8,066 acres (65 percent) of the roadless area. There are no improved trails within the area.

(9) Differences between the 1989 and 2003 Roadless Area Boundary: Harvested, but unroaded, areas along the shore have been added to the roadless area. Trees have re-grown in these beach-logged areas and these harvest areas are no longer visually evident. Other changes resulted from more accurately mapping the roaded and harvested areas and the State selection of an area in the northwest of the original roadless area (and LUD II area). Several smaller areas have been excluded between the Draft and Final SEIS to improve the potential manageability of the roadless area as wilderness.

II. Capability for Management as Wilderness

(1) Natural Integrity and Apparent Naturalness: This area is unmodified and in a natural condition, except for older beach-logged areas on the south coast and on the major islands. Trees have re-grown in these areas and the harvest areas are no longer visually evident. The natural integrity and apparent naturalness of most of the roadless area is high to very high. The extensive development on the eastern and northern edges of this area, some of which includes the lower slopes of Mount Calder, influence the overall natural integrity of this area. They also potentially decrease its suitability for wilderness classification. However, most of the development on the east and northern edges of the roadless is viewed from the ridgeline on the edge of the roadless area.

(2) Opportunity for Solitude and Serenity, Self-reliance, Adventure, Challenging Experiences, and Primitive Recreation: There is high opportunity for solitude and very high opportunity for primitive recreation in the outer islands and areas away from the north and east boundaries where sights and sounds of ongoing management activities may be evident. Shakan Bay receives use by the fishing fleet and by recreational boaters and people camped along the shore may be disturbed by this traffic. Recreation use levels are not well documented but are likely low throughout most of the roadless area. A person camped within the area is unlikely to see others.

The dense vegetation, typical in southeast Alaska, combined with steep, rugged terrain around Mount Calder, and the presence of black bears, adds a degree of challenge to users of the area. As with all backcountry areas on the

Tongass, the opportunity for challenge and risk in this area is high. The climate, the rugged terrain, the isolation and distance from population centers with medical facilities, the barriers to communication, and the presence of large wild animals all contribute to the need for good preparation and knowledge of backcountry survival skills for anyone using this area. Hypothermia and bear encounters are just two examples of the many risks that must be considered before traveling in the backcountry of southeast Alaska.

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 Non-Motorized (SPNM)	6,245	51%
Semi-Primitive Motorized (SPM)	3,966	32%
Roaded Natural (RN)	537	4%
Roaded Modified (RM)	1,417	12%

The area contains 10 inventoried recreation places, which cover 8,066 acres (66 percent) of the roadless area.

ROS Class	# of Rec. Places*	Total Acres
SPNM	5	4,793
SPM	2	2,068
RN	1	537
RM	6	667

* Rec. Places may occur in more than one ROS Class; the sum of this column may exceed the total number of Rec. Places.

There are no developed recreation facilities in the roadless area.

(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).

In 1979, during the RARE II process, the Tongass National Forest applied WARS for the first time and rated each unroaded VCU on the Tongass. In 1989, the inventoried roadless areas (which generally include more than one VCU) were rated according to this system for the Analysis of the Management Situation (AMS) developed in support of the Forest Plan Revision. This original version of the AMS included both the individual VCU ratings done in 1979 and the composite rating that was done for each roadless area in 1989. The 1989 rating for the Calder Roadless Area Roadless Area was 22 out of 28 possible points. The 1989 rating was re-evaluated for this updated version of the AMS. Based on this re-evaluation, the area was also given a rating of 22.

(4) Ecologic and Geologic Values: Karst and cave formation in the limestone and marbles underlying this roadless area may be of national significance because of their development, complexity, the resources they contain, and limited expanse. They are primarily in the Mount Calder Special Interest Area.

(a) Fish Resources: The Tongass Fish and Wildlife Resource Assessment (ADF&G, 1998) did not list any VCUs as primary salmon or sportfish producers (ADF&G, 1998). Calder Creek, in addition to several small, unnamed fish-bearing streams in the area, provide habitat for coho, pink, and chum salmon, as well as steelhead trout (ADF&G, 2000).

(b) Wildlife Resources: Sitka black-tailed deer, black bear, wolves, mink, and bald eagles are the best known species that inhabit the area. Moose sign has been reported on Prince of Wales Island, but brown bear and mountain goats do not occur. The only large mammal species found on the Barrier Islands are deer and wolves (MacDonald and Cook, 1999).

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(c) Threatened, Endangered, and Sensitive Species: The only federally listed threatened and 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. Four Forest Service Region 10 Sensitive Species are suspected or known to occur within the area: the trumpeter swan, osprey, Peale's peregrine falcon, and the Queen Charlotte goshawk. Trumpeter swans nest in the lowlands on small lakes and along major rivers and winter in ice-free areas throughout the Tongass. Present from April through September, ospreys are rare in southeast Alaska where they reach the northern extent of their nesting range. Feeding almost exclusively on fish, ospreys typically nest in large snags near lakes or the coast where fish are abundant. 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, nine sensitive plant species are known or suspected to occur in the Thorne Bay Ranger District.

(d) Karst, Cave, and Other Geologic Resources: There is a fairly large band of mostly high vulnerability karst in this roadless area, extending from Protection Head in the north to Mount Calder and Calder Bay in the south. This band continues on the northeast tip of Middle Island and the northeast peninsula of Hamilton Island. Karst and cave formation in the limestone and marbles underlying this roadless area may be of national significance because of their development, complexity, the resources they contain, and limited expanse. This represents 3,591 acres (29 percent) of the roadless area. About 60 percent of the karst is mapped as high vulnerability karst. There are no glaciers or other unique geologic features in this area.

(5) Scientific and Educational Values: Mount Calder Special Interest Area and the associated ridges within this roadless area are mainly underlain by limestone and marble. Karst systems have developed into the limestone and marble. Though a few caves have been inventoried in this area exploration has been limited. Extensive karst systems are known from the intensity and numbers of features found here. Paleontological discoveries are likely as well as archaeological finds reported in oral traditions. Because of the thickness of the limestone and marble in this area, vertical pits and cave systems of record depth are possible. Extensive areas of limestone and marble are exposed from sea level to the ridge tops in these glaciated valleys. Karst development is extensive. Many caves have been inventoried here and significant paleontological finds have come from a few. Subalpine fir can be found on the ridge crests in protected alcoves. The karst systems found here extend from the alpine to the sea providing increased productivity for the plant, animal, and aquatic communities found on the karst lands. The many offshore islands and Mount Calder are also of interest.

(6) Scenic Values: This roadless area is part of the Kupreanof Lowland character type, which is characterized by predominantly low rolling relief, with elevations seldom greater than 1,500 feet. Numerous island groups and intricate waterways are also common in this character type. This roadless area is dominated by Mount Calder, which exhibits greater relief and more distinctive rockforms than is common for the specific character type.

A natural landscape dominates the view of this roadless area from the surrounding waterways and important use areas identified in the Forest Plan. Also, once in the roadless area, the landscape remains scenic and unmodified. Visual Priority Routes and Use Areas identified by the Forest Plan, that are within or adjacent to the area, include: Sumner Strait, a tour ship route; the Shakan Bay and Shaken Strait saltwater use areas; and Bear Valley Lodge.

About 64 percent of this area was inventoried as Variety Class A, which has a high degree of landscape diversity relative to its character type. The major distinctive landscape features in this area are the limestone rock forms that make up Mount Calder. Approximately 30 percent, was inventoried as Variety Class B, and has landscape characteristics common for the character type. Approximately 7 percent of the area was not inventoried for Variety Class type.

About 62 percent of the area is in Existing Visual Condition (EVC) I, where the landscape remains unaltered by human activity. Five percent of the area is in EVC III, in which the average person notices changes in the landscape, but they do not attract attention. About 15 percent is in EVC IV, the landscape alterations are easily noticed but tend to blend in with the natural features of the landscape. About 12 percent is in EVC V, where

alterations are obvious and appear to be major disturbances. Approximately 7 percent of the area was not inventoried for EVC.

(7) Social, Cultural, and Historical Values: The coastal area was used since prehistoric times by Alaska Native people. The islands in Shakan Bay provided homesites for aboriginal people and Shakan Bay was, and still is, used as a gathering area for the fishing fleet. The roadless area is approximately 50 air miles northwest of Hollis, currently the nearest stop on the Alaska Marine Highway and about 4 miles south of the community of Port Protection. Fishing, and to a lesser extent, timber harvest are important to the local economy. Shakan Bay receives considerable use by the fishing fleet and by recreational boaters.

Recreation use levels are low throughout most of the roadless area. There are no developed recreation facilities. The majority of the area was designated LUD II by Congress in the 1990 Tongass Timber Reform Act. The roadless area receives some subsistence use, primarily in Shakan Bay. None of the VCUs in the roadless area are listed among the VCUs with the highest community use values or with highest sensitivity to disturbance of subsistence use areas (ADF&G, 1998). No outfitter/guide permits were issued for the roadless area in 2000.

(8) Manageability as Wilderness and Boundary Conditions/Changes: Developed areas and saltwater form definite boundaries of this roadless area. Due to the topography, the sight and sound of motor vehicles and timber management activities are not apparent from within most of the roadless area. Feasibility of management as wilderness is high.

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

(1) Recreation, including Tourism Potential: Tourism has been increasing in Southeast Alaska and is expected to continue to increase. Tourism potential is a major part of Alaska's economy. The industry attracts over 1.1 million visitors annually. There has been a growing recognition that tourism depends on scenic quality, wildlife, and wilderness (Behnke, 1999). This roadless area is somewhat isolated, possibly limiting its potential to draw tourists. It is approximately 125 miles by road from Hollis, the closest stop on the Alaska Marine Highway. Funding has been made available for a second ferry that will provide service between Coffman Cove and Wrangell in 2003, providing closer access and potentially more visitors to this roadless area. Potential exists for some construction of trails and saltwater support facilities such as anchor buoys and docks. Karst and cave development in the roadless area may provide a unique opportunity to develop destination recreation facilities in association with interpretation and viewing of these features and topography. An identified potential kayak route goes through the islands in the roadless area along the west coast of Prince of Wales Island. Recreation cabins are also a potential for this area. There is also potential to manage for low density, semi-primitive recreation experiences.

In 1996, the Alaska Visitor Association (AVA) proposed a day-use recreation facility for 300 people along Shakan Bay and trails in the Calder Bay area.

(2) Subsistence Uses: Management as a wilderness would not conflict with current subsistence uses.

(3) Fish Resources: No fish habitat enhancement projects are currently planned within the roadless area.

(4) Wildlife Resources: No wildlife habitat enhancement projects are currently planned within the roadless area.

(5) Timber Resources: There are 8,983 acres inventoried as productive old-growth forest and 629 acres as second-growth forest due to harvest in the roadless area. Of this, approximately 639 acres are categorized as tentatively suitable for timber harvest. Based on the Forest Plan LUDs assigned to this area (and estimated falldown and scheduling reduction factors), 302 acres (3 percent) of this roadless area are estimated to be suitable for timber production. Approximately 226 of the suitable acres are mapped as high-volume old growth; of these acres, 55 are mapped as high-volume, coarse-canopy old growth. Managing timber in most of the roadless area would require extending the existing road system into the roadless area. The area to the north and east has an extensive road

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network and the necessary sites for transferring logs to saltwater. The Calder EIS is scheduled on the 10-year Sale Plan.

(6) **Fire, Insects, and Disease:** The area has no significant fire history. Endemic tree diseases common to Southeast Alaska are present.

(7) **Minerals:** This area contains 7 acres of land identified as a mineral activity tract having a high potential for experiencing mineral exploration and development of locatable minerals (Coldwell, 1990; USDA Forest Service, 1991). This area contains an estimated 51 acres of undiscovered locatable mineral resources (Brew et al., 1990; USDA Forest Service, 1991). All of these acres are considered to have moderate potential for development.

The area is not currently mined and no known prospecting is taking place within this roadless area. The southern part of this area contains marble deposits. The Calder Marble Quarry owned and operated by Sealaska Corporation is currently being operated adjacent to this roadless area.

(8) **Transportation and Utilities:** There are no existing or planned transportation or utility corridors within, or adjacent to, the roadless area.

(9) **Water Availability and Use:** There are no developed recreation cabins or other facilities to create a water demand. There are no existing or planned hydroelectric or domestic water projects within the roadless area.

(10) **Areas of Scientific Interest:** Karst and cave formation in the limestone and marbles underlying this roadless area, especially in the Mount Calder Special Interest Area, may be of national significance because of their development, complexity, the resources they contain, and limited expanse. The mapped karst resources encompass approximately 3,591 acres or 29 percent of the roadless area. Management as wilderness may limit research activities in the area.

(11) **Land Use Authorizations:** There is currently an application and special use permit request for an aquaculture facility in T65N, R77E, Sections 31 or 32.

(12) **Land Status:** All of the area is National Forest System land. A small area of encumbered land is located on Divide Island.

IV. Wilderness Evaluation (Need for Wilderness)

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

(a) **Interest Expressed by Local Users and Residents:** Shakan Bay is important to local residents for subsistence and recreation purposes. There is interest and local, documented support to develop a west coast kayak and skiff route that would pass by the roadless area, which may include development of cabins, shelters, and tent platforms. There is also interest in developing a trail to Calder Mountain.

(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. A portion of the roadless area was designated as LUD II by the Tongass Timber Reform Act of 1990. In 2001, HR 2908 proposed managing the entire roadless area as LUD II in an unroaded condition.

(c) **Public Input During Forest Plan Revision and Appeals:** The Sumner Strait Fish and Game Advisory Board recommended against road building and logging in unharvested areas near Labouchere Bay. The Alaska Forest Association, the Alaska Miners Association, and the AVA recommended that no new wilderness be designated on the Tongass National Forest. Others stated that all unroaded areas should be designated wilderness. Timber industry representatives recommended managing all areas not designated as wilderness for timber. In 1996, the AVA proposed a day-use recreation facility for 300 people along Shakan Bay and trails in the Calder Bay area.

(d) Public Input During Roadless Area Conservation Rule and Road Management Policy Review: This area was not specifically identified in the public comments received during the Roadless Area Conservation Rule or Road Management Policy Review. However, some commentors wanted all unroaded lands on the Tongass 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: SEACC recommended this area be designated as LUD II. The Alaska Rainforest Campaign (a coalition of national and Alaska conservation groups) recommended Roadless Area 516 for permanent protection as LUD II.

A number of cave/karst experts and other individuals stated that the North Central Prince of Wales Biogeographic Province contains the most celebrated and explored caves and karstlands in the Tongass. Kosciusko and Calder Roadless Areas include spectacular limestone massifs and caves as well as remnants of high volume old growth karstland forest. Calder and El Capitan Roadless Areas and adjacent developed lands contain internationally significant caves, including the deepest limestone pit in the United States, and spectacular karstlands that have been the site of important paleontological and archaeological discoveries. The commentors indicated that these Roadless Areas, 515, 516, and 517, together with contiguous karstlands in Roadless Area 518, could be combined to create a karst reserve/wilderness that would be renowned throughout the world.

A number of individuals identified the 1999 additions to the Calder Holbrook area as needing protection. Some commented on the need for protection for Shakan Bay. Some wanted the entire area protected as LUD II.

(2) Nearby Roadless and Wilderness Areas and Uses: The Calder Roadless Area is separated from the larger El Capitan Roadless Area (517) by a Forest Development road and harvest units. The Kosciusko Roadless Area (515) lies less than a mile to the south across Shakan Strait. The Kuiu Bay Wilderness lies approximately 10 miles to the west across the Sumner Strait. Recreation and subsistence are the main uses for these areas. The use levels of these areas are generally low.

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

Community	Air Miles	Water Miles
Ketchikan (Pop. 14,070)	90	120
Wrangell (Pop. 2,308)	50	70
Petersburg (Pop. 3,324)	45	65
Juneau (Pop. 30,711)	145	160

Hollis, approximately 50 air miles and 125 road miles to the southeast, currently is the nearest stop on the Alaska Marine Highway.

(4) Relative Contribution to the National Wilderness Preservation System: The Calder Roadless Area is located on the northwest end of Prince of Wales Island. The roadless area is bounded on the north and east by areas developed for timber management. These roaded areas separate the Calder Roadless Area from the El Capitan Roadless Area (517). Calder Bay lies to the southeast. Sumner Strait lies to the west and Shakan Bay and Shakan Strait lie to the south. The area is characterized by the rugged terrain of Mount Calder, high energy coastline, alpine and subalpine, karst topography, and lower relief on the smaller islands just to the south. Mount Calder is the highest point, with an elevation of 3,400 feet. Numerous small streams drain to Shakan Bay. The small islands include the Barrier Islands in Sumner Strait and Hamilton, Divide, and Middle Islands in Shakan Bay, as well as numerous small islands and rocks along the coast.

The area generally appears natural and unmodified. The natural integrity is high and the apparent naturalness is very high. The opportunity for solitude is high and the opportunity for primitive recreation is very high.

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The Calder Roadless Area has high scenic qualities; approximately 64 percent of the landscape is considered distinctive from a scenery standpoint. Karst and cave formation in the limestone and marbles underlying this roadless area may be of national significance because of their development, complexity, the resources they contain, and limited expanse. They are primarily in the Mount Calder Special Interest Area.

The roadless area includes about 6,083 acres of high-volume, old-growth forest. Of these acres, approximately 1,403 are mapped as high-volume, coarse-canopy old growth.

The Calder Roadless Area is classified as being in the North Central Prince of Wales Island Biogeographic Province and makes up about 1 percent of the province. It is one of 15 inventoried roadless areas found within the province which make up about 44 percent of the province. The Karta River Wilderness makes up about 3 percent of the province, and three designated LUD II areas (Mt. Calder-Mt. Holbrook, Pt. Baker-Pt. Protection, and Salmon Bay) make up about 5 percent of the province.

The Calder Roadless Area lies completely within the Kuiu-Prince of Wales Fjordlands Ecological Section and represents 1 percent of the ecological section. Approximately 13 percent of the Kuiu-Prince of Wales Fjordlands Ecological Section is in existing wilderness, 8 percent is in existing LUD II, and an additional 33 percent is protected by other existing non-development LUDs.

Roughly two-thirds (63 percent) of the roadless area is in the North Prince of Wales Complex Ecological Subsection; this portion represents 9 percent of the entire ecological subsection, 28 percent of which is in existing LUD II and 18 percent is protected by existing non-development LUDs. The remaining 37 percent of the roadless area is in the North Prince of Wales-Kuiu Carbonates Ecological Subsection; this portion represents 2 percent of the entire ecological subsection, 2 percent of which is in existing LUD II and 25 percent is protected by other existing non-development LUDs.

The Calder Roadless Area was rated 22 out of a possible 28 points under the Wilderness Attribute Rating System (WARS). As such, its WARS rating is ranked 38th from the highest (along with 8 other roadless areas) among the 109 Tongass inventoried roadless areas.

There is both local and national support for managing the roadless area in an unroaded condition, and some support for designating the area as a wilderness. Designation would create a relatively small wilderness that would contain areas of well-developed karst that also included important paleontological and cultural information. This would also include areas where extensive investigation and research is ongoing. The degree of timber harvest in adjacent lands adds importance to the old growth within the roadless area. Overall, the factors identified here indicate that the relative contribution of this area to the National Wilderness Preservation System would be moderate to high.

V. Environmental Consequences

The Calder Roadless Area would be managed under the existing Forest Plan if Alternative 1, 3, or 4 is implemented. Approximately 91 percent of the roadless area would be managed under non-development LUDs. Timber harvest and road development could occur within the remaining 9 percent of the roadless area. The land in the development LUDs includes an estimated 302 acres that are suitable for timber production (less than 1 percent of the suitable acres on the Thorne Bay Ranger District). Approximately 55 of the suitable acres are classified as high-volume, coarse-canopy old growth. This area contains 7 acres of land identified as a mineral activity tract having a high potential for experiencing mineral exploration and development of locatable minerals. This area also contains an estimated 51 acres of undiscovered locatable mineral resources that are considered to have moderate potential for development. Karst and cultural resource investigation and research activities would continue. The recreation and special use programs would continue. The values associated with the natural settings of the roadless area are mostly protected by the existing LUD II and other non-development LUDs under the Forest Plan. The values could be affected along the eastern boundary where timber management activities are allowed. The high cultural, karst and most old-growth and scenic values are protected by the Forest Plan.

Under Alternatives 2, 5, and 7, all of the existing LUD II area would be converted to Recommended Wilderness. This would not affect timber sale projects because this area is currently allocated to a non-development LUD. The

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area identified as suitable for timber production would not change from Alternative 1. Ongoing karst, cultural resource, recreation, special use, and minerals programs could be restricted. Mineral prospecting would be allowed in the Recommended Wilderness LUD up to the time that the area is actually designated as wilderness by Congress. The values associated with the natural settings of the existing LUD II portions of the roadless area, including the scenic, karst, old-growth, and cultural values, would continue to be provided long-term protection if designated wilderness.

Under Alternative 6, a 1,940-acre portion of the area would be converted to Recommended LUD II. This would convert all lands not currently designated as LUD II to Recommended LUD II. Ongoing karst, cultural resource, recreation, special use, and minerals programs would continue similar to current conditions with little restriction. No timber harvest would be allowed. The values associated with the natural settings of the roadless area, including the scenic, karst, old-growth, and cultural values, would be provided long-term protection if designated LUD II.

Under Alternative 8, the entire roadless area would be converted to Recommended Wilderness. Timber harvest would not be allowed. Ongoing karst, cultural resource, recreation, special use, and minerals programs could be restricted. Mineral prospecting would be allowed in the Recommended Wilderness LUD up to the time that the area is actually designated as wilderness by Congress. The values associated with the natural settings of the roadless area, including the scenic, karst, old-growth, and cultural values, would be provided long-term protection if designated wilderness.

Land Use Designation Allocations and Suitable Timber Lands by Alternative for Roadless Area 516 (in acres)								
Land Use Designation	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7	Alt 8
Recommended Wilderness		10,278			10,321		10,321	12,218
Wilderness								
Recommended Wilderness Nat. Mon.								
Wilderness National Monument								
Non-wilderness National Monument								
Research Natural Area								
Special Interest Area	791	791	791	791	774		774	
Remote Recreation								
Enacted Municipal Watershed								
Old-growth Habitat								
Semi-remote Recreation	25	25	25	25				
Recommended LUD II						1,940		
LUD II	10,278		10,278	10,278		10,278		
Wild, Scenic, Recreational River								
Experimental Forest								
Scenic Viewshed								
Modified Landscape	384	384	384	384	384		384	
Timber production	741	741	741	741	739		740	
TOTAL	12,218	12,218	12,218	12,218	12,218	12,218	12,218	12,218
Suitable Timber Lands	302	302	302	302	302	0	302	0