

## Appendix C

### INDIVIDUAL ROADLESS AREA DESCRIPTION

**ROADLESS AREA NAME:** Tenakee Ridge (321)

**ACRES (NFS):** 21,854

**BIOGEOGRAPHIC PROVINCE:** East Chichagof Island

**ECOLOGICAL SECTION:** Northeast Chichagof Fjordlands

**2003 WILDERNESS ATTRIBUTE RATING:** 18

#### **I. Overview and Description**

(1) **Location and Access:** Tenakee Ridge Roadless Area is located on Chichagof Island approximately 15 miles south of Hoonah. The southern boundary is the small City of Tenakee Springs, which is located on Tenakee Inlet. The roadless area is bounded on all other sides by areas developed for timber management, except for a half mile-wide area in the northwest that borders Roadless Area 323. Access to the southern portion of the area is over State lands east of Tenakee Springs along the Indian River road system. Access to the northern portion is by the Hoonah road system. Tenakee Springs has regular scheduled small plane service and is on the Alaska Marine Highway route. The roadless area itself contains no shorelines for boat access. Access to the interior is by foot or helicopter; there are no areas suitable for landing wheeled airplanes.

(2) **History:** At the time of Euroamerican contact, the Hoonah and Angoon Tlingit used this area of Chichagof Island. Forest archaeologists have identified petroglyphs and pictographs, Alaska Native garden sites, an Alaska Native smokehouse, a village site, and other related sites in the area. There was a working salmon and crab cannery in Tenakee Springs in 1942.

(3) **Geography and Topography:** This roadless area is a rugged, mountainous area with ridges and peaks reaching over 3,500 feet. The highest point is over 3,900 feet. The area is basically the ridge system left between two heavily developed areas that are accessed by the adjacent Kennel Creek and Indian River road systems. Lower slopes are generally densely forested. Upper slopes and summits appear barren but support a variety of alpine vegetation. There are approximately 3,445 acres of alpine and 1,707 acres of rock but no ice or snow features mapped in this area. This roadless area does not have a saltwater shoreline.

#### (4) **Ecosystem:**

(a) **Classification:** Biogeographic Province. The roadless area is classified as the East Chichagof Island Biogeographic Province. This province has a dryer and colder climate than the outer coast of Chichagof Island and the winter snow pack is generally greater. Chichagof Island is deeply dissected into three peninsulas that may be functioning biologically more like separate islands. Vegetation in this province represents a modal similar to Admiralty Island Province. Mountain elevations in this roadless area vary from 2,300 to 3,900 feet. Streams are generally larger and longer in this area than on the other islands of Southeast Alaska. Upper slopes and summits appear barren from a distance, but many of the peaks offer a variety of alpine vegetation as well as numerous rock outcropping.

Ecological Section/Subsection. The Tenakee Ridge Roadless Area is contained entirely within the Northeast Chichagof Fjordlands Ecological Section (M247C). This area is represented by one ecological subsection (see table below). The Freshwater Bay Carbonates Ecological Subsection has a bedrock mixture of carbonate and noncalcareous sedimentary rocks with bits of volcanic and intrusive igneous rocks. Many formations of almost pure carbonate form impressive mountains and ridges with extensive areas of exposed rocks containing pits and sinkholes. Atop the mountains, alpine vegetative communities thrive. The mid to

lower elevations of the moderately sloped mountains have well drained soils that support productive hemlock spruce forests. In the valleys where glacial tills and glaciomarine sediments exist, non-forested wetlands are present. Where streams flow through calcareous colluvium, rich calcareous fens develop at the stream base creating a diverse and rare plant community (Nowacki et al., 2001).

Ecological Section	Ecological Subsection	Percent of Roadless Area
Northeast Chichagof Fjordlands	Freshwater Bay Carbonates	100%

**(b) Soils:** Glaciers have played an important part in the placement and character of soil parent material in this roadless area. Soil development is also influenced by high levels of rainfall, cool summer temperatures, a short growing season, and moderately low soil temperatures. Under such conditions, organic matter decomposes slowly and tends to accumulate in areas where it is being produced or deposited. Due to the rapid loss of material by erosion and efficient rainwater runoff, shallow soils with good drainage develop on steeper slopes.

Deep, well-drained soils commonly occur below shallow soils on gentler slopes where transported soil materials have collected. Drainage improves with increased slope gradient; however, as slopes become steeper, soil depths become much shallower. In riparian areas, soil zones tend to contain sand and gravels as a result of flood deposition. Alpine soils, generally above 2,000 feet elevation, are mostly shallow, very wet organic soils, or extremely shallow and rocky.

**(c) Vegetation:** Western hemlock-Sitka spruce forests dominate the overstory of this roadless area. The understory is composed of shrubs such as red huckleberry, rusty menziesia, and devil's club, and the forest floor is covered with a mat of mosses, liverworts, and plants such as deerheart, bunchberry dogwood, single delight, and skunk cabbage. Streamside riparian vegetation is characterized by salmonberry, devil's club, alder, grasses, ferns, and currants.

Plant communities are characterized by low shrubs, grasses, and sedges. At elevations generally above 2,000 feet, subalpine forests and meadows occur at the interface between the forested communities and the alpine tundra. 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. Approximately 3,445 acres of alpine vegetation are mapped in the area.

There are approximately 11,363 acres mapped as forest land of which 6,375 acres or 56 percent are mapped as productive old-growth forest. Of the productive old growth, 2,696 acres or 42 percent are mapped as high-volume old-growth forest. The productive old growth includes about 439 acres of high-volume, coarse-canopy old growth. There are no acres of second growth forest where timber harvest has occurred in the past.

**(d) Fish Resources:** The Tenakee Ridge Roadless Area possesses the headwaters and tributary channels for some of the large fish-producing streams that flow through adjacent roaded areas. Examples are the North and South Fork of Freshwater Creek, Kennel Creek, and the Indian and Pavlof Rivers. However, the ADF&G Anadromous Waters Catalogue (1998) identifies no fish-bearing streams within the roadless area.

**(e) Wildlife Resources:** The roadless area supports brown bear and Sitka black-tailed deer. Smaller mammals include marten and red squirrel. MacDonald and Cook (1999) do not list black bears or mountain goats as inhabiting Chichagof Island.

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(5) **Management Direction and Current Uses:** The roadless area was allocated to three different Land Use Designations (LUDs) under the 1997 Tongass Land and Resource Management Plan. These three LUDs are Timber Production, Scenic Viewshed, and Old-growth Habitat.

LUD	Acres
Timber Production	19,220
Scenic Viewshed	69
Old-growth Habitat	2,565

Most of the roadless area, approximately 88 percent, was allocated to LUDs that permit development (Timber Production, Scenic Viewshed). Approximately 88 percent of the roadless area was allocated to the Timber Production LUD. About 69 acres near Freshwater Bay were allocated to the Scenic Viewshed LUD, accounting for less than 1 percent of the roadless area.

Approximately 12 percent of the roadless area was allocated to one non-development LUD, which is the Old-growth Habitat LUD. Recreation activities include: hiking, dispersed camping, hunting, upland bird hunting, ice fishing, cross-country skiing, viewing wildlife, kayaking, and lake fishing. No outfitter/guide permits were issued for the roadless area in 1999. There are no special use permits. The area receives some subsistence use, mainly from residents of Tenakee Springs, Hoonah, and Freshwater Bay.

(6) **Appearance (Apparent Naturalness):** Most of the roadless area appears unmodified, with roads and timber harvest activity evident just outside the roadless area boundary. The Kennel Creek logging camp site lies to the northwest. These developments affect the apparent naturalness of adjacent areas within the roadless area.

(7) **Surroundings (External Influences):** The Tenakee Ridge Roadless Area is completely landlocked, primarily by National Forest System land. Adjacent to this roadless area (to the north and west) is the Kennel Creek logging camp and road system. This area was developed between 1962 and 1982. The Hoonah and Kennel Creek road systems connect at the closed Kennel Creek logging camp. The logging camp was constructed in the mid-1960s. This camp can periodically open and close depending on the timber work load. A Forest Service work station is also located at the Kennel Creek logging camp.

The Tenakee Springs townsite lies to the south of the roadless area. Tenakee Springs is served by the Alaska Marine Highway system and regular scheduled small plane service. The Indian River road system separates the western section of the Tenakee Ridge Roadless Area from the town. This area also was intensively developed in 1977. The Indian River and the Hoonah roads intersect at the northwest boundary of the roadless area.

(8) **Attractions and Features of Special Interest:** There are no specific attractions or special features in this roadless area. No recreation places are within this roadless area.

(9) **Differences between the 1989 and 2003 Roadless Area Boundary:** There have been changes to the roadless area due to roading and timber harvesting along the boundaries and more accurate mapping. This has reduced the area compared to 1989. Several smaller areas along the boundaries have been excluded between the Draft and Final SEIS to improve the potential manageability of the area as wilderness.

## II. Capability for Management as Wilderness

(1) **Natural Integrity and Apparent Naturalness:** The Tenakee Ridge Roadless Area has not been modified. However, the natural integrity and apparent naturalness of the landscape is noticeably altered by the roads and by the appearance of the timber harvest along the boundaries. The roadless area is less suitable for wilderness classification because of the surrounding roads and timber harvest activity.

(2) **Opportunity for Solitude and Serenity, Self-reliance, Adventure, Challenging Experiences, and Primitive Recreation:** Tenakee Ridge Roadless Area has a moderate opportunity for solitude and a high opportunity for primitive recreation. The area is approximately 12 miles long and up to 6 miles wide and is remote with no formal trails or recreation developments to concentrate use. There are no public recreation cabins in this area. The chief access into the Tenakee Ridge Roadless Area is by walking from roaded and private lands.

The roadless area is extremely steep, rising to over 3,900 feet in elevation. The steep nature of the landforms and the presence of brown bears present a moderate degree of challenge and the need for woods skills and experience.

The area provides primarily semi-primitive non-motorized recreation opportunities.

ROS Class	Acres	Percent of Total ROS
Semi-Primitive Non-Motorized (SPNM)	17,838	82%
Roaded Modified (RM)	4,016	18%

No recreation places are within this roadless area.

ROS Class	# of Rec. Places	Total Acres
SPNM	0	0
RM	0	0

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 (dated 1990) 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 Tenakee Ridge Roadless Area Roadless Area was 24 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 given a rating of 18. This rating reflects the degree of developments in adjacent areas and the associated effects on its wilderness attributes.

**(4) Ecologic and Geologic Values:** The roadless area has no known unique ecologic or geologic values except the hot springs which is located to the south of the area.

**(a) Fish Resources:** The Tongass Fish and Wildlife Resource Assessment listed two VCUs, Kennel Creek (217) and Pavlof River (218), as primary sportfish producers. No VCUs were listed as primary salmon producers (ADF&G, 1998).

The Tenakee Ridge Roadless Area possesses the headwaters and tributary channels for some of the large fish-producing streams that flow through adjacent roaded areas. Examples are the North and South Fork of Freshwater Creek, Kennel Creek, and the Indian and Pavlof Rivers. However, the ADF&G Anadromous Waters Catalogue (1998) identifies no fish-bearing streams in this area.

**(b) Wildlife Resources:** The roadless area supports brown bear and Sitka black-tailed deer. Mammals present in the area include wolves, marten, and red squirrel. Based on data collected from 1985 to 1994, VCU 215 at the end of Freshwater Bay was listed among the VCUs in the second 25 percent of brown bear harvest (ADF&G, 1998). Moose are reported to inhabit Chichagof Island but they have not been reported from this area. MacDonald and Cook (1999) do not list black bears or mountain goats as inhabiting Chichagof Island.

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**(c) Threatened, Endangered, and Sensitive Species:** This roadless area contains no known threatened or endangered species. 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, nine sensitive plant species are known or suspected to occur in the Hoonah Ranger District.

**(d) Karst, Cave, and Other Geologic Resources:** A portion of this area is underlain by limestone or marble, and karst and cave resources are known to have developed there. Only limited inventory has occurred in this area so the extent of karst and cave development is not fully understood. The limestones and marbles found here are commonly the ridge-forming rock types. Extensive karst systems are known from the intensity and numbers of features identified during limited inventory and air photo interpretations. Paleontological discoveries are likely, as well as archaeological finds. 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. The karst systems found here extend from the alpine (or higher elevations) to the sea, providing increased productivity for the plant, animal, and aquatic communities found on the karst lands. Karst resources in this roadless area represent 8,349 acres, or 38 percent of the roadless area. Approximately 70 percent of these karst resources are classified as High Vulnerability Karst. There are no known glaciers or other unique geologic features.

**(5) Scientific and Educational Values:** There are opportunities to study karst systems, as well as forests, stream systems, and wildlife in an area close to the City of Tenakee Springs.

**(6) Scenic Values:** The visual character type is Admiralty-Chichagof. This character type exhibits great diversity. For the most part, landforms in this character type are rounded, but notable exceptions exist especially on the northern portions of Admiralty and Chichagof Islands where mountainous terrain tends to be rugged and snow-covered. The area is viewed as unmodified from Tenakee Inlet, Freshwater Bay, and the community of Tenakee Springs. The adjacent timber harvest activities can be viewed from Kennel Creek and when viewing the area from along the eastern ridgeline.

Visual Priority Routes and Use Areas identified by the Forest Plan, that are within or adjacent to the area, include: Freshwater Bay, a small boat route and saltwater use area; the Tenakee Springs community; Kennel Creek, a boat anchorage; Tenakee Inlet, a part of the Alaska Marine Highway and a small boat route.

Approximately 28 percent of this roadless area was inventoried Variety Class A (possessing landscape diversity that is unique for the character type). Sixty-five percent of the area was inventoried Variety Class B (possessing landscape diversity that is common for the character type). Approximately 7 percent was inventoried in Variety Class C (possessing a low degree of landscape diversity).

Approximately 47 percent of this area was inventoried in Existing Visual Condition (EVC) Type I, where only ecological change has occurred. Approximately 52 percent of the area was inventoried in EVC Type V, where changes in the landscape are obvious to the average person, and appear to be major disturbances.

**(7) Social, Cultural, and Historical Values:** At the time of Euroamerican contact, the Hoonah and Angoon Tlingit used this area of Chichagof Island. Forest archaeologists have identified petroglyphs and pictographs, Alaska Native garden sites, the remains of an Alaska Native smokehouse, a village site, and other related sites. There was a working salmon and crab cannery in Tenakee Springs in 1942.

Recreation activities include: hiking, dispersed camping, big game hunting, small game hunting, upland bird hunting, ice fishing, cross-country skiing, viewing wildlife/fish, stream fishing, waterfowl hunting, kayaking, and lake fishing. No outfitter/guide permits were issued for the roadless area in 1999. There are no special use permits. The area receives some subsistence use, mainly from residents of Tenakee Springs, Hoonah, and the Kennel Creek logging camp. VCUs 215, 217, and 218, all along the east side of Freshwater Bay, were listed among the VCUs

with the highest community fish and wildlife values by ADF&G (1998). Those three VCUs plus VCU 220 account for the majority of the land in this roadless area and were listed among those VCUs with the highest sensitivity to disturbance of subsistence use areas (ADF&G, 1998).

**(8) Manageability as Wilderness and Boundary Conditions/Changes:** The boundaries of the Tenakee Ridge Roadless Area are defined by the developments on the west, north, and east sides of this area. The Tenakee Springs townsite boundary is the southern border of this roadless area. None of these boundaries are based on well-defined topographic features. There do not appear to be any opportunities to move the borders to create well-defined boundaries.

### **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. Cruise ships travel through Chatham Straight enroute to Glacier Bay. Many people fly into the area for sport fishing. There is the potential for some of these tourists to be drawn to hunt, sightsee, and camp in the roadless area. There is a potential for outfitter/guide permits, trail construction, and public recreation cabins. In the Tongass Land Management Plan, an alpine trail has been proposed in VCU 215. The potential exists for an increase in big game hunting. If the population of Tenakee increases, the probability of personal use of wood products will expand.

In 1996, the Alaska Visitors Association (AVA) proposed a backcountry recreation lodge for 100 persons, hut-to-hut hiking for 25 persons, and mountain biking recreation facilities for the Indian River drainage basin.

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

**(3) Fish Resources:** There are plans to install incubator boxes in underutilized rearing areas of the South Fork of Freshwater Creek.

**(4) Wildlife Resources:** There are no wildlife enhancement projects planned for the Tenakee Ridge Roadless Area.

**(5) Timber Resources:** There are 6,375 acres inventoried as productive old-growth forest in the roadless area. None of the area is mapped as second growth. Of this, approximately 3,408 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), 1,309 acres or 6 percent of this roadless area are estimated to be suitable for timber production. Approximately 556 of the suitable acres are mapped as high-volume old growth; of these acres, 31 are mapped as high-volume, coarse-canopy old growth. The potential for managing timber in the roadless area is high because the nearby road systems and logging camp make timber management economical.

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

**(7) Minerals:** The US Geological survey of 1984, identified the area as having mineral development potential. The USGS Mineral Resource Data website (2001) shows a copper resource within the area.

**(8) Transportation and Utilities:** There are no transportation or utility corridors present or planned in the roadless area. A Potential Transportation or Utility Corridor LUD from Tenakee Springs to Hoonah is located just west of the roadless area.

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

**(10) Areas of Scientific Interest:** There are extensive karst resources in this roadless area. The mapped karst resources encompass approximately 8,349 acres or 38 percent of the roadless area.

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(11) **Land Use Authorizations:** Current outfitter/guide special use permits are expected to continue. An increase in outfitter/guides using the area is probable.

(12) **Land Status:** The roadless area is entirely National Forest Systems land.

### IV. Wilderness Evaluation (Need for Wilderness)

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

(a) **Interest Expressed by Local Users and Residents:** The local issues concerning this area are the continued harvesting and roading of the forest lands, the effects on fisheries and wildlife habitat caused by logging, maintaining the visual quality of high-interest areas, maintaining lifestyles, the location of log transfer facilities, the distribution of harvest volume classes, and the tradeoffs between environmental protection measures and the economics of the harvest activities.

(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 Freshwater Bay Roadless Area. In 2001, HR 2908 proposed that the roadless area be designated as LUD II and managed in an unroaded condition.

(c) **Public Input During Forest Plan Revisions and Appeals:** The Alaska Forest Association and other industry commenters were opposed to any additional wilderness; they recommended that the area be managed for timber production. Others recommended that remaining roadless areas should be managed for primitive recreation of old-growth habitat and protected from logging and road building. A letter from Angoon with 48 signatures recommended that areas along the Chatham Strait be protected as subsistence areas. There should not be any logging, road building, or mining. The City of Tenakee Springs commented that people who know the area doubt that many of the areas mapped as roadless areas in TLMP were truly roadless areas because of the extensive road systems, logging, and other developments in the area. They also point out that the economy of their community is much more closely connected to fishing, tourism, and subsistence than it is to logging. They recommended that the area near Tenakee Springs be managed either as Old Growth Habitat or Remote Recreation. In 1996, the Alaska Visitors Association (AVA) proposed a backcountry recreation lodge for 100 people, hut-to-hut hiking for 25 people, and mountain biking recreation facilities for the Indian River drainage basin.

(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 commenters wanted all unroaded lands on the Tongass to be protected from development.

(e) **Public Input Expressed for Project-level EISs and Other Input:** No comments on project level NEPA analysis are available for the roadless area.

(f) **Public Input Expressed During Supplemental EIS Process:** The Alaska Rainforest Campaign (a coalition of national and Alaska conservation groups) recommended Roadless Area 321 for permanent protection as LUD II. SEACC recommended Roadless Areas 317, 318, 319, 321, 323, and 325 for LUD II protection. They indicated it is more critical now than ever before that these remaining wild areas on Chichagof are protected.

Some members of the Southeast Alaska Federal Subsistence Regional Advisory Council identified the need for further protection of this area because of its importance for subsistence

A number of cave/karst experts and other individuals stated that East Chichagof and the North Central Prince of Wales Biogeographic Provinces contain some of the most highly developed karst lands in the Tongass. It was noted that protection of a combination of Freshwater Bay (#325), Game Creek (#323), Tenakee Ridge (#321), and Pavlov/East Point (#319) Roadless Areas would create a truly world class karst reserve for the East Chichagof Biogeographic Province.

The president of the Hoonah Indian Association asked for the protection, conservation, and responsible management of this roadless area because of its special interest to the Huna People.

**(2) Nearby Roadless and Wilderness Areas and Uses:** Tenakee Ridge Roadless Area is nearly surrounded by roaded and harvested areas. It is connected to the Game Creek Roadless Area (323) by a half-mile wide area in the northwest. Freshwater Bay Roadless Area (325) is located approximately one mile to the north, on the other side of the Hoonah/Kennel road system and associated harvest units. The Kennel Creek-East Point harvest road system and associated harvest units separate the Pavlof/East Point Roadless Area (319) from the Tenakee Ridge Roadless Area. The closest wilderness is the Kootznoowoo Wilderness on Admiralty Island, on the east side of the Chatham Strait. The West Chichagof-Yakobi Wilderness lies on the other side of Chichagof Island, approximately 18 miles to the west. These areas receive low to moderate recreation and subsistence use.

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

Community	Air Miles	Water Miles
Juneau (Pop. 30,711)	40	70
Sitka (Pop. 8,835)	50	100
Hoonah (Pop. 860)	15	50
Angoon (Pop. 572)	30	35

Tenakee Springs is adjacent to the Tenakee Ridge Roadless Area and has regular Alaska Marine Highway service.

**(4) Relative Contribution to the National Wilderness Preservation System:** Tenakee Ridge Roadless Area is located on Chichagof Island, just north of Tenakee Springs. The southern boundary is the small City of Tenakee Springs, which is located on Tenakee Inlet. The roadless area is bordered on all other sides by areas developed for timber management, except for a half mile-wide area in the northwest that borders Roadless Area 323. This roadless area is a rugged, mountainous area with ridges and peaks reaching over 3,500 feet. The highest point is over 3,900 feet.

Overall, the Tenakee Ridge Roadless Area has moderate natural integrity and high apparent naturalness. The natural integrity of the roadless area and its apparent naturalness have been modified by timber harvest and roads along nearly the entire boundary. There is a moderate opportunity for solitude and a high opportunity for primitive recreation within the roadless area.

Approximately 28 percent of the area was inventoried as distinctive for the character type from a visual perspective. Karst resources in this roadless area represent 8,364 acres, or 38 percent of the roadless area. Approximately 70 percent of these karst resources are classified as high vulnerability karst.

The roadless area includes about 2,696 acres of high-volume, old-growth forest. Of these acres, approximately 439 are mapped as high-volume, coarse-canopy old growth.

The roadless area is classified as being in the East Chichagof Island Biogeographic Province and makes up about 2 percent of the province. It is one of 12 inventoried roadless areas found in the province that collectively make up about 72 percent of the province. The province contains the Pleasant-Lemesurier-Inian Islands Wilderness and a portion of the West Chichagof-Yakobi Wilderness, which make up 6 percent of the province. The province also includes all or portions of three LUD II areas, which make up approximately 25 percent of the province. Approximately 79 percent of the province is unroaded.

The Tenakee Ridge Roadless Area lies completely within the Northeast Chichagof Fjordlands Ecological Section. This portion represents 5 percent of the entire ecological section, which is well represented in non-development LUDs (26 percent) and a small portion (7 percent) is within LUD II.

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This roadless area is entirely within the Freshwater Bay Carbonates Ecological Subsection; this portion of the roadless area represents 8 percent of the entire ecological subsection, which is well represented in non-development LUDs (28 percent), but is not represented in wilderness or LUD II.

The Tenakee Ridge Roadless Area was rated at 18 out of a possible 28 points under the Wilderness Attribute Rating System (WARS). As such, it is ranked 84th from the highest (along with 8 other areas) out of the 109 Tongass inventoried roadless areas.

There is national and some local support for managing the area in a roadless condition but there is little support for designating the area as a wilderness. The WARS score for the area is low relative to other areas of Southeast Alaska, and the Pleasant-Lemesurier-Inian Islands Wilderness and a portion of the West Chichagof-Yakobi Wilderness are in the biogeographic province. Designation of the area would add Congressional protection to about 8 percent of the Freshwater Bay Carbonates Ecological Subsection, which currently contains no areas under Congressional protection. The roadless area is relatively small and narrow and it is nearly surrounded by roaded and harvested areas. The degree of timber harvest in adjacent lands adds importance to the old growth within the roadless area. These factors indicate that the relative contribution to the National Wilderness System would be low to moderate.

### **V. Environmental Consequences**

The Tenakee Ridge Roadless Area would be managed under the existing Forest Plan if Alternative 1, 2, 3, 4, 5, or 7 is implemented. Approximately 12 percent of the roadless area would be managed under non-development LUDs. Timber harvest and road development could occur in the remaining 88 percent of the roadless area. The land in the development LUDs provides an estimated 1,309 acres that are suitable for timber production (7 percent of the suitable acres on the Hoonah Ranger District). Approximately 31 of the suitable acres are classified as high-volume, coarse-canopy old growth. The values associated with the natural settings of the roadless area could be affected by developments allowed under the Forest Plan. The high karst values are protected by the Forest Plan.

Under Alternative 6, the entire roadless area would be converted to Recommended LUD II. Mineral prospecting and development and recreation developments could continue, but no timber harvest would be allowed. The values associated with the natural settings of the roadless area, including karst, old growth, and scenic values, would be provided long-term protection if designated LUD II. Designation of the area would add Congressional protection to about 8 percent of the Freshwater Bay Carbonates Ecological Subsection, which currently contains no areas under Congressional protection.

With Alternative 8, the entire roadless area would be converted to Recommended Wilderness. Timber sale projects would not be allowed, and the potential for other development, including recreation, mineral, and hydroelectric, would be significantly restricted. Mineral prospecting and development would be allowed 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 karst, old growth, and scenic values, would be provided long-term protection if designated wilderness. Designation of the area would add Congressional protection to about 8 percent of the Freshwater Bay Carbonates Ecological Subsection, which currently contains no areas under Congressional protection.

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Land Use Designation Allocations and Suitable Timber Lands by Alternative for Roadless Area 321 (in acres)								
Land Use Designation	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7	Alt 8
Recommended Wilderness								21,854
Wilderness								
Recommended Wilderness Nat. Mon.								
Wilderness National Monument								
Non-wilderness National Monument								
Research Natural Area								
Special Interest Area								
Remote Recreation								
Enacted Municipal Watershed								
Old-growth Habitat	2,565	2,565	2,565	2,565	2,565		2,565	
Semi-remote Recreation								
Recommended LUD II						21,854		
LUD II								
Wild, Scenic, Recreational River								
Experimental Forest								
Scenic Viewshed	69	69	69	69	69		69	
Modified Landscape								
Timber production	19,220	19,220	19,220	19,220	19,220		19,220	
<b>TOTAL</b>	<b>21,854</b>	<b>21,854</b>	<b>21,854</b>	<b>21,854</b>	<b>21,854</b>	<b>21,854</b>	<b>21,854</b>	<b>21,854</b>
Suitable Timber Lands	1,309	1,309	1,309	1,309	1,309	0	1,309	0