
National Park Service
U.S. Department of the Interior

Wrangell-St. Elias National Park and Preserve
Alaska



Smitholum Subsistence House Log Permit, Chisana Environmental Assessment March 2013



Figure 1: Chisana Public Airstrip looking North-west towards the Chisana River and Allen Mountain (NPS Photo/ Miranda Terwilliger)

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1.0 PURPOSE AND NEED FOR ACTION

1.1 PURPOSE OF ACTION

The National Park Service (NPS) is considering a request for subsistence house logs from a NPS qualified subsistence user and local permanent resident of the Chisana area (Figure 2) within Wrangell-St. Elias National Park and Preserve (WRST). In January 2013 the applicant requested a special use permit to harvest and transport up to 120 logs to construct a 500 ft² private residence on his private property (Figure 3, USS No. 5224, Wolfe Acres Subdivision, Lot 7). The applicant plans to harvest and transport timber on national preserve lands in the Chisana area during the winter or spring season during periods with adequate snow cover and frozen ground. A snowmachine will be used to transport logs from the harvest location to private property. The NPS has determined that the applicant is eligible for subsistence log harvest based on the following criteria:

- The applicant lives on private property within the national preserve boundary as his primary permanent residence and has demonstrated a customary and traditional use of park resources; and
- The applicant has explored reasonable alternative sources for logs.

The NPS is considering issuing a special use permit to authorize this harvest. Figure 3 shows the project area within WRST.

This environmental assessment (EA) has been prepared to evaluate potential impacts of the applicant's proposal and no action alternatives and mitigating measures to minimize adverse impacts to the park. The EA and the public comments will form the basis for a decision regarding issuance of a subsistence house log permit.

1.2 NEED FOR ACTION

In 1980 the Alaska National Interest Lands Conservation Act (ANILCA) established WRST. The Chisana area and applicant's private property are located in the preserve portion of WRST. Title 36 Code of Federal Regulations (CFR) Part 13.485 authorizes subsistence use of timber and plant material: *"Notwithstanding any other provision of this part, the non-commercial cutting of standing timber by local rural residents for appropriate subsistence uses, such as firewood or house logs, may be permitted in park areas where subsistence uses are allowed as follows: For standing timber of diameter greater than three inches at ground height, the Superintendent may permit cutting in accordance with the specifications of a permit if such cutting is determined to be compatible with the purposes for which the park area was established."*

The *WRST Subsistence Log Policy* (1989, Appendix A) covers the non-commercial harvest of house-logs that are greater than 3 inches in diameter at ground height in accordance with Title 36 CFR 13.485. The policy provides for an allowable harvest not to exceed 120 trees (includes live and dead trees) for house logs. The policy also sets permit procedures and conditions that ensure protection of forest resources and compatibility with other park values. Applicants for subsistence house log permits must meet the standard permit procedures and conditions provided in the policy.

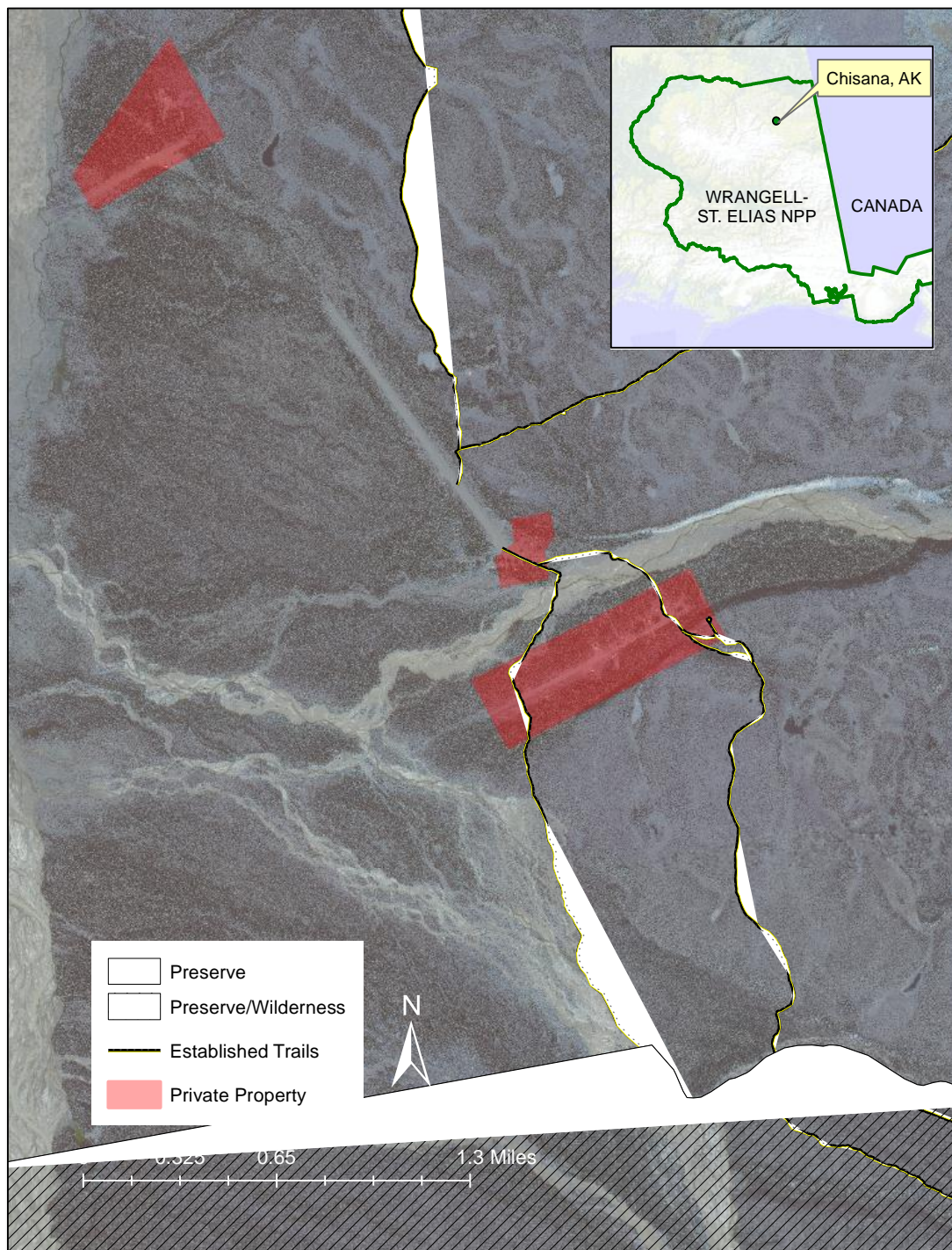


Figure 2: Location of project area, Chisana Historic Mining Landscape, Wrangell-St. Elias National Park and Preserve, Alaska.

1.3 LAWS, REGULATIONS AND POLICIES

1.3.1 NPS Organic Act, Act Amendments, and NPS Management Policy

The 1916 Organic Act directed the Secretary of the Interior and the NPS to manage national parks and monuments to: *“conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.”* (16 U.S.C. 1.)

The 1978 amendments to the 1916 Organic Act and 1970 General Authorities Act expressly articulated the role of the national park system in ecosystem protection. The amendments further reinforce the primary mandate of preservation by stating: *“The administration of activities shall be construed and the protection, management, and administration of these areas shall be conducted in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided for by Congress.”* (16 U.S.C. 1-a1.)

The NPS Organic Act and General Authorities Act prohibit impairment of park resources and values. The 2006 NPS Management Policies use the terms *“resources and values”* to mean the full spectrum of tangible and intangible attributes for which the park is established and managed, including the Organic Act’s fundamental purpose and any additional purposes as stated in the park’s establishing legislation. The impairment of park resources and values may not be allowed unless directly and specifically provided by statute. The primary responsibility of the NPS is to ensure that park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities to enjoy them.

The evaluation of whether impacts of the proposed action will lead to impairment of park resources and values is included in Appendix B. Impairment is more likely when there are potential impacts to a resource or value whose conservation is:

- Necessary to fulfill specific purposes identified in the established legislation or proclamation of the park;
- Key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or
- Identified as a goal in the park’s general management plan or other relevant NPS planning documents.

1.3.2 Park Purpose and Significance

In 1980 Congress passed and President Carter signed the Alaska National Interest Lands Conservation Act (ANILCA). Section 201(9) of ANILCA established Wrangell-St. Elias National Park and Preserve, containing over 13 million acres of public lands to be managed for the following purposes, among others: *“To maintain unimpaired the scenic beauty and quality of high mountain peaks, foothills, glacial systems, lakes and streams, valleys, and coastal landscapes in their natural state; to protect habitat for, and populations of fish and wildlife including but not limited to caribou, brown/grizzly bears, Dall's sheep, moose, wolves, trumpeter swans and other waterfowl, and marine mammals; and to provide continued opportunities, including reasonable access for mountain climbing, mountaineering, and other wilderness recreational activities.”*

Subsistence uses by local residents shall be permitted in the park where such uses are traditional, in accordance with the provisions of title VIII.”

There are eight park significance statements for Wrangell-St. Elias National Park and Preserve that define what is most important about the park’s resources and values and are tied to the park purpose. The following significance statement from the park’s Foundation Statement (NPS, 2009) is a reflection of the last sentence of the purpose statement quoted above: *Wrangell-St. Elias National Park and Preserve is an inhabited area where local communities and traditional human activities remain integrated with the wilderness setting. The park ensures the continued opportunity for local rural residents to engage in a subsistence way of life.*

1.3.3 Relevant Park Plans

General Management Plan (NPS 1986). The WRST General Management Plan states that one of the purposes of ANILCA is to provide the opportunity for local, rural residents to engage in subsistence activities, consistent with management of subsistence resources, recognized scientific principles, and purposes for which WRST was established. Subsistence management is covered in Appendix L of the general management plan, which includes a commitment by the NPS to prepare and maintain a park subsistence management plan.

WRST Subsistence Management Plan (NPS 2004). The plan provides clarification in the management of subsistence uses by addressing major aspects of subsistence management such as timber cutting, shelters and cabins, trapping, resident zones, and traditional use areas. Chapter 8 of the park subsistence management plan states that non-commercial harvesting of standing timber for appropriate subsistence uses, such as house logs or firewood, is allowed by permit. Permits may be obtained from park headquarters in Copper Center. The harvest of dead or downed wood for firewood is allowed without a permit. In regard to house log permits, the logs may only be used for construction of a primary permanent residence and may not be used for commercial purposes. In regard to firewood permits, the harvest of firewood is limited to what is reasonably required for heating and cooking at the applicant’s primary place of residence. NPS permitting of the harvest of standing timber for subsistence purposes (house logs or firewood) is addressed in the aforementioned *WRST Subsistence Log Policy* (1989, Appendix A).

1.4 ISSUES AND IMPACT TOPICS

Issues and impact topics identified during the internal scoping process for this EA are the basis for the environmental analysis in this document. A brief rationale is provided for each issue and topic analyzed in the environmental consequences section of this environmental assessment. Issues and topics considered but not addressed in this document are also identified.

1.4.1 Effects on Forest Resources and Vegetation

Harvest of live standing timber for house logs could affect forest productivity and recruitment of forest resources in the Chisana area.

1.4.2 Effects on Aquatic Resources and Fish

Cathenda and Geohenda Creeks are both known to support fisheries. Harvest of trees may reduce potential large woody debris that is necessary for healthy fish habitat. Log skidding may increase sediment transport to streams and affect bank stability.

1.4.3 Effects on Cultural Resources

The Chisana area has a high density of cultural resource sites, mostly related to historic mining and settlement in the area. Most of the project area lies within the Chisana Historic Mining District, a property listed on the National Register of Historic Places. Tree felling or log skidding could disturb or damage archaeological and historical resources in the area.

1.5 ISSUES CONSIDERED BUT DISMISSED FROM FURTHER CONSIDERATION

1.5.1 Effects on Soils

Use of a snowmachine and sled to transport harvested logs will occur in the winter season over frozen ground and snow cover. No soil impacts are expected.

1.5.2 Effects on Wilderness

The area of proposed harvest and log skidding is not in designated or eligible wilderness. The private residence is approximately 1.25 miles north of the designated wilderness boundary. Harvest and slash disposal of a maximum of 120 trees under the proposed prescription will not be visible from the designated wilderness and will occur at a time of year when wilderness visitation in the area is very limited.

1.5.3 Effects on Subsistence

No significant impact or restriction to subsistence users or fish and wildlife resources is anticipated as a result of issuing a permit for the harvest and transportation of subsistence house logs. The impacts to subsistence of the proposed action as well as the no-action alternative are discussed more fully in the ANILCA Section 810 evaluation, which is included as Appendix B of this EA.

1.5.4 Effects on Visitor Use

Possible impacts on park visitors are considered negligible because subsistence house log harvest and transport will occur outside of the summer visitation season.

1.5.5 Regional and Local Economy

Possible regional and local economic impacts are considered negligible. Expenditures of local and regional businesses for the purposes of the house log permit will be negligible. Because the purchase and hauling of logs from some alternative source (such as a sawmill in Tok) are considered cost prohibitive, issuance of the subsistence house log harvest permit will not result in a decrease of local businesses opportunities.

1.5.6 Threatened and Endangered Species

There are no federally listed or proposed species and/or designated or proposed critical habitat within the action area of the proposed project.

1.5.7 Effects on Wildlife

Possible impacts on wildlife and wildlife habitat will be temporary and localized displacement of resident species during house log harvest and transport will be considered negligible. Harvest and transportation of logs will not occur during migratory bird nesting seasons. Harvest of live trees will not affect habitat for cavity nesters.

1.5.8 Effects on Wetlands

Harvest and transport of house logs will occur in the winter season over frozen ground and snow cover. No wetland impacts will be expected.

1.5.9 Effects on Floodplains

None of the proposed actions associated with subsistence house log harvest and transport will adversely affect floodplain resources and functions, or increase the risk of flooding.

1.5.10 Effects on Visual Resources

Harvest and transport of house logs will occur in the winter season over frozen ground and snow cover. There will be no permanent visual evidence of log skidding. Slash disposal associated with the harvest of up to 120 live trees will be of a temporary nature and not visible to most park visitors.

1.5.11 Effects on Minority and Low-Income Populations

The proposed action will not result in disproportionately high direct or indirect adverse impacts on any minority or low-income population or community.

1.5.12 Effects on Invasive Species

Federal Noxious Weed Control Act and Executive Order 13112 requires all federal agencies to evaluate all projects for the possible contribution to the introduction, continued existence, or spread of non-native invasive species. The proposed action will all occur within a localized area with local equipment which will not result in the introduction of new invasive species. Because the work will occur in winter with significant snow fall, spread of invasive species that do occur in the area is unlikely.

1.5.13 Climate Change

Secretarial Order 3226 directs federal agencies to ensure that climate change impacts are considered in connection with departmental planning and decision making. It is not anticipated that climate change will have a noticeable impact during the time frame of this EA. Neither is it anticipated that the actions proposed in this EA will directly impact climate change itself.

1.6 OTHER PERMITS AND APPROVALS NEEDED TO COMPLETE THE PROJECT

None anticipated. The applicant will be responsible for obtaining permission to cross any non-federal lands.

2.0 ALTERNATIVES

2.1 INTRODUCTION

This chapter presents a no action alternative and the action alternative (the preferred) which consists of the applicants proposal modified by park stipulations (Appendix C). This chapter also includes the alternatives that will not be considered further and fully analyzed in this environmental assessment.

2.2 ALTERNATIVE A (No Action)

With the no action alternative, the applicant will not be issued a permit for harvest of green house logs. No live tree harvest or log skidding will take place. Because the hauling of purchased logs to the site via snowmachine overland is not likely, the applicant will have to consider hiring a large enough aircraft to have materials flown into Chisana to construct a frame house.

2.3 ALTERNATIVE B (Subsistence harvest and use of green house logs: Applicant's Proposal with NPS Stipulations and NPS Preferred Alternative)

Under Alternative B, the NPS will issue the applicant a special use permit for the harvest of subsistence house logs on NPS lands in the Chisana area. The applicants' harvest of subsistence house logs will be subject to the Wrangell-St. Elias Subsistence Log Policy, and associated permit procedures and conditions. The applicant will be allowed to harvest up to 120 green standing trees in the winter or under frozen conditions. The NPS will control the harvest by providing stipulations including a map showing the area to be excluded from harvesting trees (see Figure 3).

The harvest exclusion zone has been delineated to avoid potential damage to cultural resource sites. Harvest is prohibited within 100 feet of stream banks in order to provide a buffer around fish habitat. Slash disposal will consist of lopping and scattering.

The applicant will use a snowmachine to access harvest sites and to transport house logs to his private property.

The applicant will be issued a special use permit issued under the auspices of the Wrangell-St. Elias Subsistence Log Policy and 36 CFR 13.485. The subsistence house log permit will be subject to standard permit procedures and conditions, and other stipulations deemed necessary to protect the resources of WRST, including:

- Logs may only be used for a primary place of residence, and not for commercial sale or in structures used for commercial purposes. Commercial purposes include sale of whole logs, sale of lumber milled from whole logs, or construction of a lodge or other commercial structure.
- An additional subsistence house log permit will not be issued to the property owner/family for a period of 10 years after this permit is issued. This condition applies to any property subdivided or transferred subsequent to the issuance of the original subsistence house log permit. An additional house log permit may be issued in the event of an emergency or unusual and unforeseen circumstances such as fire or other damage.

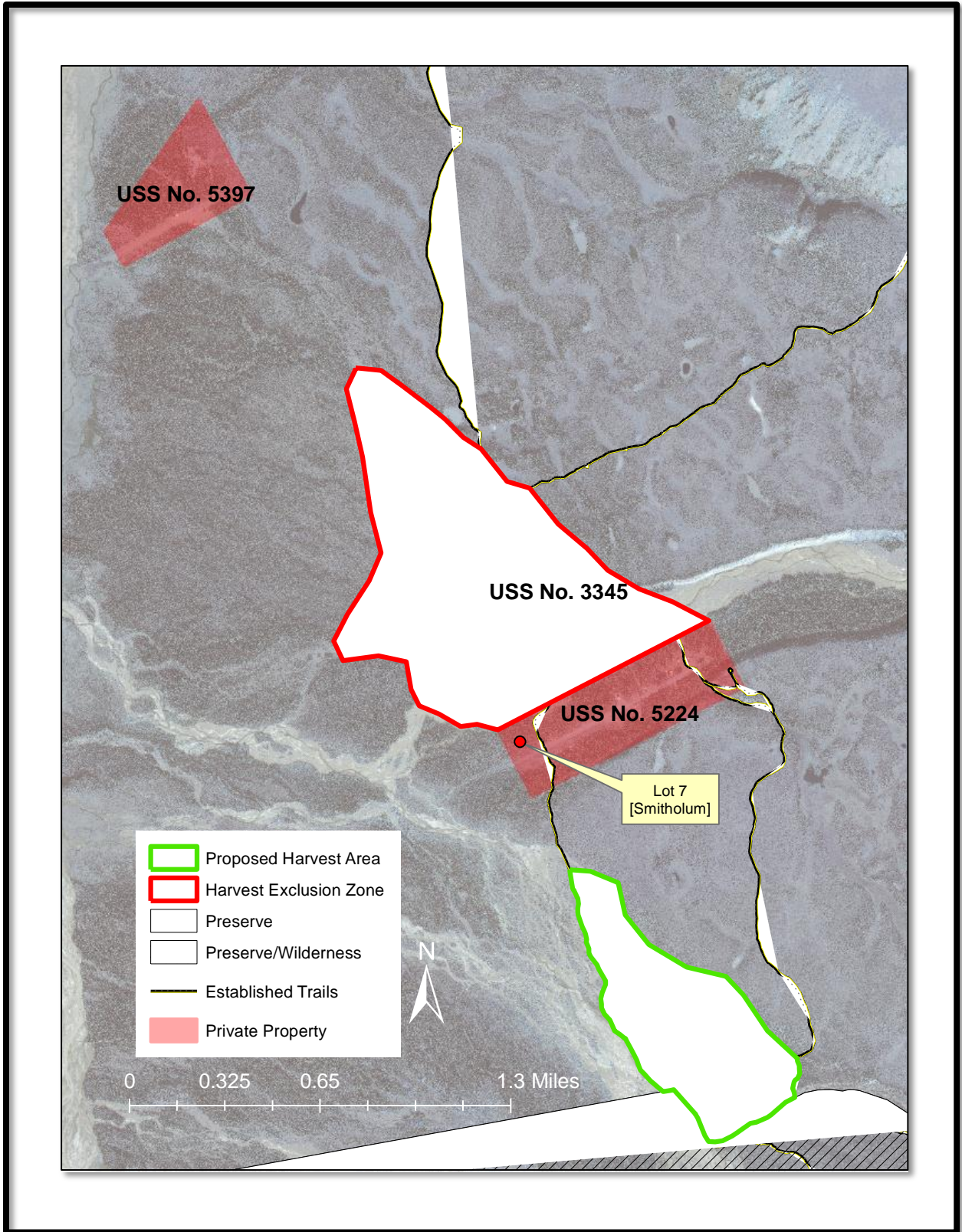


Figure 3: Project area with location of proposed harvest (approx. 200 acres) and exclusion area designed to protect cultural resources, Chisana, AK.

- In order to maintain the structure, productivity, and viability of local timber stands and to prevent post-harvest wind throw, the applicant will be permitted to harvest up to 120 live trees utilizing thinning techniques rather than clear-cutting. The applicant will maintain a minimum spacing of at least 20 feet between harvested trees.
- Harvest and skidding of logs pursuant to this permit is authorized from October 20, 2013 until April 15, 2014. Travel during the identified periods is further conditioned upon the ground being frozen to a minimum depth of 6 inches and the existence of snow cover sufficient to protect the resources (typically more than 6 inches of snow). No log skidding through open water is permitted.
- Limbs on harvested trees must be removed before they are skidded out of the stand. Slash will be lopped and scattered, with pieces not greater than five feet in length. Slash will not be deposited in running or standing water. Stumps will be cut as low to the ground as possible with a maximum 6" height.
- Harvest is prohibited within 100 feet of stream bank.
- The end of the log with the largest diameter will be suspended during skidding activities. Log skidding operations will cease if ground disturbance occurs.
- All cultural resources will be avoided. The permittee will not injure, alter, destroy, or collect any cultural resource site, object, or structure. Because of a high density of cultural resource sites, the permittee will not harvest in areas delineated on the accompanying map (Figure 3).
- If a cultural resource is inadvertently discovered by the permitted activities, the permittee will cease the activity, protect the resource, and notify the park Superintendent immediately.
- All spills of oil, petroleum products, and hazardous substances will be reported to the Alaska Department of Environmental Conservation (ADEC) in accordance with Alaska law. Immediate actions will be taken to confine the spill to the smallest possible area.

2.4 ENVIRONMENTALLY PREFERRED ALTERNATIVE

The environmentally preferred alternative is defined as the alternative that will promote the national environmental policy as expressed in section 101 of the National Environmental Policy Act. The Council on Environmental Quality's Forty Questions further clarifies the identification of the environmentally preferred alternative, stating, "simply put, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources."

The environmentally preferred alternative is Alternative A—No Action. Alternative A most closely satisfies national environmental policy and goals because no natural or historic cultural resource impacts occur although this alternative does have a negative impact on subsistence users.

However, with the standard permit procedures and conditions, Alternative B minimizes environmental impacts; protects historic, cultural and natural resources; and does not negatively impact subsistence users.

2.5 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER CONSIDERATION

The option of cutting timber for house logs from private or non-NPS lands in the area was considered and pursued by the applicant prior to his applying for a house log permit. Suitable timber on his own private property has already been cut. Other property owners in the area were not willing to sell timber for house logs. There are no state lands in the area within realistic hauling distance. Purchasing logs from outside the area or acquiring them from the nearest state lands (near Slana) and then hauling them by snowmachine into Chisana is cost prohibitive. A typical snowmachine could only haul one log at a time, and only one round trip (120 miles) could be accomplished each day. Assuming no breakdowns or bad weather and a 75-day window during which freighting is possible, it will take nearly two years for the applicant to transport the number of logs needed. Likewise hauling logs in via aircraft will be cost prohibitive for the applicant.

2.6 SUMMARY AND COMPARISON OF THE EFFECTS OF THE ALTERNATIVES

The direct and indirect effects of the no action and preferred alternatives on forest resources, water quality and fish, and cultural resources are summarized below.

Impact Topic	Alternative A: No Action	Alternative B: Preferred Alternative
Forest Resources	No effect.	Minor
Aquatic Resources and Fish	No effect.	Negligible
Cultural Resources	No effect.	Minor

3.0 AFFECTED ENVIRONMENT

This chapter describes the area in which house log harvest and transport would occur; forest resources, water quality and fish, and cultural resources that may be affected by the alternatives if implemented. The specific subjects covered in this chapter reflect the impact topics identified in the Purpose and Need for Action chapter of this environmental assessment.

3.1 OVERVIEW OF THE CHISANA AREA

Chisana (pronounced: Shoe shan' na) is a small remote Alaska village situated in the Nutzotin Mountains (**Error! Reference source not found.**). Gold was discovered near the headwaters of the Chisana River in 1913. This discovery prompted a stampede that established the town of Chisana (Bleakley 1996). Miners worked the gold fields on nearby Gold Hill, establishing camps and workings. At one time it was estimated to be the largest log cabin community in Alaska and we estimate that two hundred cabins existed in 1913 (Figure 4, Bleakley and Feldman 2006). Development lead to intensive logging for fuelwood and sustained a sawmill that was the primary source of building materials for residents and miners (Bleakley and Feldman 2006). Starting in the 1920s, both mining activities and population levels significantly declined from stampede levels (Bleakley 2007). In 1984 Chisana was registered as a historic district (Spude and Lappen 1984). The registration was revised to include the landscape in 1998 (Bleakley 1998).



Figure 4: Image of Chisana City in its heyday (NPS Photo/ Bleakley collection).

The 2010 US Census lists no residents of Chisana, however park recognizes that a few people, including the applicant, make Chisana their primary permanent place of residence. There is a total of 228 acres of private property, some of which has been subdivided, held by approximately 40

individuals, within the Chisana area. This property is used both for residential and recreational purposes. Access is gained to Chisana by one public and two private airstrips and by winter over-snow access from the end of the Nabesna Road. A mail plane provides twice a week passenger service. Chisana is the destination for a small number of park visitors and is a staging area for mining and sport hunting activities. Within Chisana, the National Park Service has rehabilitated four historic structures, including one that is available for general public use, and maintains an aviation refueling station along the state-maintained airstrip.

3.2 FOREST RESOURCES/ VEGETATION

Based on 2008 landcover mapping (Jorgenson et al. 2008), the areas of potential harvest near the applicant's private property are dominated by open and closed white spruce (30% and 60% tree cover, respectively). These landcover types are interspersed with pockets of open mixed deciduous/conifer, open tall shrub (alder), and open low shrub landcover types. These landcover types are bisected by sparsely vegetated and barren gravel floodplains of Cathenda Creek and Geohenda Creek.

In 1987, in anticipation of a future demand for subsistence house logs and firewood cutting, NPS conducted a timber inventory on the Chisana timber stand, located just north of Cathenda Creek and west of the Chisana airstrip (Beck and Connery 1987). Including approximately 900 acres, the stand is situated at an elevation of 3,300 feet. The canopy closure and vegetation type of the vast majority of the stand was estimated to be open coniferous forest. While harvest by the applicant would not likely occur in this stand, it would occur in similar stands just south of Cathenda Creek (Figure 5). Characteristics of the Chisana timber stand are used to describe the affected forest resources.



Figure 5: The vegetation in the Chisana Area from the air (NPS Photo).

The canopy closure and vegetation type of the vast majority of the Chisana stand was determined to be open coniferous forest (Beck and Connery 1987). There were, however, localized areas in the stand in which the canopy coverage was closed. The only coniferous tree species observed in the Chisana stand was white spruce (*Picea glauca*). Common understory vascular plant species included soapberry (*Shepherdia canadensis*), arctic lupine (*Lupinus arcticus*), crowberry (*Empetrum nigrum*), Labrador tea (*Ledum*

palustre), Sitka willow (*Salix sitchensis*), littletree willow (*Salix arbuculoides*), red bearberry (*Arctostaphalos rubra*), dwarf birch (*Betula nana*), sweet vetch (*Hedysarum alpinum*), lowbush cranberry (*Vaccinium vitisidaea*), and various moss and lichen species.

Estimated gross live volume in the Chisana stand was 3,043 cubic feet per acre, which was similar to sampled closed stands. Annual productivity was estimated to be 20.98 cubic feet per acre per year, or 0.26 cords of wood. The largest percentage of current annual productivity was in the nine inch DBH size class and the eleven inch DBH size class.

The Chisana timber stand has a relatively high gross live volume and current annual productivity for an interior Alaskan timber stand. Both of these values are very similar to that found in sampled closed coniferous stands (along the Nabesna Road). Live tree density (476 trees per acre) however, was only 65% of that surveyed in the closed stands. While tree densities were similar in the larger DBH size classes, the smaller size classes have much lower densities in the open stand. Low tree densities in the smaller size classes result when a stand becomes older and trees in the smaller size classes are not replaced by regeneration. Such a size class density distribution suggests stand maturity and/or over maturity. Because white spruce seedling growth is greatest at full light intensity, such stands could see increased white spruce regeneration from selective thinning.

The Chisana stand has had a history of timber harvest. In 1913, at the beginning of a short lived gold rush, 500 people move to the valley. At that time, William Ogilvie published this description: *“The miner’s cabin was always built of what he could find adjacent to the site he chose, and as the prevailing timber of the region is spruce and poplar, the walls and roof consisted of logs of those trees, of such size and length as could conveniently handle.”* By 1914, there was a two story courthouse as well as 350 to 400 other log cabins, log hotels, log stores and other log structures (Bleakley1996). By 1920, most of the town’s cabins were abandoned with many being torn down and used for firewood. The airstrip which forms the border of the Chisana stand was constructed ca. 1930 and extended in 1956 (Figure 5, Bleakley 1996). From 1913 to the present time, the Chisana timber stand has provided the majority of house logs and firewood for residents of the Chisana area. A review of special use permits issued by the NPS in the Chisana area shows three permits issued since the early 80s for a total of 506 green house logs harvested. All harvest occurred within the Chisana stand.

3.3 AQUATIC RESOURCES AND FISH

Cathenda Creek: Cathenda Creek drainage basin contains approximately 49 square miles and has a mean elevation of 5,300 feet. Most of the drainage basin is above treeline. Precipitation ranges from 20 inches in Chisana to possibly twice that amount in the mountainous headwaters. Melt from small glaciers also contributes to the summer discharge.

The river, a sixteen mile long braided gravel-bed system, passes six miles through a bedrock canyon before emerging from the mountains and flowing 3 miles to its confluence with the Chisana River. Cathenda Creek alluvial fan covers approximately 3.5 square miles and merges with Geohenda Creek fan to the southwest. Overflow, common upstream does not normally develop near Chisana because the stream dries up/freezes in the winter and/or surface flow submerges.

Regional flood frequency calculations based upon USGS equations yield discharges up to 2,376 cubic feet per second (CFS) for a 500 year event (Jones and Fahl 1993). Average daily discharge is probably comparable to the 62 CFS measured in June, 1996. Bankful discharge is estimated at

300 CFS. Sediment particle size within the fan ranges from clay/silt to cobble (10 inches). Discharges above 300 CFS will initiate bedload movement of particles less than 3 inches (NPS 1997).

Fish surveys conducted in 2003 show the presence of Arctic grayling and round whitefish in Cathenda Creek (Markis et al. 2004).

Geohenda Creek: Geohenda Creek originates at a small glacier and flows approximately 16.5 miles to its confluence with the Chisana River. Like Cathenda Creek, Geohenda Creek is characterized by a wide gravel floodplain with braided channels that migrate across the floodplain over time. Its water runs slightly turbid.

Fish surveys conducted in 2003 show the presence of Arctic grayling, round whitefish, and slimy sculpin (Markis et al. 2004). For both Cathenda Creek and Geohenda Creek, woody debris is very important fish habitat and should be left in place.

3.4 CULTURAL RESOURCES

Cultural resources in the Chisana Historic Mining District include: historic properties as defined in the National Historic Preservation Act (NHPA), cultural items as defined in the Native American Graves Protection and Repatriation Act (NAGPRA), and archeological resources as defined in the Archeological Resources Protection Act (ARPA).

As defined by the NHPA, a “historic property” is any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (NRHP), including any artifacts, records, and remains that are related to and located in such properties. As defined by ARPA, archeological resources include any materials of human life or activities that are at least 100 years old, and that are of archeological interest.

Section 106 of the NHPA provides the framework for Federal review and consideration of cultural resources during Federal project planning and execution. The implementing regulations for the Section 106 process (36 CFR Part 800) have been promulgated by the Advisory Council on Historic Preservation (ACHP). The Secretary of the Interior maintains the NRHP and sets forth significance criteria (36 CFR Part 60) for inclusion in the register. Cultural resources may be



Figure 6: Historic Structure in Chisana Historic Mining District (NPS Photo/ K. Greg Biddle)

considered “historic properties” for the purpose of consideration by a Federal undertaking if they meet NRHP criteria.

Gold was discovered near the headwaters of the Chisana River in 1913. This discovery prompted a stampede that established the town of Chisana. Miners worked the gold fields on nearby Gold Hill, establishing camps and workings. On September 9, 1913, 75 miners established a new town site near the mouth of Cathenda Creek called “*Johnson City*”. Postal officials re-designated the town Chisana City. By mid-October the newly created town site contained two streets, two grocery stores, a post office, the district’s third recording office and about 200 cabins. Tony Dimond was selected to be the new commissioner, arriving in Chisana in late November. By the end of 1913, this booming town now boasted over 400 cabins, a hotel, a boarding house, a restaurant, a saloon, four stores, two meat markets, and two barbershops. In February 1914, one newspaper, the *Cordova Daily Alaskan*, called Chisana the “*largest log cabin town in the world*” (Figure 6).

Mining activities in the Chisana district were short and intense, and were in decline not soon after the rush had gained momentum. By 1915 many miners had already decamped for other pursuits and Chisana City contained only 18 businesses, including saloons, stores and lodging establishments. By 1920 the population had declined further, with the 1920 census recording 148 residents in the vicinity. In 1929, an airstrip was constructed which provided greater access. Within a couple years Chisana began receiving regular air service, encouraging continued mining activities in the region. During the 1940s, Chisana became a substantial Native community and nearby mining decreased considerably, due in part to World War II.

About this time hunting guides became established in Chisana City. Mining continued into the 1950s but at a much lower level, and many of these miners resided in Chisana. In the 1950s, 60s, and 70s, much of the land in and around the historic Chisana town site was filed on as homesteads. Some were successful. Consequently, parts of the historic Chisana town site are today located within private property boundaries, while other parts are located on federal land.

Chisana was nominated to the NRHP in 1985. No archeological survey had been done and only that part of the town site which contained standing structures was included within the historic district boundaries. The nomination included 26 structures, 20 of which were considered contributing to the nomination. In 1998 the nomination was expanded to include the Gold Hill landscape and was called the Chisana Historic Mining Landscape. The area includes 27,216 acres.

An archeological survey was conducted within and on lands adjacent to the National Register District in 1995 and 1996. The purpose of this survey was to determine the boundaries of the historic town site and document all archeological sites within those boundaries. Areas on both sides of Cathenda Creek were examined. Within the area investigated 125 sites were identified. Twenty four sites were documented on the south side of Cathenda Creek, while the remaining sites are located on the north side. These include not only structures with walls (Figure 6), but also structural foundations, and artifact scatters.

While historic records talk about a booming metropolis of 400-500 structures during the height of the rush not that many structures remain today. Of the known sites less than one quarter contain

standing walls of some degree or another. Many of the previous habitation sites presently consist of a rectangular outline that reflects the foundation or sill log and rectilinear depressions that frequently flanked the walls. Construction of an airstrip along an old stream channel no doubt eliminated evidence of many structures. It is also evident that meandering channels of Cathenda Creek flooded or removed other sections of the town.

High densities of archeological sites are located around the old Chisana town site and the airstrip north of Cathenda Creek and between Cathenda Creek and the 80-acre subdivision where the applicant's private tract is located.

4.0 ENVIRONMENTAL CONSEQUENCES

The National Environmental Policy Act (NEPA) mandates that the environmental consequences of a proposed federal action be disclosed to the public. In this case, the proposed federal action is issuing a subsistence house log permit to the applicant who makes his primary permanent residence within Wrangell-St. Elias National Park and Preserve. This chapter of the EA presents the potential effects of the no-action and proposed action alternatives on cultural resources, forest resources; and aquatic resources and fish. These effects provide a basis for comparing the advantages and disadvantages of the alternatives. The specific subjects covered in this chapter reflect the impact topics identified in Chapter 1 of this document, Purpose and Need for Action.

The environmental consequences to each impact topic are described in terms of direct, indirect, and cumulative with a conclusion. Impact thresholds are negligible, minor, moderate, and major.

For *natural resources impact topics*: negligible means that impacts will not be detectable, measurable, or observable. Minor means that impacts are detectable but not expected to have an overall effect on the resource. Moderate means that impacts are detectable with possible short-term effects, but will not threaten the continued existence or viability of the resource. Major means that impacts are long-term or permanent, and possibly threatening to the continued existence or viability of the resource.

For *cultural resources*: negligible means effects at the lowest level of detection that are neither adverse nor beneficial. The determination of effect for NHPA-compliance purposes will be “No Historic Properties Affected” or “No Adverse Effect.” Minor means that adverse alteration of a feature will not diminish the overall integrity of the resource, and the determination of effect will be “No Adverse Effect.” Moderate means that adverse modification of a feature will diminish the overall integrity of the resource, and the NHPA determination will be an “Adverse Effect.” A memorandum of agreement (MOA) will be executed among NPS, state or tribal historic preservation officer, and Advisory Council on Historic Preservation (if necessary) in accordance with 36 CFR 800.6(b) with measures identified to minimize or mitigate adverse impacts and reduce the intensity of impact under NEPA from moderate to minor or negligible. Major means alteration of a feature that will diminish the overall integrity of the resource and the determination of effect will be adverse effect. Mitigation measures will follow those resulting from a moderate NEPA impact, but will likely be more extensive

4.1 EFFECTS ON FOREST RESOURCES

4.1.1 Alternative A – No Action Alternative

Direct and Indirect Impacts: Under this alternative, the applicants will acquire building materials from commercial sources or other sources external to parklands. The applicants will transport the materials to the Chisana area private property using airplanes; which will not require NPS permitting. No live green trees will be harvested from park lands for house construction; there will be no impacts on forest resources.

Cumulative Impacts: Historic mining activities and settlement in the Chisana valley have cleared routes and development sites. Selective logging dating back to the mining era has affected forest resources. Since the mid-80s, NPS has issued permits for the harvest of 506 green house logs in the Chisana area. Additionally, annual harvest of dead and down material for subsistence firewood has occurred and will continue to occur in the area. Despite past logging to support mining and settlement, timber inventory of the Chisana stand conducted in 1987 showed an open coniferous stand with above average productivity (Beck and Connery, 1987). While past logging and firewood gathering have had effects on the forest resource, they have not threatened the continued existence or viability of the resource. This alternative will have no direct and indirect impacts on forest resources; there will be moderate adverse cumulative impacts on forest resources.

Conclusion: Alternative A will have negligible direct and indirect impacts on forest resources. There will be moderate adverse cumulative impacts on forest resources.

4.1.2 Alternative B – Subsistence Use of Green House Logs (*Applicants Proposal and NPS Preferred*)

Direct and Indirect Impacts: Under this alternative, the NPS will issue a subsistence house log permit to the applicant for harvest of up to 120 green trees. Foresters from the Institute of Northern Forestry in Fairbanks indicated that the removal of between 1/4 and 1/3 of the basal area present in many portions of timber stands such as Chisana, could be done without negatively altering the structure or viability of the stand (Beck and Connery 1987). While the harvest of up to 120 green trees under the stipulations described (minimum space of 20' between harvested trees) could result in the harvest of more than 1/4 of the basal area present in a one or two acre area, the area of probable harvest is approximately 200 acres in size and effects are not likely to be measurable at that scale. Slash will be removed and widely scattered to avoid increased wildfire fuel loading. Harvest and transportation of house logs during the winter with adequate snow cover will have little effect on ground vegetation. Overall, the impacts to forest resources will be detectable but not expected to have an overall effect on the resource. This will be a minor impact. As discussed above (section 3.3), the selective thinning provided by the prescribed spacing of harvested trees could have some positive benefit on regeneration of white spruce seedlings.

Cumulative Impacts: Description of past, present, and reasonably foreseeable actions (timber harvest to support mining and settlement activities) are discussed under Alternative A. These practices have resulted in a moderate impact to area forest resources. The additional contribution of minor impacts from this alternative will result in moderate adverse cumulative impacts on forest resources.

Conclusion: Alternative B will have minor direct and indirect adverse impacts on forest resources. There will be moderate adverse cumulative impacts on forest resources.

4.2 EFFECTS ON AQUATIC RESOURCES AND FISH

4.2.1 Alternative A – No Action Alternative

Direct and Indirect Impacts: Under this alternative, no timber harvest for house logs will occur. There will be no direct and indirect impact to aquatic resources and fish.

Cumulative Impacts: Placer gold mining in tributaries draining Gold Hill has had an unknown effect on Cathenda Creek near Chisana. Streambed gravel was processed using boomer dams. Bench placers were hydraulically mined between 1912 and the 1940s. Placer mining altered stream flow characteristics and introduced sediment. As a result of these past mining activities, Cathenda Creek is an unstable system. Comparison of existing streambed conditions with abandoned channels indicates that the current streambed may be wider and shallower. These impacts have resulted in a moderate impact to aquatic resources and fish habitat.

Past, present and future firewood harvest has and will continue to remove large woody debris from Cathenda Creek and, to a lesser degree, Geohenda Creek.

The above past, ongoing, and reasonably foreseeable future actions have caused moderate adverse impacts to aquatic resources and fish habitat. The additional contribution of negligible impacts from the no action alternative will not change this; therefore, the overall cumulative impacts to aquatic habitat and fish will be moderate.

Conclusion: Alternative A will have negligible direct and indirect impacts on aquatic resources and fish. There will be moderate adverse cumulative impacts on aquatic resources and fish.

4.2.2 Alternative B – Subsistence Use of Green House Logs (*Applicants Proposal and NPS Preferred*)

Direct and Indirect Impacts: Under this alternative the impact causing agents will include removal of trees that could eventually contribute large woody debris to the stream system; access to cutting sites and log skidding across streams; and possible fuel spills. Crossing when the water is frozen will mitigate the negative impacts to fish, fish eggs/embryos, and macro invertebrates because snowmachining and log skidding over ice will prevent mobilization of fine sediments in the stream channel.

Alteration of large woody debris will be negligible with the proposed action. Permit conditions will not allow harvest of logs within 100 feet of Cathenda or Geohenda creeks or any other water body. Large woody debris will continue to contribute to the natural function of the streams.

Alternative B minimizes the risk of a fuel spill and its negative impacts to the aquatic ecosystem with permit conditions that require appropriate measures to prevent fuel spills and provide rapid containment of spilled fuel. The risk of spilled fuel entering the stream channel in quantities large enough to result in a significant impact to fish populations is extremely low.

Cumulative Impacts: Past, ongoing, and reasonably foreseeable future actions have caused moderate adverse impacts to fish habitat. The additional contribution of negligible impacts from the proposed action alternative will not change this; therefore, the overall cumulative impacts to aquatic habitat and fish will continue to be moderate.

Conclusion: Alternative B will have negligible direct and indirect adverse impacts on aquatic resources and fish. There will be moderate adverse cumulative impacts on aquatic resources and fish.

4.3 EFFECTS ON CULTURAL RESOURCES

4.3.1 Alternative A – No Action Alternative

Direct and Indirect Impacts: Under this alternative, the applicant will acquire building materials from commercial sources or other sources external to park lands. The applicant will transport the materials to Chisana area private property using airplanes, which will not require NPS permitting. No live green trees will be harvested from park lands for house construction; there will be no impacts on cultural resources.

Cumulative Impacts: Archeological sites in the Chisana area have been and will continue to be impacted or lost because of the following factors:

- Stream bank erosion and channel migration along Cathenda Creek (NPS 1997).
- Construction of the airstrip in 1929, which eliminated evidence of many historic structures (NPS 1997).
- Past use of historic structures for firewood.

These actions have occurred in the past and have resulted in a moderate impact to cultural resources.

Reasonably foreseeable actions that might impact cultural resources include the following:

- Continued subsistence activities in the area, including collection of firewood and harvest of house logs. Cultural resource sites may be damaged in access to these activities or by accidental occurrences (such as timber falling on a historic structure).

These actions could result in minor to moderate impacts to cultural resources.

Together, the combination of past, present and reasonably foreseeable actions has resulted in a moderate impact to area cultural resources.

Conclusion: Alternative A will have no direct or indirect impacts on cultural resources. There will be moderate adverse cumulative impacts on cultural resources.

4.3.2 Alternative B – Subsistence Use of Green House Logs (*Applicants Proposal and NPS Preferred*)

Direct and Indirect Impacts: Accessing harvest areas via snowmachine during periods for frozen ground and adequate snow cover will have no effect on cultural resources. The map provided with the permit (Figure 3) identifies known areas with a high concentration of cultural sites. Not harvesting green house logs in these areas will minimize the potential for damaging sites via accidental falling of trees and/or skidding logs through a site. Not harvesting within these areas

will mitigate the adverse effects to these features, which contribute to the National Register-eligible cultural landscape.

Because a low probability of accidental damage to a cultural site outside the avoidance area exists, direct and indirect impacts from this alternative will be considered minor.

Cumulative Impacts: Past, present, and reasonably foreseeable actions are described under Alternative A and are the same for alternative B. The effects of these actions on cultural resources are moderate.

Conclusion: Alternative B will have negligible direct and indirect impacts on cultural resources. There will be moderate adverse cumulative impacts on cultural resources.

5.0 CONSULTATION AND COORDINATION

5.1 REFERENCES USED

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5.2 COORDINATION

Preparers: Wrangell-St. Elias National Park and Preserve Staff

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Barbara Cellarius – Cultural Anthropologist and Subsistence Coordinator

K. Greg Biddle – Archeologist and NHPA/ 106 Coordinator
Miranda Terwilliger – Ecologist
Molly McCormick – Fisheries Biologist

5.3 CONSULTATION WITH OTHER AGENCIES

A scoping letter was sent out to state and federal agencies as well as the Cheesh'na Tribal Council.

APPENDIX A: WRANGELL-ST. ELIAS NATIONAL PARK AND PRESERVE SUBSISTENCE LOG POLICY

L30

January 1, 1989

Memorandum

To: Park Staff
From: Superintendent, Wrangell-St. Elias NP/P
Subject: Subsistence Green Log Policy

It is the policy of the Superintendent, Wrangell-St. Elias National Park and Preserve, to allow for the non-commercial cutting of green logs in accordance with the provisions of the Alaska National Interest Lands Conservation Act (ANILCA) and Title 36 CFR, Part 13.49, "... the Superintendent may permit cutting in accordance with the specifications of a permit if such cutting is determined to be compatible with the purposes for which the park area was established". This policy covers the non-commercial cutting of live standing timber (green logs) for appropriate subsistence uses, such as houselogs or firewood greater than 3" at ground height. Of primary concern to the National Park Service is the maintenance and protection of forest resources and other park values. Subsistence green log permits will only be issued if it can be shown that harvest will not impair or otherwise degrade the viability of the forest resource and other park values.

Applicants for subsistence green log permits must meet the following conditions prior to issuance of a permit by the Park Superintendent.

STANDARD PERMIT PROCEDURES AND CONDITIONS:

For subsistence house log permits, the applicant must demonstrate a significant need for green logs, and may only be used for a primary place of residence.

Applicant, generally, must live within the park boundary and have demonstrated a customary and traditional use of park resources.

Applicant must provide evidence of exploring reasonable alternative sources for logs such as logs from state, private or university lands, or by transporting logs which are harvested outside the park, to the building site. The Superintendent will also consider the availability of suitable downed timber from both private and public lands in determining amount of green logs to be taken from park lands.

For subsistence house log permits, the applicant must submit a rough plan/sketch, dimensions and proposed method of construction to the Superintendent before permit is considered.

For subsistence house log permits, the allowable harvest shall not exceed 120 trees (includes both live and dead trees), the amount required for a cabin of 280

sq. ft. (determined on the basis of the average size of 237 cabins identified on park/preserve lands). This amount includes a 20% allowance for waste, unusable wood, tree size variability and miscellaneous needs.

For firewood permits, the applicant will be limited to what is reasonably needed for purposes of heating, cooking, etc. in the primary place of residence.

The Superintendent may further limit the amount of logs based on concerns for forest viability, limited annual production and potential impact on park values.

Subsistence house logs may only be used for a primary residence and may not be used for commercial purposes (sale of whole logs or sale of lumber cut from subsistence logs) or in structures used for commercial purposes (lodges, etc.).

Green logs granted for firewood use may be used only for that purpose and may not be used for house construction, saw timber or other uses unless specifically authorized on the permit.

All subsistence logs, must be marked and measured by NPS staff prior to harvest.

The Superintendent will designate access routes to be used for harvesting and skidding subsistence green logs.

Subsistence green logs may not be harvested farther than one half mile from a designated access route.

Timber felling and skidding will be limited by ground conditions and season to protect resource values and is generally limited to frozen ground with a minimum of 6-12" of snow cover.

An additional subsistence house log permit will not be issued to a landowner/family for a period of 10 years after the previous permit was issued. This condition applies to any land subdivided or transferred subsequent to the issuance of the original subsistence house log permit.

An additional subsistence house log permit may be issued due to emergency or unusual and unforeseen circumstances (fire, other damage, etc.).

Subsistence firewood permits may be issued on a yearly basis.

Permits may not be issued in zones or areas where subsistence timber harvest would result in a threat to the viability of the forest resource or which would

otherwise compromise the purposes for which the park was established.

Environmental, archeological, historical and subsistence compliance may be required prior to issuance of subsistence log permit.

The Special Use Permit (10-114) shall be the permitting instrument and shall be completed in accordance with NPS-53.

Violation of the terms and conditions of the permit may result in an immediate revocation of the permit by the Superintendent.

Subsistence green log permits may only be issued by the Superintendent or his designee.

Richard H. Martin
Superintendent

APPENDIX B: ANILCA Section 810(a) Summary Evaluation and Findings

I. INTRODUCTION

This section was prepared to comply with Title VIII, Section 810 of the Alaska National Interest Lands Conservation Act (ANILCA). It summarizes the evaluations of potential restrictions to subsistence uses which could result from the proposed action by the National Park Service (NPS) to issue a special use permit for subsistence house logs. The permit would authorize the harvest and transportation of standing live timber (up to 120 logs) near Chisana in Wrangell-St. Elias National Preserve, Alaska. The no-action alternative is also analyzed.

II. THE EVALUATION PROCESS

Section 810(a) of ANILCA states:

"In determining whether to withdraw, reserve, lease, or otherwise permit the use, occupancy, or disposition of public lands ... the head of the federal agency ... over such lands ... shall evaluate the effect of such use, occupancy, or disposition on subsistence uses and needs, the availability of other lands for the purposes sought to be achieved, and other alternatives which will reduce or eliminate the use, occupancy, or disposition of public lands needed for subsistence purposes. No such withdrawal, reservation, lease, permit, or other use, occupancy or disposition of such lands which will significantly restrict subsistence uses shall be effected until the head of such Federal agency -

(1) gives notice to the appropriate State agency and the appropriate local committees and regional councils established pursuant to section 805;

(2) gives notice of, and holds, a hearing in the vicinity of the area involved; and

(3) determines that (A) such a significant restriction of subsistence uses is necessary, consistent with sound management principles for the utilization of the public lands, (B) the proposed activity will involve the minimal amount of public lands necessary to accomplish the purposes of such use, occupancy, or other disposition, and (C) reasonable steps will be taken to minimize adverse impacts upon subsistence uses and resources resulting from such actions."

ANILCA created new units and additions to existing units of the national park system in Alaska. Wrangell-St. Elias National Park, containing approximately eight million one hundred and forty-seven thousand acres of public lands, and Wrangell-St. Elias National Preserve containing approximately four million one hundred and seventeen thousand acres of public lands, was created by ANILCA, section 201(9), for the following purposes:

"To maintain unimpaired the scenic beauty and quality of high mountain peaks, foothills, glacial systems, lakes, and streams, valleys, and coastal landscapes in their natural state; to protect habitat for, and populations of, fish and wildlife including but not limited to caribou, brown/grizzly bears, Dall's sheep, moose, wolves, trumpeter swans and other waterfowl, and marine mammals; and to provide continued opportunities including reasonable access for mountain climbing, mountaineering, and other wilderness

recreational activities. Subsistence uses by local residents shall be permitted in the park, where such uses are traditional, in accordance with the provisions of Title VIII.”

The potential for significant restriction must be evaluated for the proposed action's effect upon "...subsistence uses and needs, the availability of other lands for the purposes sought to be achieved and other alternatives which will reduce or eliminate the use."

III. PROPOSED ACTION ON FEDERAL LANDS

The National Park Service is considering two alternatives in response to a request for subsistence house logs from a local rural resident and property owner in the Chisana area of Wrangell-St. Elias National Park and Preserve (WRST). In January 2013 the applicant requested to harvest live standing timber (up to 120 logs) to construct a small private residence (about 500 square feet) on private property within the preserve. The NPS is considering issuing a special use permit to authorize this harvest. A full discussion of the alternatives and their anticipated effects is presented in the EA. The alternatives are summarized briefly below with particular attention to subsistence resources.

Alternative A (No Action Alternative): The applicant will not be issued a subsistence house log permit. No live tree harvest or log skidding will take place. Because the hauling of purchased logs to the site via snowmachine is not a viable option, the applicant will have to consider hiring a large enough aircraft to have materials flown into Chisana to construct a frame house. This alternative represents a continuation of the existing condition and provides a baseline for evaluating the changes and impacts of the action alternative.

Alternative B (Proposed Action Alternative): The NPS will issue a permit to allow the harvest of up to 120 house logs on NPS lands in the Chisana area. The applicant's harvest of subsistence house logs will be subject to the Wrangell-St. Elias Subsistence Log Policy and associated permit procedures and conditions. Harvest and skidding of logs pursuant to this permit is authorized from October 20, 2013 until April 15, 2014. The applicant will harvest timber on national preserve lands in the Chisana area during the winter or spring season with adequate snowfall. A snowmachine will be used to transport logs from the harvest location to the construction site on private property.

IV. AFFECTED ENVIRONMENT

A summary of the affected environment pertinent to subsistence use is presented here. The following documents contain additional descriptions of subsistence uses within Wrangell-St. Elias National Park and Preserve:

Bleakley, Geoffrey T. 2002. *Contested Ground, An Administrative History of Wrangell-St. Elias National Park and Preserve, Alaska, 1978-2001*, NPS Alaska Region.

Haynes, Terry L., Martha Case, James A. Fall, Libby Halpin, and Michelle Robert. 1984. *The use of Copper River salmon and other wild resources by Upper Tanana communities, 1983-1984*. ADF&G Division of Subsistence, Technical Paper No. 115.

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NPS Alaska Region. *Wrangell-St. Elias National Park and Preserve Subsistence Users Guide*. (Updated most recently in 2005.)

Stratton, Lee, and Susan Georgette. 1984. *Use of fish and game by communities in the Copper River Basin, Alaska: a report on a 1983 household survey*. ADF&G Division of Subsistence, Technical Paper No. 107.

Subsistence uses are allowed within Wrangell-St. Elias National Park and Preserve in accordance with Titles II and VIII of ANILCA. The national preserve is open to federal subsistence uses and state-authorized general (sport) hunting, trapping and fishing activities. NPS qualified local rural residents who live in one of the park's twenty-three resident zone communities or have a special subsistence use permit issued by the park superintendent under 36 CFR 13.440 may engage in subsistence activities within Wrangell-St. Elias National Park. State regulated sport fishing is also allowed in the national park.

The area affected by this proposed action is located within the national preserve. To engage in Federal subsistence hunting and wildlife harvest activities in Wrangell-St. Elias National Preserve, you must be a local rural resident that maintains your primary place of residence in a rural community or area that has a positive customary and traditional use determination for the species and the area where you wish to take fish and wildlife.

Based on 2010 U.S. Census data, the National Park Service estimates that approximately 5,200 individuals are eligible to engage in federal subsistence activities in Wrangell-St. Elias National Park and Preserve. These activities include hunting, trapping, fishing, berry picking, gathering mushrooms and other plant materials, collecting firewood, and harvesting timber for house construction. The Copper, Nabesna, Chisana and Chitina rivers serve as popular riverine access routes for subsistence users. Most of the subsistence fishing takes place in the Copper River.

Chisana is a small remote Alaska village situated in the Nutzotin Mountains. Gold was discovered near the headwaters of the Chisana River in 1913. This discovery prompted a stampede that established the town of Chisana. Miners worked the gold fields on nearby Gold Hill, establishing camps and workings. Starting in the 1920s, both mining activities and population levels significantly declined from stampede levels.¹ The 2010 US Census lists no residents of Chisana, however park staff conversations with local residents suggests that a handful of people, including the applicant, make Chisana their primary place of residence. Currently, a total of 228 acres of private property, held by approximately 40 individuals, lies within the alluvial fan. Access is gained to Chisana by one public and two private airstrips and by winter over-snow access from the end of the Nabesna Road. A mail plane provides twice a week passenger service. Chisana is the destination for a small number of park visitors and is a staging area for mining and sport hunting activities. The National Park Service has rehabilitated four historic structures, including one that is available for general public use, and maintains an aviation refueling station along the state-maintained airstrip.

Freshwater fish have been observed in both Cathenda and Geohenda creeks. Surveys conducted in 2003 show the presence of Artic grayling and round whitefish in Cathenda Creek and of Artic grayling, round whitefish, and slimy sculpin in Geohenda Creek. Moose, caribou, grizzly bear and a number of furbearer species occur within the Chisana area. According to 1997 landcover mapping, the areas of potential harvest near the applicant's private property are dominated by open and closed white spruce forest (30% and 60% tree cover, respectively). These landcover types are interspersed with pockets of open mixed deciduous/conifer, open tall shrub (alder), and open low shrub. These landcover types are bisected by sparsely vegetated gravel floodplains of Cathenda Creek and Geohenda Creek. Due to the site's remote location and low year round population, subsistence use of the affected area is very limited.

The NPS recognizes that patterns of subsistence use vary from time to time and from place to place depending on the availability of wildlife and other renewable natural resources. A subsistence harvest in a given year may vary considerable from previous years due to weather conditions, migration patterns, and natural population cycles.

V. SUBSISTENCE USES AND NEEDS EVALUATION

To determine the potential impact on existing subsistence activities, three evaluation criteria were analyzed relative to existing subsistence resources which could be impacted.

The evaluation criteria are as follows:

1. the potential to reduce important subsistence fish and wildlife populations by (a) reductions in numbers, (b) redistribution of subsistence resources, or (c) habitat losses;

¹ Bleakley, Geoffrey T. 2007 (revised and expanded web version). *A History of the Chisana Mining District, Alaska, 1890-1990*. NPS Alaska Region, Resources report NPS/AFARCR/CRR-96/29. (Accessed on 2/21/2013 at <http://www.nps.gov/wrst/historyculture/upload/chisanaminingdistricthistory.pdf>.)

2. what effect the action might have on subsistence fisher or hunter access; and
3. the potential for the action to increase fisher or hunter competition for subsistence resources.

The potential to reduce populations:

No significant impact in the number or distribution of fish or wildlife harvested for subsistence is anticipated as a result of the proposed action or the no-action alternative. The proposed harvest area and lands between there and the home site might see a minor amount of temporary dislocation of wildlife while the timber is harvested and transported. The proposed permit stipulations prohibiting harvests along creeks, measures intended to prevent fuel spills, and requiring that transport under frozen conditions minimize any impact to fish populations. Similarly, the no-action alternative will not impact the number or distribution of fish populations important for subsistence.

The effect on subsistence access:

The proposed actions are not anticipated to result in a significant restriction to subsistence access. Access for federal subsistence uses in the Wrangell-St. Elias National Park and Preserve is granted pursuant to Section 811 of ANILCA. Allowed means of access by federally qualified subsistence users in Wrangell-St. Elias National Park and Preserve include motorboat, snowmachine (subject to frozen ground conditions and adequate snow cover), ORVs, and airplane (preserve only), along with non-motorized means such as foot, horses, and dog teams.

The potential to increase competition:

The proposed actions are not expected to increase competition for subsistence resources on federal public lands within the affected area, and thus not to result in a significant restriction on subsistence uses. Federal subsistence activities in the study area are limited due to the site's remote location (Figure 2).

VI. AVAILABILITY OF OTHER LANDS

The EA and this evaluation have described and analyzed the proposed alternatives. No other alternatives that will reduce or eliminate the use of public lands needed for subsistence purposes were identified. As part of the application process, the applicant was required to investigate alternative material sources; however no viable alternatives were identified. The amount of land affected by the proposed action is minimal in relation to the overall amount of federal public land in the park and the preserve, however, and it is possible for subsistence users to utilize other lands.

VII. ALTERNATIVES CONSIDERED

The EA and this evaluation have described and analyzed the proposed alternatives. The proposed actions are consistent with NPS mandates, WRST's Subsistence Log Policy, and the General Management Plan for the park and preserve. No other alternatives that will reduce or eliminate the use of public lands needed for subsistence purposes were identified.

VIII. FINDINGS

This analysis concludes that none of the alternatives discussed in this evaluation will result in a significant restriction of subsistence uses.

APPENDIX C: List of Park Stipulations for Smitholum Subsistence House Log Permit

- Logs may only be used for a primary place of residence, and not for commercial sale or in structures used for commercial purposes. Commercial purposes include sale of whole logs, sale of lumber milled from whole logs, or construction of a lodge or other commercial structure.
- An additional subsistence house log permit will not be issued to the property owner/family for a period of 10 years after this permit is issued. This condition applies to any property subdivided or transferred subsequent to the issuance of the original subsistence house log permit. An additional house log permit may be issued in the event of an emergency or unusual and unforeseen circumstances such as fire or other damage.
- In order to maintain the structure, productivity, and viability of local timber stands and to prevent post-harvest wind throw, the applicant will be permitted to harvest up to 120 live trees utilizing thinning techniques rather than clear-cutting. The applicant will maintain a minimum spacing of at least 20 feet between harvested trees.
- The applicant will use a snowmachine to access harvest sites and to transport house logs to his property.
- Harvest and skidding of logs pursuant to this permit is authorized from October 20, 2013 until April 15, 2014. Travel during the identified periods is further conditioned upon the ground being frozen to a minimum depth of 6 inches and the existence of snow cover sufficient to protect the resources (typically more than 6 inches of snow). No log skidding through open water is permitted.
- Limbs on harvested trees must be removed before they are skidded out of the stand. Slash will be lopped and scattered, with pieces not greater than five feet in length. Slash will not be deposited in running or standing water. Stumps will be cut as low to the ground as possible with a maximum 6" height.
- Harvest is prohibited within 100 feet of stream bank.
- The end of the log with the largest diameter will be suspended during skidding activities. Log skidding operations will cease if ground disturbance occurs.
- All cultural resources will be avoided. The permittee will not injure, alter, destroy, or collect any cultural resource site, object, or structure. Because of a high density of cultural resource sites, the permittee will not harvest or transport house logs in areas delineated on the accompanying map (Figure 3).
- If a cultural resource is inadvertently discovered by the permitted activities, the permittee will cease the activity, protect the resource, and notify the park Superintendent immediately.
- All spills of oil, petroleum products, and hazardous substances will be reported to the Alaska Department of Environmental Conservation (ADEC) in accordance with Alaska law. Immediate actions will be taken to confine the spill to the smallest possible area.

- It is the permittees responsibility to obtain prior approval from landowners for access to or across private lands within the park and preserve.
- The permittee must maintain his/her status as a local rural resident eligible to engage in subsistence in Wrangell-St. Elias National Park. This means that he or she must make his primary permanent residence within the resident zone for Wrangell-St. Elias National Park or hold a 13.440 subsistence eligibility permit (36 CFR 13.420) and live in a rural area. The permit shall be terminated should the permittee fail to do so.