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Mitchell Bay Watershed

Landscape Assessment



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Executive Summary

Introduction

Over the last several years, the Forest Service has consulted with the many groups who live in or regularly frequent the Mitchell Bay watershed on Admiralty Island on the Tongass National Forest. Through those discussions, the Forest Service has identified several issues of concern regarding management of the watershed, mostly related to user conflicts and the economic prosperity and cultural integrity of the area.

This landscape assessment provides the means for formally identifying and analyzing these issues of concern. Based upon this analysis, recommendations can be made for future management priorities. The major issues identified in this analysis include:

- 1) Economic Development: Angoon shows potential signs of economic distress, and the community is actively seeking ways to bolster the local economy;
- 2) Subsistence: Subsistence uses of coho and sockeye salmon may be impacted by guides fishing in Mitchell Bay assessment area;
- 3) Recreation: The cultural integrity of the Angoon tribe may be impacted by guides bringing people to the Mitchell Bay area;
- 4) ANILCA: A common understanding of cooperative management between the Forest Service and Kootznoowoo, Inc. under ANILCA is needed; and
- 5) Archeological Resources: The Forest Service does not have a complete archeological survey of the assessment area.

Economic Development: Angoon shows potential signs of economic distress, and the community is actively seeking ways to bolster the local economy.

Statistical evidence suggests that Angoon is experiencing economic distress in both absolute terms and terms relative to the economic performance of the region as a whole. Since 1990, Angoon's employment rate has increased by 4 percent (from 46 percent to 50 percent) while it's median household income decreased from \$32,083 to \$29,861, indicating a decline in Angoon's overall economic prosperity (Census Bureau, 1990 and 2000). This compares to the State of Alaska's 15 percent rise in employment (from 245,379 to 281,532) and rise in medium household income from \$41,408 to \$51,571 during the same period.

The lack of high-paying jobs may be leading to an out-migration of families. Between 1990 and 2000, Angoon's population fell from 638 to 572 (10 percent). This decline may have adverse impacts on the Tlingit heritage and culture of Angoon, since the community is 82% Tlingit.

In order to curb this out-migration, the community identified its top economic development priorities which include the cold storage fish buying station, a bottled water plant, a road to Hood Bay, and a multi-purpose community service

building. The Alliance, a leadership group comprised of the City of Angoon, Angoon Community Association, and Kootznoowoo, Inc., has agreed to these priorities, but members continue to pursue additional projects, leading to a lack of resources and funding to pursue community priorities. Moreover, these priorities do not focus on the cultural revitalization of the Tlingit culture, a factor which could have profound effects on cultural integrity in the long-term. Finally, the community seems to successfully agree upon and pursue infrastructure priorities, but struggles to create an entrepreneurial base.

Increased attention to fewer priorities may improve the Alliance's ability to move projects forward more quickly. Work at the next Central Council of the Tlingit and Haida Indian Tribes of Alaska Economic Initiatives Town Meeting may provide the opportunity for the Alliance to develop more focused business plans for pursuing its top economic development priorities. Moreover, the community could benefit from creating a cultural revitalization strategy. This entails documenting what traditions are currently practiced; what traditions have been lost; who might be able to teach current traditions to the young; how to "bring back" lost traditions (for example, seeking assistance from another Tlingit community); and a strategy for teaching these traditions to community members. Practices could then be strengthened or "brought back" as part of a cultural education program or even interwoven into a cultural tourism strategy. In addition, a consensus between generations or clans on what the community is willing to share with the public and what it wants to keep private needs to be developed before pursuing tourism-related economic development opportunities. Finally, the community needs to develop a strategy for promoting entrepreneurial activity in Angoon. One method for doing this is through a program called the "coordinated entrepreneur," where a successful businessman or woman is given a grant to mentor a community member as he or she starts a business. These mentors may be found within Angoon or outside of the community.

Subsistence: Subsistence uses of coho and sockeye salmon may be impacted by guides fishing in Mitchell Bay assessment area.

Recreation: The cultural integrity of the Angoon tribe may be impacted by guides bringing people to the Mitchell Bay area.

Several residents have stated that their ability to experience "quiet enjoyment" when practicing subsistence fishing in the Mitchell Bay assessment area has declined as numbers of guided fisherman have increased in the assessment area. Data shows that while there is not an upward trend in use of the area, the majority of use is concentrated in Salt Lake and occurs on salt water in the same areas where subsistence fishing occurs. There is currently no evidence that the concentrated use has led any subsistence users to abandon their traditional practices, but it has probably led to a decline in the subsistence experience of those individuals. While these adverse impacts vary based upon the type of encounter and individual, they do contribute to a decrease in the overall cultural integrity of the community when compounded with the many other changes affecting Tlingit culture in Angoon.

At the same time, the outfitter/guide industry provides substantial economic benefits to the community. Moreover, the industry would like to increase its use, since local guides would like to begin working in the area. In addition, the Forest Service has found that the sport fisheries in Mitchell Bay are healthy (except for the Kanalku sockeye population which has been depleted due to over fishing), and thereby could withstand increases in the sport fishing industry without harm to the fisheries resources.

To address these concerns, a collaborative process needs to be initiated to determine the best way to meet conflicting desires between the guides and the subsistence users for commercial recreation in the Mitchell Bay assessment area. Any changes to current guiding practices need to carefully consider the impact on subsistence experiences as well as on the economic benefits for the community.

ANILCA: A common understanding of cooperative management between the Forest Service and Kootznoowoo, Inc. under ANILCA is needed.

It is clear that the intent in ANILCA was that Kootznoowoo and the Forest Service work cooperatively in the management of the Mitchell Bay area so that the resources were protected for the community of Angoon. Numerous discussions of the definitions for “quiet enjoyment” and “consult and cooperate” and “allocation of revenue” have not lead to a clearer understanding but rather have prevented the parties from working on feasible solutions. It is time for the Forest Service and Kootznoowoo to design and implement a project in the corridor lands that demonstrates cooperative management.

Archeological Resources: The Forest Service does not have a complete archeological survey of the Mitchell Bay assessment area.

The National Historic Preservation Act of 1966 requires federal agencies to take into account effects of undertakings to historic properties to preserve and protect cultural resources. However, archaeological investigations and inventories in the Mitchell Bay assessment area have been neither systematic nor complete. Moreover, archaeological investigations to date have been driven by information obtained from residents. This has possibly resulted in bias toward younger sites. There are also extensive gaps in our knowledge of the scope and intensity of use of the Mitchell Bay assessment area due to this method of data collection. Without a comprehensive survey, the Forest Service has been unable to identify sites. In addition, the Forest Service lacks the resources to revisit known sites to stabilize those subject to erosion, vandalism, and looting.

Additional inventory work, supplemented with monitoring of known sites, would assist the Forest Service in meeting its goals of preserving and protecting cultural resources on Admiralty National Monument. Efforts are currently under way to develop a five-year, site monitoring plan. In addition to Forest Service monitoring activities, public stewardship programs such as the Site Stewardship program, Passport in Time (PIT) program, or Heritage Expeditions program could be initiated to provide educational opportunities for the public as well as provide increased resources for inventory and monitoring of cultural sites in the Mitchell Bay assessment area.

Characterization of the Watershed

Purpose of Landscape Assessment

Over the last several years, the Forest Service has consulted with the many groups who live in or regularly frequent the Mitchell Bay watershed on Admiralty Island on the Tongass National Forest. Through those discussions, the Forest Service has identified several issues of concern regarding management of the watershed, mostly related to user conflicts and the economic prosperity and cultural integrity of the area. In order to better understand and address these issues, the Forest Service has initiated this landscape assessment.

Landscape assessments are a planning tool used by the Forest Service to determine what priority projects to undertake in a watershed on a National Forest. The Forest Service FY2001 Program Direction and Initial Operating Plan directs Regional Foresters to complete landscape assessments for their region over a 10-year period.

This landscape assessment characterizes the ecosystem elements (human, aquatic, riparian, and terrestrial features, conditions, and processes) within a portion of the Mitchell Bay watershed. In addition, this assessment formally analyzes the specific issues of concern identified during consultation with different user groups and provides recommendations for future management priorities. This is not a decision document, but rather a way for the Forest Service to better establish the context for subsequent decision making processes, including planning, project development, and regulatory compliance.

This analysis was conducted by an interdisciplinary team of resource specialists and is comprised of the following sections:

- 1) Characterization of the Mitchell Bay Watershed:** This section identifies the dominant physical, biological, and human processes or features of the watershed that affect ecosystem function and conditions.
- 2) Issues and key questions:** This section identifies issues of concern regarding management objectives, human values, and resource conditions in the assessment area.
- 3) Analysis of issues:** This section analyzes each issue based upon current and past information and provides an interpretation of that data.
- 4) Recommendations:** This section provides recommendations for addressing the identified issues.

Description of Mitchell Bay Watershed

Size and Location

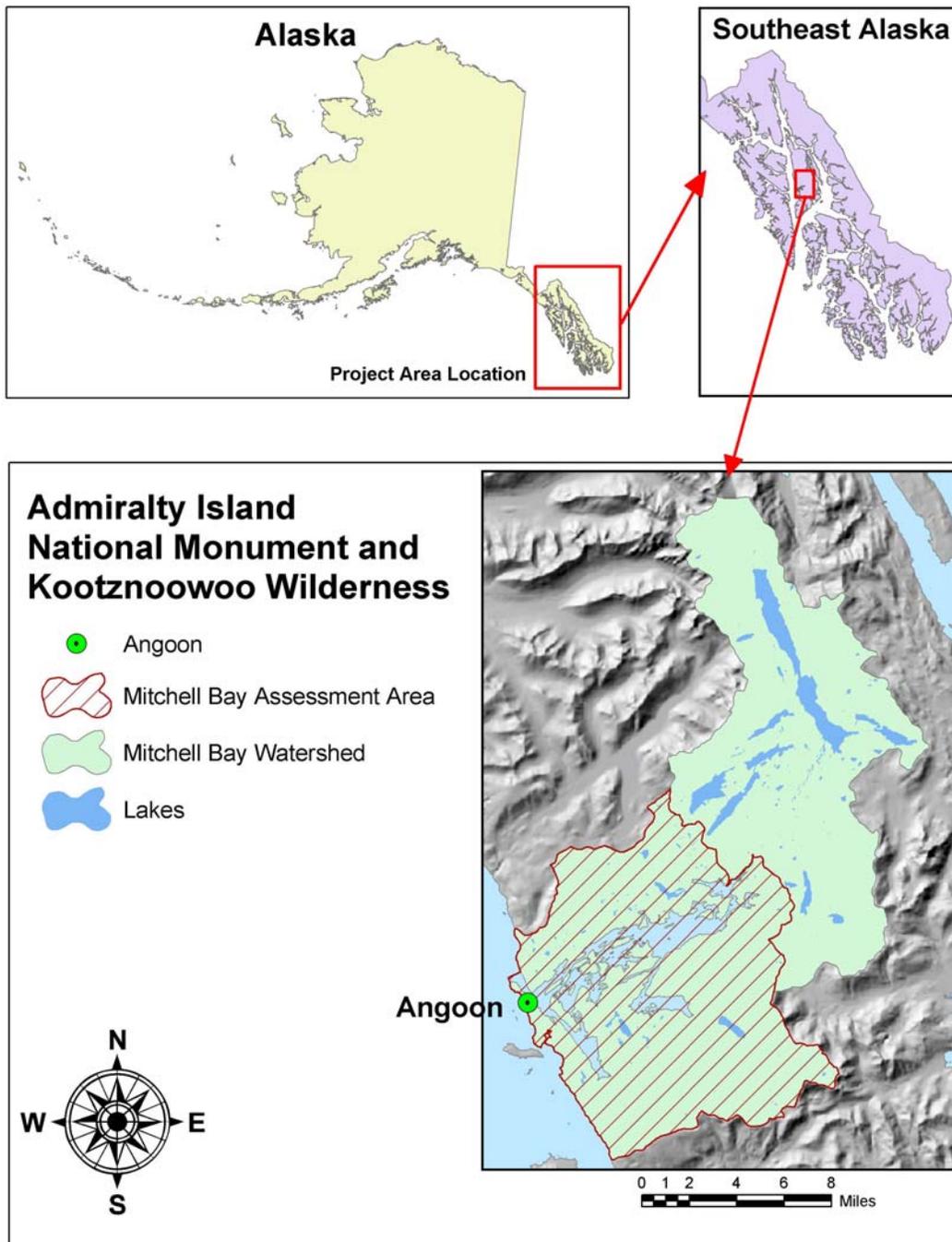
The Mitchell Bay Watershed is located in central Admiralty Island Southwest of Juneau, Alaska (Figure 1). The watershed includes most of the area surrounding Mitchell Bay watershed as well as the Hasselborg Creek subwatershed. The area totals 237 square miles.

Figure 1: Photo of Mitchell Bay Watershed



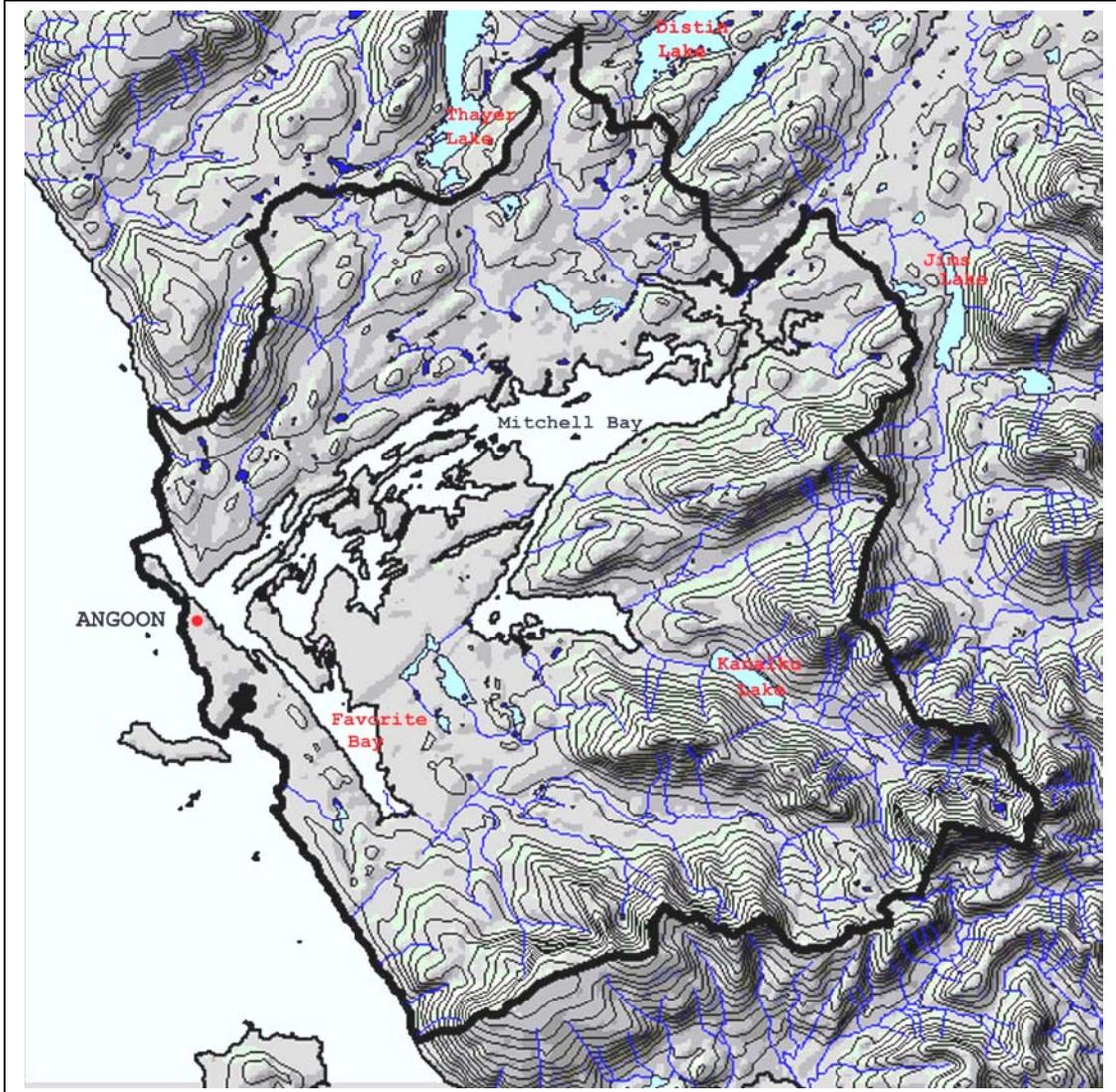
The Hasselborg Creek subwatershed, however, has not been included in this assessment, because this subwatershed does not receive a high level of use. Since salmonid populations are prevented from moving up Hasselborg Creek due to a waterfall, the Native Tlingit community of Angoon does not practice subsistence fishing for salmon in the Hasselborg Creek subwatershed. Moreover, other subsistence uses do not generally occur in the subwatershed due to the sub watershed's distance from Angoon. Thus, the assessment area encompasses only 124 square miles as shown in Figure 2.

Figure 2: Mitchell Bay Assessment Area



Throughout this document, this area will be referred to as the Mitchell Bay assessment area.

Figure 2a: Mitchell Bay Assessment Area



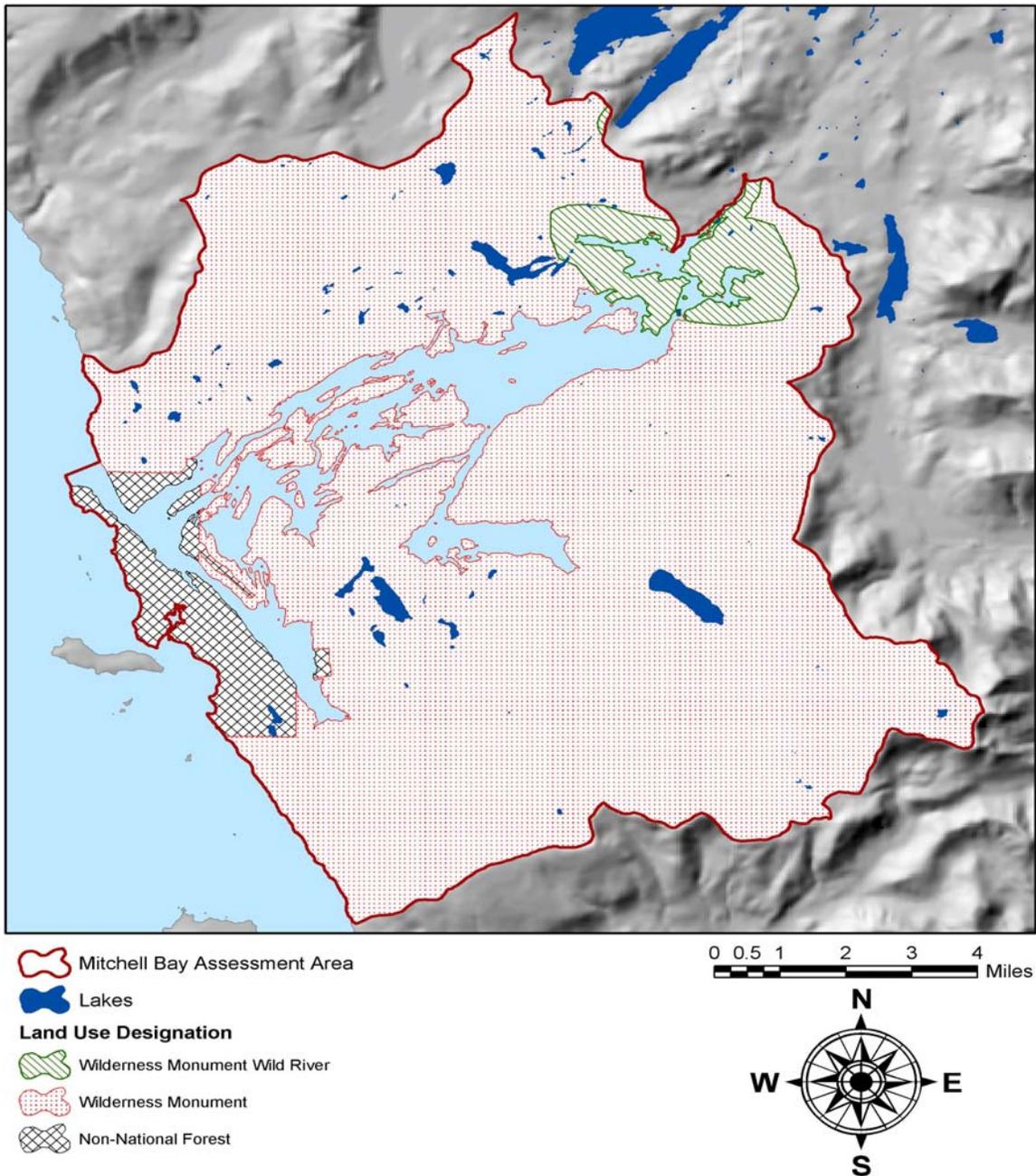
Forest Plan Objectives, Land Allocations, & Regulatory Constraints

Several laws and regulations govern management of the Mitchell Bay assessment area. This section provides an overview of the three main pieces of management direction that govern Forest Service decision making in the Mitchell Bay assessment area.

Forest Plan Direction

The Tongass Land Management Plan (TLMP) acts as a zoning document for the forest. Each “zone” is identified by a Land Use Designation (LUD’s), which details the goals and objectives for that specific area of the forest. The LUDs for the Mitchell Bay assessment area include Wilderness Monument and Wilderness Monument Wild River.

Figure 3: Land Use Designations in Mitchell Bay Assessment Area

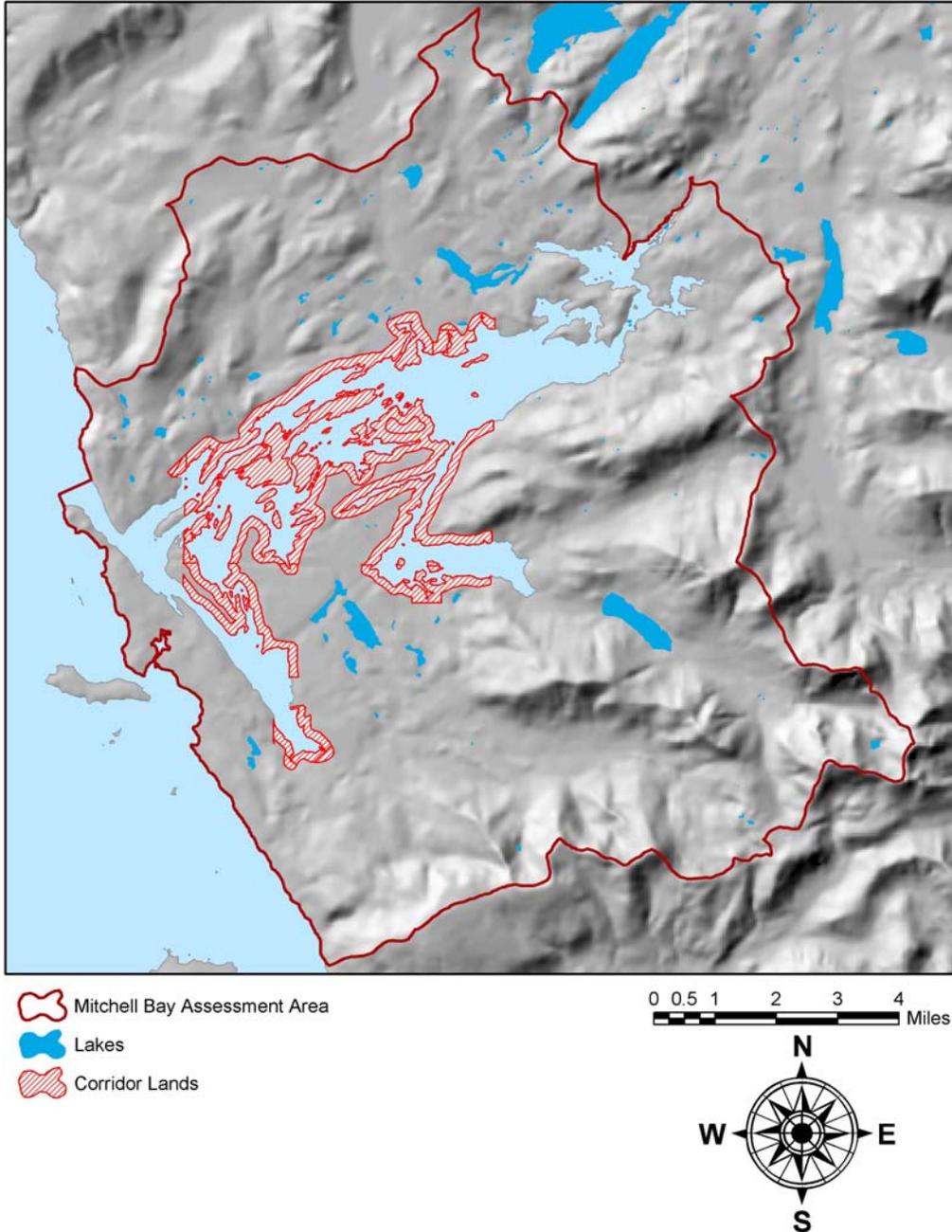


In general, these LUDs promote management of the Mitchell Bay assessment area to maintain a wild, unspoiled, natural setting with little to no development except as prescribed by law under the Alaska National Interest Lands Conservation Act (ANILCA). All projects occurring within the Mitchell Bay assessment area must be consistent with the LUD direction. In addition, the Mitchell Bay assessment area contains an area classified as Non-National Forest Service Land within the Tongass Boundary. ANILCA grants rights of these lands to Kootznoowoo, Inc., the Native Village Corporation for Angoon.

Alaska National Interest Lands Conservation Act (ANILCA)

In addition to the rights for lands surrounding Angoon, Section 506.a.1.3.A of ANILCA grants Kootznoowoo, Inc. all rights to, title to, and interest in (except for specified reserved rights) “the rocks, pinnacles, islands, and islets, and all the land from the mean high tide mark to a point 660 feet inland” as shown in Figure 4: Corridor Lands.

Figure 4. Corridor Lands



¹ These lands are referred to as “corridor lands” in this document.

¹ The Kootznoowoo Corporation was created to support the Tlingit population of Angoon under the Alaska Native Claims Settlement Act (ANCSA).

The United States government retains the timber, subsurface estate, and development rights to the corridor lands (Section 506.a.1.3.C). Furthermore, the United States government retains the right to public access and use within the area to ensure “protection of the resources, and to protect the rights of quiet enjoyment of Kootznoowoo, Incorporated.” The Act further states under Section 506.a.3.E that the Forest Service will “consult and cooperate with Kootznoowoo, Incorporated, in the management of Mitchell, Kanalku, and Favorite Bays, and their immediate environs, and the Secretary is authorized to enter into such cooperative arrangements as may further the purposes of this Act.” Cooperative arrangements include, but are not limited to: “permits for any structures and facilities, and the allocation of revenues therefrom; regulation of public uses; and management of the recreational and natural values of the area.”

While ANILCA provides the foundation for a cooperative working agreement between Kootznoowoo, Inc. and the Forest Service, further delineation of each party’s responsibilities was deemed necessary. On May 12, 1988, the Forest Service and Kootznoowoo, Inc. signed a Memorandum of Understanding (MOU), detailing the role of each party. In 2000, the Forest Service and Kootznoowoo, Inc. updated the MOU to include a more specific description of what is required by each party under ANILCA. Since that time, additional concerns have been raised by both parties as to the adequacy of the MOU in clearly defining each party’s role to ensure “consultation and cooperation” on management decisions. Moreover, questions have been raised over the definition of terms such as “quiet enjoyment,” “immediate environs,” and “allocation of revenues therefrom,” which have not been defined in the current MOU.

Areas Meriting Special Attention (AMSA’s)

The Alaska Coastal Management Act (Alaska Statute 46 and 44) requires local governments to develop coastal management plans for incorporation into the state-wide Alaska Coastal Management Program. The City of Angoon selected Mitchell Bay as an Area Meriting Special Attention (AMSA) under this Act, because it was deemed “indispensable to the continuation of the indigenous culture, including locations of traditional and customary use for hunting, fishing, and food gathering” (Angoon Coastal, 1992). The resulting AMSA plan for Mitchell Bay (approved February 7, 1992) includes policies to ensure preservation and protection of traditional use resources and access to those resources by traditional users. This area includes all waters of Kootznahoo Inlet, Mitchell, Favorite, and Kanalku Bays, Kanalku and Salt lakes, and the surrounding lands for a distance inland of 660 feet from mean high tide. All decisions by the Forest Service affecting the AMSA must be consistent with the management policies in the AMSA plan. It is important to note that all of the corridor lands are part of the AMSA.

Dominant Physical, Biological, & Human Features

Overview

This section outlines the major physical, biological, and human features of the Mitchell Bay assessment area. The Mitchell Bay assessment area is largely unaltered by man. Natural processes, including flooding, mass wasting (snow avalanches and landslides) and wind, have and will likely continue to be the major influences shaping the Mitchell Bay ecosystem. Other influences shaping the ecosystem include limited recreational, commercial, and subsistence uses of watershed resources by the community of Angoon and non-residential commercial and recreational users.

Geology

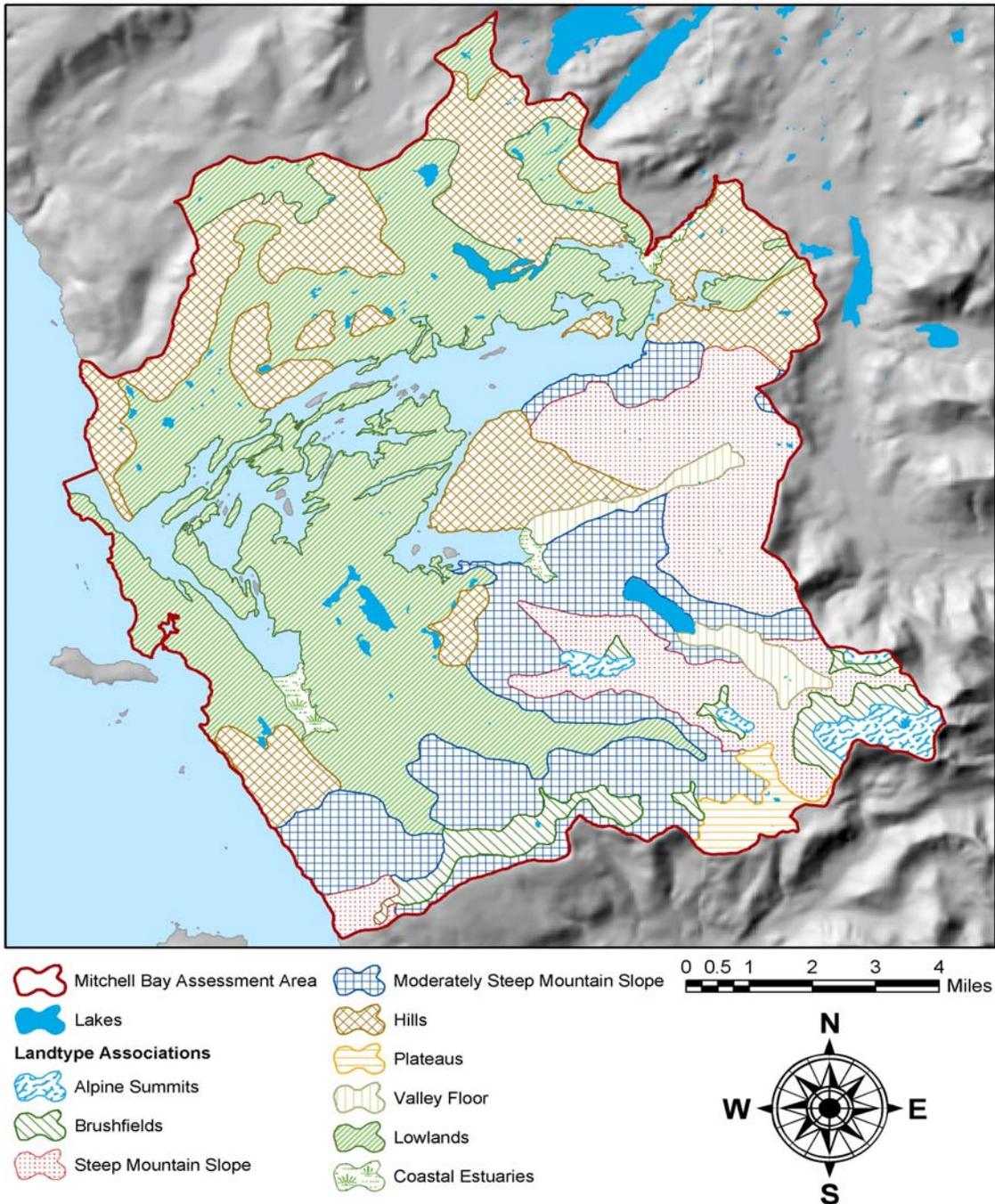
Much of terrain north and east of Mitchell Bay was heavily scoured by continental glaciation (20,000 Before Present) that left behind a thin veneer of glacial tills and finer texture sediment deposits. A complex of sedimentary, metamorphic and volcanic rock types underlie these glacial deposits.

Watersheds to the south of Mitchell Bay have been modified to a lesser degree by glaciation. The lithology in this area is predominantly sedimentary bedrock intermixed with limestone and marble.

Landform and Vegetation Cover Types

Figure 5 displays the mosaic of Landtype Associations across the Mitchell Bay assessment area.

Figure 5: Landtype Associations in Mitchell Bay Assessment Area



Each Landtype Association corresponds with a distinct set of topographic characteristics, landforms, soil parent material, and vegetation communities that define the ecological potential for a given portion of the landscape.

The Lowlands Association makes up the greatest percentage (37 percent) of the Mitchell Bay assessment area and is comprised mainly of bogs and marshy forest wetlands. Hills are the second most common Landtype Association, covering 27 percent of the Mitchell Bay assessment area. These areas are dominated by western hemlock forest. Steep and Moderately Steep Mountain Slope Associations together comprise about 30 percent of the Mitchell Bay assessment area, concentrated within the watersheds draining into the southern portion of Mitchell Bay. These areas are largely western hemlock and Sitka spruce forest. Alpine Summits and Brushfields Associations make up less than 5 percent of the Mitchell Bay assessment area and are primarily alder, shrub and rock. Finally, Valley Floor and Coastal Estuaries each represent 2 percent of Mitchell Bay assessment area. Valley Floors contain some of the most productive Sitka spruce and western hemlock forests. Coastal Estuary vegetation is consists primarily of salt tolerant wetland vegetation. See Table 1.

Table 1: Landtype Association Characterization

	Acres and % Area	Landform	Relief	Elevation	Slope	Dominant Vegetation
Alpine Summits And Brushfields	3,491 (5%)	Avalanche chutes and mountain tops	Brushfields are at least 500 feet long	Summits are 1500 feet or higher	Brushfields are mostly steeper than 50%	Summits are rock, heath, shrub and alpine scrub.
Steep to Moderate Steep Slopes	22,044 (31%)	Convex or broken slope shape	At least 1000 feet long	May be at any elevation	Steep: over 50%. Mod. Steep: 50 to 35%.	Western hemlock & Sitka spruce (well drained)
Hills and Plateaus	16,500 (24%)	Hill Complex (separate from mtn. slopes)	Longer than 200 feet	Under 1500 feet	Over 35%	Forested with shrub and bog areas
Valley Floor	1,476 (2%)	River bottoms and larger outwash fans	Less than 100 feet	Under 500 feet	Under 35%	Productive W. hemlock and Sitka spruce forest
Lowlands	26,176 (37%)	Glacial: till plains, terraces, and scoured benches	Less than 200 feet	Under 500 feet	Under 15%	Bogs and marshy forest wetlands
Coastal Estuaries	565 (1%)	Tidal and wave influenced deposits	less than 30 feet	Mean High Tide to 6 ft below Mean Low Tide	Under 10%	Wetland vegetation tolerant of salty water

Hydrology

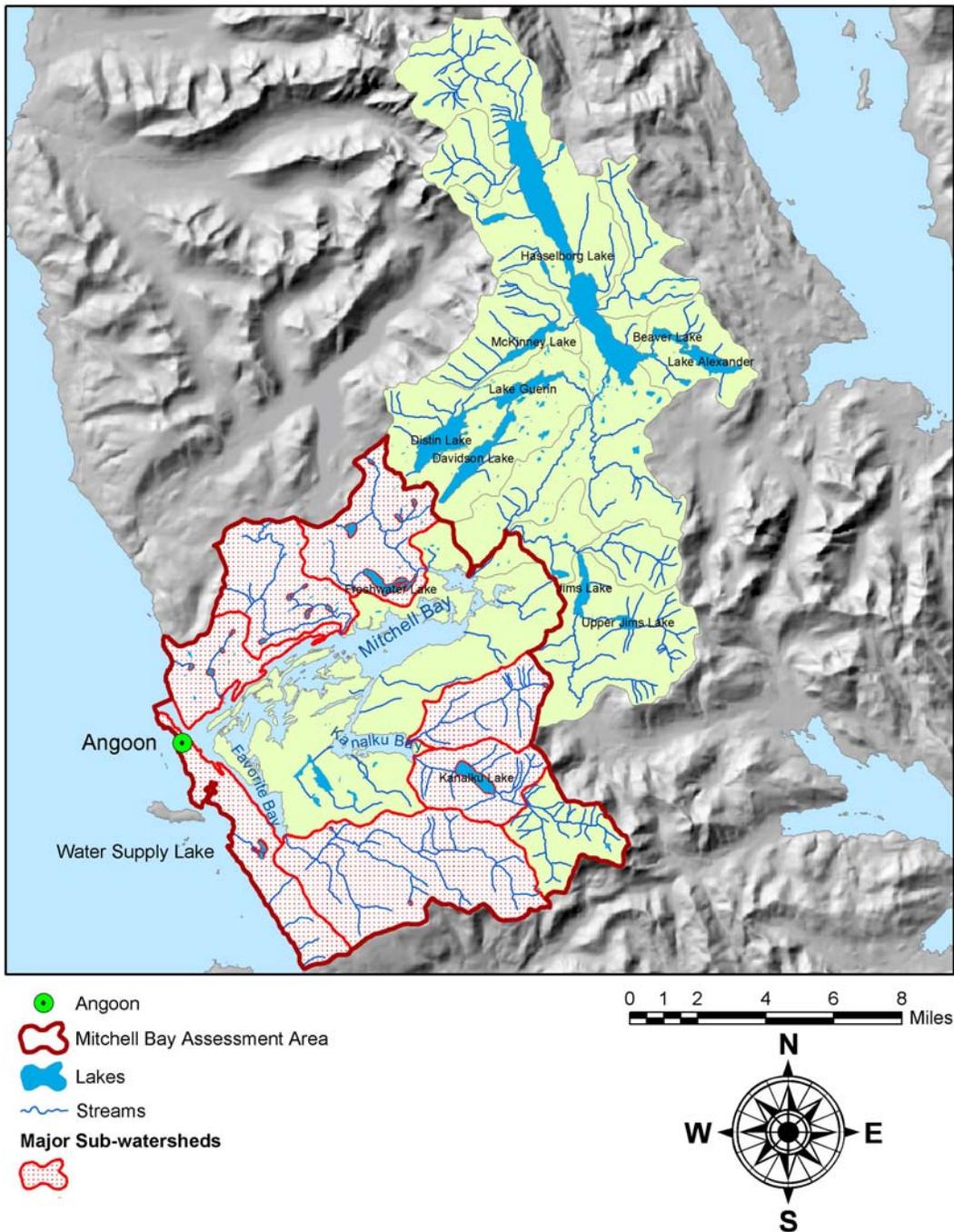
Climate

The climate in the Mitchell Bay assessment area is characterized by a predominance of heavy precipitation and high winds (particularly in the Fall and Winter months). It is similar to the general climatic pattern for Southeast Alaska (Nowacki et al 2001). However, annual precipitation ranges are from 60" to 90", which is significantly less than rainfall levels throughout most of Southeast Alaska. Average winter temperature at sea level is 31 degrees F. Cool, moist summers and transient winter snow pack are representative of a temperate rain forest climatic regime (Alaback 1996).

Sub-Watersheds and Water Bodies

Figure 6 displays the major sub-watersheds and waterbodies associated with the Mitchell Bay watershed. None of the waterways in this area have been modified by human use except for some infrastructure developments along the water's edge in the community of Angoon. Seven relatively small sub-watersheds encompass most of the Mitchell Bay assessment area with a total of 119 small to medium size lakes totaling 1,077 acres and 133 miles of streams within the Mitchell Bay assessment area.

Figure 6: Sub-watersheds and Waterbodies



Runoff per unit area in Mitchell Bay is relatively low in comparison to the majority of Southeast Alaska. However, there is a high density of perennial streams within the Mitchell Bay assessment area. Stream flow in these watersheds have high seasonal and annual variability.

Fish and Wildlife

The Mitchell Bay assessment area supports many populations of mammals, birds, marine invertebrates, and fish. Little land disturbing activity has occurred within the analysis area leaving fish and wildlife habitat in pristine condition. Due to the high habitat quality, animal populations are considered healthy, although concerns exist regarding some fish populations primarily due to over fishing.

Mammals and Birds

Marine mammals found in the Angoon and Mitchell Bay assessment area include humpback and killer whales, Steller sea lions, otters, and Dall and harbor porpoise. The National Marine Fisheries Service has listed humpback whales as endangered and Steller sea lions as threatened. Terrestrial mammals include brown bear, Sitka black-tailed deer, mink, land otter, marmot, martin, beaver, short-tailed weasels, squirrel, voles, mice, bats, and shrews.

There are currently no terrestrial mammal population concerns. Deer are an important subsistence resource for the community of Angoon. Deer populations are considered to be healthy, though fluctuations occur in relation to the severity of winters.

Birds of prey found in the Mitchell Bay area include bald eagle; red-tailed hawk, goshawk, sharp-shinned hawk, marsh and sparrow hawk; great gray and great horned owls; and osprey. In addition to common song birds, game birds including ptarmigan and blue grouse are found in the uplands. Scavengers including ravens and crows are seen along the beach. Waterfowl nesting in the area include mergansers, mallards, trumpeter swans, Canada geese, harlequin ducks, and loons. Waterfowl are an important subsistence food source (Angoon Coastal, 1992). The American peregrine falcon, listed on the endangered species list, is not known to the Mitchell Bay assessment area but may pass through the area during migration. Goshawks and trumpeter swans, both known to occur in the Mitchell Bay area, are listed as sensitive species by the Forest Service.

Marine Invertebrates

Some common invertebrates found in the Mitchell Bay assessment area include clams, scallops, mussels, crabs, shrimp, and gumboots (chiton). No commercial clamming or scallop dredging is known to occur in the area. Dungeness crab are found in the intertidal zones to all depths in the Mitchell Bay assessment area where mud and sandy bottoms provide habitat. Dungeness crab are harvested commercially in Favorite Bay, and shrimp are harvested commercially in Mitchell Bay (Angoon Coastal, 1992)

Marine Fish

The most common fish found in the Mitchell Bay assessment area include halibut, flounder, salmonids, herring and sculpins. The salmonids include anadromous (sea-run) pink, chum, coho, sockeye, and king salmon and Dolly Varden char, cutthroat trout, and steelhead trout. All but king salmon return to the Mitchell Bay area to spawn. Returning salmon support a small commercial as well as sport and subsistence fishery.

Two populations of sockeye return to Mitchell Bay during June and August. These populations are small because of the limited amount of lake habitat available for rearing. One population of sockeye returns to the Salt and Freshwater Lakes to spawn and rear. Another population returns to Kanalku Lake. A limnological assessment of Kanalku Lake was conducted in 1995 by the Alaska Department of Fish and Game. The assessment concluded the lake was being underutilized by sockeye fry. The cause of the low sockeye fry densities is likely due to low adult escapement (Barto and Cook, 1996). See the Subsistence section for further discussion on sockeye populations.

A relatively large run of coho salmon returns to Salt Lake adding to the local subsistence fishery and sport fishery. Non-Alaskan visitors have been coming to Angoon for several years to partake in the excellent sport fishing opportunities in and around Mitchell Bay. The outfitter/guide use allowed on Forest Service lands in Mitchell Bay have minimal effect to the coho fishery. Though the majority of fishing occurs on saltwater, there are presently no population concerns regarding the Mitchell Bay/Salt Lake coho fishery.

Social and Economic Factors

There are three primary groups who benefit from the resources of Mitchell Bay: the Tlingit community of Angoon, which has resided in Mitchell Bay for at least the last 3,000 years; the recreational and commercial users who do not live in Mitchell Bay, but benefit from visiting the area for short periods of time; and those who do not visit Mitchell Bay, but benefit from knowing that it and other wilderness settings exist. Because the nature of the use of Mitchell Bay by each group is different, this analysis evaluates the social and economic issues for each group separately.

The Tlingit Community of Angoon

Social Culture

Located on the isthmus that separates Chatham Strait from Kootznahoo Inlet, the Native Tlingit community of Angoon is the only permanent settlement in the Mitchell Bay watershed. Angoon supports a population of 572 people, 82 percent of which is Native Alaskan (Census Bureau, 2000). The large percentage of Native people helps Angoon maintain the cultural heritage of Tlingit society, including the clan social structure, reliance on subsistence hunting and gathering, the Tlingit language, and many other cultural traditions. These pieces of heritage continue to be passed down generation after generation, and many places and resources throughout Mitchell Bay remain important for their present uses as well as for the past memories, values, and feelings the members of different clans associate with them.

Despite the close tie to past cultural traditions, Angoon has been greatly influenced by western culture. This has led to many social changes as well as to a growing concern about the loss of traditional Tlingit knowledge and way of life. For example, the ability to speak and understand the Tlingit language is becoming less common amongst younger residents as they adopt English as

their primary language. In addition, clans no longer live in large multi-family houses, but instead live in single-family homes. Finally, Angoon has transitioned from a subsistence-based existence to a market economy over the last two hundred years. Today, Angoon is working to determine the best way to maintain its cultural identity given increased contact with the Western world.

Economy

The 2000 Census indicates that of the population aged 16 and older, 50 percent is employed, 7 percent is unemployed, and 43 percent is not in the labor force. Many people, however, pursue part-time jobs or seasonal work as opposed to full-time employment. In a separate survey of 114 residents conducted by the City of Angoon in May of 2001, 23 percent indicated that they had full-time work, and 50 percent indicated that they worked part-time or seasonally. On average, this equated to about eight months of work per year for those employed (City of Angoon, 2001).²

Of those employed, 45 percent are working for the Federal, state, or local government; 50 percent earn a wage or salary in the private sector; and 5 percent are self-employed. These figures indicate a heavy reliance on government jobs within the community as opposed to a private sector economic base. The main sectors of employment include education, health, and social service industries (39 percent); the arts, entertainment and recreation industry (15 percent); and the retail trade (11 percent).

While these businesses help Angoon enjoy a relatively low rate of unemployment (7 percent compared to the regional average of 8.1 percent), Angoon's overall economic position is relatively weak.³ When compared to 37 other communities in Southeast (ranging in size from Juneau's population at 30,711 to Meyers Chuck's population at 21 people), Angoon has the 5th lowest median household and median family household incomes (\$29,861 and \$31,429 respectively compared to regional averages of \$41,402 and \$48,858 respectively). These figures represent a decline from 1990 levels, which were \$32,083 and \$35,625 respectively (Census Bureau, 1990). In comparison, the average income for households in the State of Alaska rose from \$41,408 in 1990 to \$51,571 in 2000. Moreover, Angoon has the 3rd highest number of families living below poverty level in the region (27 percent compared to 9 percent regionally). This compares to 19 percent of families living below poverty level in 1990.

To counter these trends, the community of Angoon has several bodies working on culturally sensitive economic development strategies to help boost Angoon's economic position and infrastructure, however, resources and funding to work on these strategies is limited.

² Residents may have to relocate to other areas to find part-time work which forces them to incur additional expenses for travel and rent (Hamilton, 2002).

³ In 1990, the percentage of unemployed was comparatively higher at 25%, while the percentage of those not in the labor force was only 29%. Although these figures differ significantly, the changes may not accurately reflect actual changes in unemployment. Rather, individuals leading a subsistence lifestyle in 1990 may have indicated that they were unemployed on the 1990 census, but then indicated that they were not in the labor force on the 2000 census. Thus, 7% unemployment may be a more accurate figure.

Recreational and Commercial Users

The Mitchell Bay assessment area provides a variety of recreation opportunities due to the narrow channels, tidal activity, availability of campsites, trails, and excellent fishing. The majority of the area is classified as Semi-Primitive Motorized under the Recreation Opportunity Spectrum, the system used by the Forest Service to manage recreational use in an area. The Semi-Primitive Motorized classification on non-Wilderness lands could allow up to 10 encounters with other people per day on the corridor lands. The Semi-Primitive Motorized classification on Wilderness lands (non-corridor lands) within the analysis area could allow up to 6 encounters per day. The Forest Service has approximately 4 miles of trail and one shelter within the area. There are also 16 campsites identified by the Forest Service in the Cross Admiralty Canoe Route brochure (USDA Forest Service, 1989). These campsites are remote sites with no facilities and are located in:

- * Salt Lake (8);
- * Mitchell Bay (3);
- * Kanalku Bay/Lake (3);
- * Kootznoowoo Inlet (2).

Camping trips used to be one of the prevalent uses of the area. Today, however, most of these campsites, with the exception of those around Salt Lake, receive little recreational use.

Instead, use seems to have shifted to day trips for sport fishing, and to a limited degree, camping by educational groups.

The majority of recreation use occurs in Kootznoowoo Inlet, Mitchell Bay, and Salt Lake. Other areas such as Favorite Bay, Kanalku Bay, and Kanalku Lake receive relatively limited levels of use in comparison to the more popular areas. The majority of use occurs in salt water, where use is under the jurisdiction of the State of Alaska. Annual use on salt water for sportsfishing averages over 2,000 days annually. In contrast, total commercial use on Forest Service lands in 2000 was 465 Service Days with the average group size of 4.9 people. This is an increase from approximately 400 Service Days of use in 1990. In addition, non-commercial recreational use takes place and is believed to be low.

The main commercial guides on Forest Service lands include Alaska Discovery, Whaler's Cove, and Thayer Lake Lodge. Whaler's Cove Lodge is located in Angoon, and Thayer Lake Lodge is located north of Mitchell Bay on Thayer Lake. Alaska Discovery is based out of Juneau and flies or boats in guides and tourists. These three outfitters won a competitive bid in 1988 for a limited number of primary season and primary area use days permitted by a decision from a 1988 Environmental Assessment for the Amount and Type of Outfitter/Guide Services in Mitchell Bay. Permits for these three entities have been reauthorized each year since that time. In addition, other groups have begun to operate outside of the primary use area and primary season accounting for the increase in outfitter/guide use. The increase in guided use has raised concerns among residents of Angoon on the impacts of outfitter/guide sport fishing on subsistence

resources (USDA Forest Service, 2001). Residents have also reported verbal conflicts between guided fisherman and subsistence users in areas such as Salt Lake (Ibid). These concerns led the Forest Service to freeze commercial use at 1999 levels until cooperative planning with Kootznoowoo, Inc. has been accomplished to resolve the issue.

Passive Users

Passive users are those individuals that value areas independent of any active or consumptive use of them. Passive use values include valuing an area simply because it exists or desiring to allow others, such as future generation or Native peoples, to benefit from a resource (Peterson and Sorg 1987; Randall 1992). While no specific research exists on the passive use value of Admiralty Island to the United States' population, several examples reinforce the idea that passive use values exist for the Mitchell Bay assessment area. First, in 1978, President Jimmy Carter recognized the importance of Admiralty Island for continued use by the Tlingit people, but also for the entire nation, as he designated most of the island, including Mitchell Bay, National Monument in 1978. This act validated the importance of this area to the millions of Americans that appreciate wild places and unique cultural histories and heritage. Congress then reemphasized the value of the area for the nation by designating the same area National Monument Wilderness under ANILCA. More recently, the Nature Conservancy of Alaska acknowledged the importance of Admiralty Island by purchasing a private inholding in Mitchell Bay and selling it to the Forest Service. The reason cited for the purchase was for its passive use value—to help conserve the unique heritage and wild nature of the landscape (Metcalf, 2001). While most Nature Conservancy members will never visit the former inholding, members still provided membership funds to help purchase and protect the area from private development. The prescriptive wilderness designation by Congress and the work of the Nature Conservancy help maintain the passive use value of the area for the nation as a whole.

Given the Wilderness designation restricting development in the Mitchell Bay assessment area, few threats to passive use values in the area remain. One threat, however, is development of other private inholdings in a way that conflicts with the natural characteristics of the area. The Native Allotment Act of 1906 allowed selection of up to 160 acres of public lands based on traditional use and occupancy. There are currently two private allotments within the analysis area:

* Charles Joseph (AA- 7814). The legal description is E1/2, NE1/4 Section 8, T. 50 S, R. 68 E, Sitka C-2 (just north of Kluchman Rock); and

* Annie Bennett (AA- 7017). The legal description is FRN1/2 Section 4, T. 50 S, R. 68 E, Sitka C-2 (east side of Hasselborg Creek).

Subsistence

In a survey of Angoon residents in May 2001, residents ranked subsistence use as a 10 out of 10 in terms of importance to the community (City of Angoon, 2001). This is because most residents in Angoon participate to some extent in a subsistence lifestyle; the most recent survey on subsistence use conducted in Angoon in 1987 found that more than 99 percent of the households harvest a subsistence resource (USDA Forest Service, 1997). These resources include salmon, deer, halibut, herring roe on kelp, Dungeness crab, clams and cockles, chitons, berries, and wood. However, deer (30 percent) and salmon (29 percent) comprise the majority of subsistence harvest (Ibid).

The Angoon people's traditional territory extended along both sides of Chatham Strait from Point Marsden on the North, Peril Strait on the West, Gut Bay on the South, and Eliza Harbor on the East (Goldschmidt and Haas, 1946, 1998). The Mitchell Bay assessment area remains the principal subsistence area today given its proximity to Angoon (George and Bosworth, 1988).

Recently, community residents have raised concerns about the impact of guided sport fishing activities in the Mitchell Bay assessment area on the health of the fishery resources, in particular the sockeye salmon in Kanalku Bay. Residents are also concerned about maintaining customary and traditional subsistence patterns of use without interference from non-subsistence users. As described in the Recreation section, Tlingit from Angoon have cited problems of overcrowding and verbal conflicts on Salt Lake.

Archeology

The archaeological record of Mitchell Bay includes 37 documented sites dating from approximately 3000 years ago to the mid-1930s. Prehistoric sites include village sites, burial sites, rock shelters, middens, fish weirs, pictographs, forts, sites related to oral histories, and fish camps. For example, a baby basket was found in a culturally modified tree in the Mitchell Bay assessment area (see Figure 7). Historic sites present within the analysis area include habitations, garden sites, mining related features, smokehouses, burial sites, and a Civilian Conservation Corp shelter. These sites, however, have not been monitored since the early 1980s, leaving them vulnerable to vandalism, erosion, and destruction.

Figure 7: Baby Basket in Culturally Modified Tree



In addition, archaeological investigations and inventories in the Mitchell Bay analysis area have been neither systematic nor complete. Since 1946, archeological and ethnographic investigations have been conducted in the Mitchell Bay assessment area by Goldschmidt and Haas (1946, 1998), Sealaska (1975), de Laguna (1960), Erlandson & Moss (1983), Newton & Moss (1984), Roderick (1982), Bureau of Indian Affairs, and the Forest Service. Each investigation only covers a portion of the area, leaving extensive gaps in the Forest Service's scientific knowledge regarding the antiquity, scope, and intensity of use in other portions of the Mitchell Bay assessment area. To preserve and protect cultural resources and comply with the National Historic Preservation Act of 1966, federal agencies are required to take into account effects of undertakings on historic properties. Without a comprehensive survey and documentation of know sites, the Forest Service is unable to identify, protect, and preserve these resources.

Issues and Key Questions

Based upon informal discussions with different constituencies including the Angoon Community Association, Kootznoowoo, Inc., the City of Angoon, individual residents of Angoon, outfitters and guides, environmental groups, and members of the public over the last few years, the Forest Service compiled the following preliminary list of issues and key questions. While there are many other issues that might be added to this list, the Forest Service has tried to focus on those priority items that pose the greatest concern to area residents or require immediate attention. Based upon further consultation with these constituencies, this list may be refined to better reflect public concerns.

Economic Development

Angoon shows potential signs of economic distress, and the community is actively seeking ways to bolster the local economy.

- * What industries support Angoon?
- * What administrative entities exist in Angoon, and what are their priorities for economic development?
- * What future desires does the community have regarding economic development?
- * Would these desires be compatible with the Tlingit culture?

Subsistence

Subsistence uses of coho and sockeye salmon may be impacted by guides fishing in Mitchell Bay assessment area.

- * What has been the pattern of guided use activities in the area?
- * Is use increasing?
- * Does the use conflict with traditional subsistence harvest of sockeye and coho salmon in terms of numbers of fish harvested?

Recreation

The cultural integrity of the Angoon tribe may be impacted by guides bringing people to the Mitchell Bay area.

- * What has been the pattern of guided use activities in the area?
- * Is use increasing?
- * Is the presence of guided visitors eroding cultural integrity?
- * How do these decisions involve the Forest Service?

ANILCA

A common understanding of cooperative management between the Forest Service and Kootznoowoo, Inc. under ANILCA is needed.

- * How are “immediate environs” defined?
- * What does it mean for the Forest Service to “consult and cooperate” with Kootznoowoo, Inc. on the management of Mitchell, Kanalku, and Favorite Bays, and their “immediate environs”?
- * How should the area be managed to ensure public access while at the same time maintaining “quiet enjoyment” for Kootznoowoo, Inc.?
- * What is meant by “allocation of revenues therefrom”?

Archeological Resources

The Forest Service does not have a complete archeological survey of the Mitchell Bay assessment area.

- * What research has been completed to date?
- * What still needs to be completed?

Issue Analysis

This section provides a detailed analysis of each issue identified in the “Issues and Key Questions” section. The analysis will be used to create recommendations for future management priorities the Forest Service may be able to pursue in conjunction with the community of Angoon.

Economic Development: Angoon shows potential signs of economic distress, and the community is actively seeking ways to bolster the local economy.

Economic and Demographic Information

Statistical evidence suggests that Angoon is experiencing economic distress in both absolute terms and terms relative to the economic performance of the region as a whole. Some of this disparity is explained by the fact that Angoon is split between a cash economy and a subsistence economy – many residents practice a subsistence lifestyle and thereby do not earn a full time wage or work only part time. Since 1990, however, Angoon’s employment rate has increased by 4 percent (from 46 percent to 50 percent) while it’s median household income decreased from \$32,083 to \$29,861, indicating a decline in Angoon’s overall economic prosperity (Census Bureau, 1990 and 2000). This compares to the State of Alaska’s 15 percent rise in employment (from 245,379 to 281,532) and rise in medium household income from \$41,408 to \$51,571 during the same period.

The lack of high-paying jobs may be leading to an out-migration of families. Between 1990 and 2000, Angoon’s population fell from 638 to 572 (10 percent). This is shown in Table 2, which presents demographic information for Angoon from the 2000 census.

Table 2 : Population Decline by Age Group, 1990 to 2000

	# of People (2000)	% of Total (2000)	# of People (1990)	% of Total (1990)	% Change From 1990 to 2000
Total Population	572	100.0%	638	100.0%	-10.3%
Under 5	41	7.2%	90	14.1%	-54.4%
5 to 19 (2000) / 5 to 20 (1990)	170	29.7%	198	31.0%	-14.1%
20 to 24 (2000) / 21 to 24 (1990)	37	6.5%	31	4.9%	19.4%
25 to 44	162	28.3%	194	30.4%	-16.5%
45 to 54	72	12.6%	65	10.2%	10.8%
55 to 59	23	4.0%	15	2.4%	53.3%
60 to 64	30	5.2%	10	1.6%	200.0%
65 to 74	23	4.0%	18	2.8%	27.8%
75 to 84	12	2.1%	14	2.2%	-14.3%
85 and over	2	0.3%	3	0.5%	-33.3%
(Estimated mean age)	31.0		26.8		15.9%

Source: Census Bureau, 2000

This decline is in contrast to state and national population averages where populations rose 14 percent and 13.2 percent over the same time period. The decline occurred primarily in age groups 5 to 19 years, 20 to 24 years, and 25 to 44 years. Since Angoon is 82 percent Tlingit, the loss of these age groups (most likely families and young adults) has negative consequences not only in terms of loss of an able workforce but also in terms of overall community vitality in regard to Tlingit culture, traditions, and heritage. Greater economic growth may help reduce out-migration of the population and help convince former residents to return.

Industry Data

To understand the reasons for the decline in economic prosperity, it is important to analyze changes in the economic base of the community. In 1990, the largest employers included educational services (46.4 percent); agriculture, forestry, and fisheries (10.1 percent); retail (8.4 percent); and public administration (8.4 percent) (Census Bureau, 1990). In 2000, the largest employers included educational, health, and social services (39.5 percent); arts, entertainment, recreation, accommodation, and food services (15.4 percent); retail (11.3 percent); and public administration (8.2 percent) (See Table 3).

Table 3: Distribution of Jobs by Industry in Angoon, 2000

	Total Employed	% of Total
Employed persons 16 and over	195	100.0%
Education, health, & social service	77	39.5%
Arts, entertainment, recreation, accommodation, & food services	30	15.4%
Retail trade	22	11.3%
Public administration	16	8.2%
Construction	14	7.2%
Agric, forestry, fishing & hunting, & mining	10	5.1%
Transportation, warehousing & utilities	10	5.1%
Finance, insurance, real estate, & rental & leasing	10	5.1%
Manufacturing	3	1.5%
Professional, scientific, management, admin, and waste management	2	1.0%
Other services	1	0.5%
Wholesale trade	0	0.0%
Information	0	0.0%

Source: Census Bureau, 2000

While a direct comparison of 1990 and 2000 data cannot be made due to different categorizations of industry totals, general trends over time may be inferred from the data. First, over the last ten years, the educational, health, and social service sectors has remained the predominant employer in Angoon. The number of jobs in this sector, however, has declined over the last ten years. Second, the number of people employed in agriculture, forestry, and fisheries has declined over the last ten years primarily due to a drop in commercial fishing activity, which is widely thought to be a result of increasing competition from farmed salmon and a resulting drop in prices. For example, today only a few seine boats operate out of Angoon while in the 1980s almost 30 seine boats operated in the area (Sheinberg, 1999). In addition, timber harvest on

Kootznoowoo, Inc. lands ended in 1997 as did a stevedoring contract with Southeast Stevedoring, which employed an estimated 100 people part-time. This transition period also led to a decline in dividend payments from Kootznoowoo, Inc. to shareholders (Hamilton, 2002).

Counter to these declines, the retail trade and public administration sectors have remained a large component of the economy, employing just under 20 percent of the total workforce. This sector has grown in the last ten years. In addition, there appears to have been a relatively large increase in the arts, entertainment, recreation, accommodation, and food services industry within the community. Currently, 31 licensed businesses operate in Angoon (see Table 4).

Table 4: Number and Type of Businesses in Angoon, 2002

Type of Business	# of Businesses
Fishing Guides	7
Retail/Tourism	7
Travel Accommodations	5
Child Care	3
Transportation-Related	3
Restaurant	1
Forestry	1
Waste Management	1
Real Estate	2
Computer Services	1

Source: Department of Community and Economic Development, 2002

The categories with the largest number of businesses (fishing guides, retail/tourism, and travel accommodations) correspond to the 26 percent of total jobs represented in the arts, entertainment, recreation, accommodations, and food services and retail categories.

This data implies that many of the jobs in the educational, health and social service and the natural resource-based industries have been replaced by jobs in the service sector, resulting in a 4 percent increase in employment. While the growth in the tourism sector has positive employment implications, the jobs are often lower paying than those of other industries, and this may have contributed to the decline in medium household income (from \$32,083 to \$29,861). Moreover, a recent survey of Angoon residents found that current employment opportunities do not meet overall demand for employment. The survey conducted by the City of Angoon in May 2001, revealed that of 114 residents, 46 percent were currently unemployed.⁴ Of those, 48 percent desired to work (City of Angoon, 2001).

⁴ The definition of unemployment used for this survey is different than that used for the 2000 census. The US Census Bureau definition is of “unemployed” is “All civilians 16 years old and over are classified as unemployed if they (1) were neither ‘at work’ nor ‘with a job but not at work’ during the reference week, and (2) were actively looking for work during the last 4 weeks, and (3) were available to accept a job. Also included as unemployed are civilians who did not work at all during the reference week, were waiting to be called back to a job from which they had been laid off, and were available for work except for temporary

For these reasons, the community of Angoon has recognized the importance of providing employment to those who desire it and are working to develop culturally sensitive economic development strategies.

Recent History of Economic Development Planning

There are several organizations working on economic development strategies for Angoon. This section describes these organizations and details the recent history of their economic development activities.

Economic Development Organizations

To assist the community with economic development opportunities, Angoon relies primarily upon three administrative entities: the Angoon Community Association, Kootznoowoo Incorporated, and the City of Angoon.

Angoon Community Association (ACA): ACA is the federally recognized tribe in Angoon. This association works to preserve the cultural identity of Angoon. Moreover, its status allows the ACA to seek special funding sources available only to federally recognized tribes. The ACA is governed by a tribal council comprised of elders or respected representatives from different clans.

Kootznoowoo, Incorporated: The Kootznoowoo Corporation was created to support Angoon under the Alaska Native Claims Settlement Act (ANCSA). The Corporation has approximately 1000 shareholders of which one-third live in Angoon (Hamilton, 2002). The Corporation seeks income opportunities for stakeholders by managing corporation lands for economic development activities such as timber harvest. The Corporation also manages the Kootznoowoo Trust fund for shareholders. In addition, the Corporation completed a homesite program under Section 1407 of ANILCA to extend residence to 10 subdivisions around the City of Angoon for shareholders (Shienburg, 1999). Kootznoowoo is managed by a board of trustees.

City of Angoon: The City of Angoon oversees the operations of the city, including finances, planning and zoning. Moreover, the City manages public services including water, sewer, refuse, and cable. The City is governed by the City Council.

In addition to these entities, the Central Council of the Tlingit and Haida Indian Tribes of Alaska and Forest Service provide technical assistance to support economic and infrastructure development projects in the community of Angoon.

Central Council of the Tlingit and Haida Indian Tribes of Alaska (CCTHITA): The CCTHITA is an organization which provides program services and resources to Tlingit and Haida tribes to assist with social and economic issues. In particular, CCTHITA has a Business and Economic Development branch which is currently working with Angoon to create community-driven economic development priorities.

Forest Service: The Forest Service assists the Tribe, Corporation, and City by providing technical support, assistance in writing grant applications, funding, and employment. In 2001 and 2002, the Forest Service hired a monitoring crew from

illness. The definition for this survey is assumed to be anyone without a job at the time the survey was conducted.

Angoon, and from 2000 to 2002, the Forest Service hired a trails crew from Angoon. In 2002, it also hired a liaison from Angoon to facilitate communication and coordination between the Forest Service and the community. In addition, the Forest Service now has an employee serving on the Denali Commission, a federal-state partnership established by Congress in 1998 to provide utilities, infrastructure, and economic support to communities in Alaska. Angoon has received one grant from the Denali Commission in the amount of \$200,000 for design of a health center.

While these entities all have different missions and governing bodies, they all have interests in Angoon and have worked on multiple efforts to create economic development opportunities for the community.

1999 Angoon Overall Economic Development Plan (AOEDP)

The most recent large-scale effort of administrative entities was the development of the 1999 AOEDP. This plan used a formal, community-driven, planning process. Members of the oversight committee for the plan included the City of Angoon, Kootznoowoo, Inc., Kootznoowoo Heritage Foundation, Alaska Native Sisterhood Camp #7, Alaska Native Brotherhood Camp #7, the Angoon Community Association, the Chatham School District, the Forest Service, and a private business representative (Sheinberg, 1999). In addition, the planning process included meetings with the entire community. Using community input, the Committee identified five broad opportunities for economic development:

- * Nurture the Culture and Develop Heritage/Cultural Tourism Opportunities;
- * Improve and Expand Local Infrastructure;
- * Develop and Provide Information to Create an Admiralty Island Resource Center (AIRC);
- * Develop Light Manufacturing Businesses; and
- * Expand Fisheries.

Upon completion of the plan, the Committee concluded that its top economic development priorities were those items relating to cultural heritage/tourism opportunities and local infrastructure. To proceed with local infrastructure priorities, contractors completed initial assessments for the hydroelectric plant, airport, new water source, and landfill (See Appendix for a summary of each infrastructure project). However, little was done to pursue cultural tourism objectives. Moreover, the entities found that their resources were spread too thin and that they were not collaborating as well as they could due to budgetary constraints.

The Alliance

In January, 2001, the City, ACA, and Kootznoowoo, Inc. agreed to a Statement of Cooperation and Common Purpose to develop a more cooperative working relationship and collaborative process for pursuing economic development opportunities in Angoon. The agreement resulted in the formation of the Admiralty Island Alliance (Alliance). The agreement requires quarterly meetings

between all parties.⁵ It also requires that the entities “shall use consensus to select no less than three and not more than five projects or proposals for the Admiralty Island Alliance to work on and address” (Admiralty Island Alliance, 2001). Discussions with Alliance members reveal that the Alliance meetings have led to greater comradery amongst participants and fewer disagreements between entities. However, the Alliance members did not identify three to five priority projects for improving Angoon’s economic situation. Rather members continued to pursue separate projects.

The CCHITA Economic Initiatives Town Meeting

In an effort to better focus the community, the CCHITA organized an Economic Initiatives Town Meeting on May 7 through May 9, 2001. During that meeting, the community of Angoon identified its priority projects from the 1999 Angoon Overall Economic Development Plan, which included (Central Council of Tlingit and Haida, 2001):

- * Health Clinic;
- * Hydroelectric Project;
- * Landfill Restoration;
- * Cold Storage Fish Buying Station;
- * Flood Protection;
- * Boat Launch Ramp;
- * Museum Renovation;
- * Multi-Purpose Community Service Building;
- * Airport;
- * Road to Hood Bay; and
- * Bottled Water Facility.

These projects were further narrowed into a list of final recommendations: the Cold Storage Fish Buying Station, Bottled Water Facility, Road to Hood Bay, and Multi-Purpose Community Service Building (Angoon Community Association, 2001). These projects were approved by the Alliance as the economic development focus of the community. Since that meeting, the Cold Storage Fish Buying Station project has been completed, however, work on the other projects seems to be on hold as Alliance members pursue other initiatives. For example, the ACA is pursuing a chipping business while Kootznoowoo, Inc. is pursuing the hydroelectric project. This may indicate that there is still a lack of agreement amongst Alliance members about economic development priorities, making it difficult to focus scarce resources on agreed priorities. A pooling of scarce resources may be necessary in order to ensure that priority projects are implemented.

⁵ While not an official member of the Alliance, the Forest Service has also been invited to participate in these meetings.

Future Considerations

Need for Entrepreneurial Ventures

It should be noted that the priorities identified by the community at the Angoon Economic Initiatives Town Meeting include many infrastructure and social service projects, but few business or entrepreneurial priorities. This is most likely due to the fact that all community members desire improved infrastructure facilities whereas business ventures are often undertaken by individuals. In addition, funding resources may be more readily available for infrastructure projects than business projects. However, if Angoon is to gain economic independence, it must find ways to empower local entrepreneurs.

Studies indicate that the community may be ready to pursue some new business endeavors. First, the community-driven 1999 AOEDP identifies many business opportunities for the community. Second, the results of the 2001 City of Angoon survey on cultural tourism development in Angoon found that the community is generally supportive of certain kinds of business development (See Table 5).

Table 5: Tourist Activities Favored by Angoon (114 surveyed)

Activity	% in Favor	% Not in Favor
Commercial Fishing	82%	18%
Lodges	30%	70%
Charter Fishing	26%	74%
Salmon Bakes	55%	45%
Eco Tourism	32%	68%
Local Tours	37%	63%
Cultural Dance Program	65%	35%
Arts/Crafts	71%	29%

Source: City of Angoon, 2001

Of the 114 residents who took the survey, 70 percent favored tourists coming to Angoon. Most favored fishing (82 percent), tourists arriving on cruise ships (57 percent), tourists partaking in activities such as salmon bakes (55 percent), cultural dance programs (65 percent), and arts and crafts (71 percent). Taken altogether, this indicates that residents apparently prefer short stops by tourists in Angoon and tourist activities that do not impact subsistence fishing. Given these desires, the Alliance may want to create a cultural tourism strategy for Angoon. The 1999 AOEDP includes a strategy for cultural tourism which could be used as a foundation for the Alliance. In addition, other residents may have ideas for other business ventures. The Alliance could update the AOEDP strategy and then identify ways to empower local entrepreneurs to pursue this business strategy.

Need for Cultural Alignment

Another concern with the current economic development focus is that while the ACA considers cultural implications of economic development decisions on the local culture, community priorities are not strategically tied to cultural revitalization. For example, the 1999 AOEDP includes a strategy for cultural

revitalization as described in the Heritage and Cultural Tourism Opportunities section, but the community is currently not pursuing these opportunities. Moreover, the community does not have a cultural revitalization strategy to document what traditions are currently practiced; what traditions have been lost; who might be able to teach current traditions to the young; and a strategy to strengthen and “bring back” lost traditions (for example, seeking assistance from another Tlingit community). The lack of a resource assessment and cultural revitalization strategy could result in some traditions being lost.

In addition, a consensus between generations or clans on what the community is willing to share with the public and what it wants to keep private has not been developed. This will be a critical step in any strategy for pursuing tourism-related economic development opportunities. The community of Angoon could benefit socially and economically from completing a cultural resource assessment of current and past traditions and implementing a better-defined cultural revitalization strategy that is aligned with its future economic development plans.

Conclusion

Angoon’s economic position is relatively weak when compared to other communities in Southeast Alaska and the State and is leading to a decline in population. This decline may have adverse impacts on the Tlingit heritage of Angoon. In order to curb this out-migration, the community identified its top economic development priorities which include the cold storage fish buying station, a bottled water plant, a road to Hood Bay, and a multi-purpose community service building. The Alliance has agreed to these priorities, but members continue to pursue additional projects, leading to a lack of resources and funding to pursue community priorities. Moreover, these priorities do not focus on the cultural revitalization of the Tlingit culture, a factor which could have profound effects on cultural integrity in the long-term. Finally, the community seems to successfully agree upon and pursue infrastructure priorities, but struggles to create an entrepreneurial base.

Subsistence: Subsistence uses of coho and sockeye salmon may be impacted by guides fishing in Mitchell Bay assessment area.

Saltwater/Intertidal Use

The majority of use in the Mitchell Bay assessment area occurs in saltwater which is under the jurisdiction of the State of Alaska. Data from the State of Alaska Department of Fish and Game Sportfish Harvest survey reveals that total salt water sport fishing effort in Mitchell Bay (Table 6) is much greater than commercial recreational use on Forest Service lands (Tables 7 and 8). Guided freshwater sport fishing represent approximately 2% of recreational use in the Mitchell Bay watershed.

Table 6. Salt Water Sport Fishing Effort and Harvest in Mitchell Bay

Year	Days Fished	Sockeye Harvest	Coho Harvest
1977	0	0	0
1978	0	0	0
1979	0	0	0
1980	0	0	0
1981	554	0	76
1982	1,467	31	262
1983	1,130	0	31
1984	2,155	8	763
1985	5,012	50	710
1986	3,126	301	581
1987	8,630	0	1,295
1988	5,148	0	801
1989	6,265	109	915
1990	11,867	10	1,639
1991	9,629	132	2,092
1992	7,916	230	1,636
1993	7,692	296	3,239
1994	3,475	202	2,563
1995	5,697	11	2,844
1996	3,335	334	4,462
1997	4,449	21	3,921
1998	2,921	0	1,847
1999	6,334	409	7,669
2000	7,528	0	5,259

Source: State of Alaska Department of Fish and Game Sportfish Harvest Survey

Table 7. Guided Freshwater Sportfishing use in Mitchell Bay Watershed

Name	1996	1997	1998	1999	2000	2001
Hasselborg Falls					86	42
Kanalku Bay				2	2	
Kanalku Lake		6	4			
Mitchell Bay					4	6
Salt Lake	16	10	116	105	114	9
Grand Total	16	16	120	107	206	57

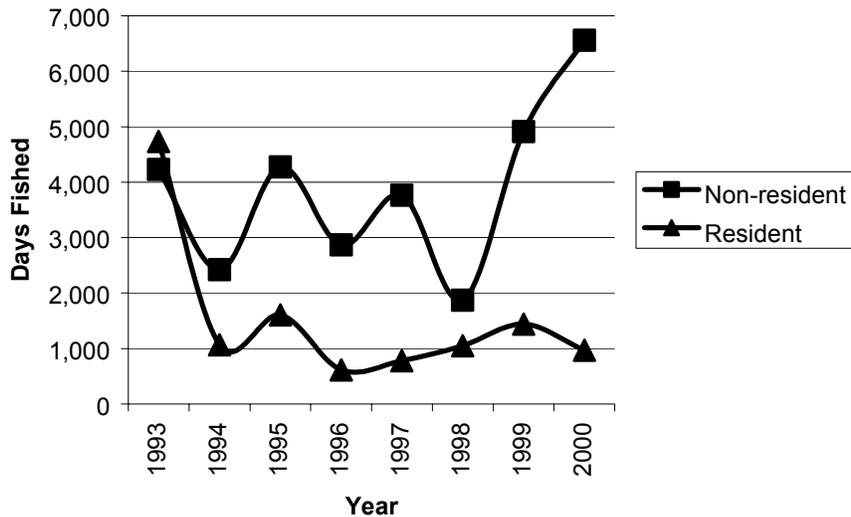
Practically all (99%) saltwater use reported for the Mitchell Bay watershed occurred in Salt Lake. Salt Lake is approximately 700 acres in size, though less than half of the lake is suitable for fishing

Table 8. Guided Nature Tours in Mitchell Bay Watershed

Name	1996	1997	1998	1999	2000	2001
Boy Scout Island				24	18	
Davis Creek	36				9	
Diamond Island	18			8	18	
Favorite Bay			9			
Kanalku Bay	2					
Mitchell Bay		121		29	23	
Salt Lake	124		55	48	72	13
Sullivan Point			13			
Target Island			39	52	52	
Grand Total	180	121	116	161	192	13

There is evidence of an upward trend in salt water sport fishing and that non-residents account for the majority of days fished (Figure 8).

Figure 8. Days Sportfishing per Year



.Source: State of Alaska Department of Fish and Game Sportfish Harvest Survey

The large proportion of use by non-residents in salt water may be the reason that residents feel that their “quiet enjoyment” is being impeded in the Mitchell Bay assessment area. Yet, it also helps illustrate the strength of the sport fishing industry in the area, which in turn is a substantial contributor to the economic base of the community.

Commercial Fishing

There have been no commercial salmon fisheries in the Kootznoowoo Inlet/Mitchell Bay/Kanalku Bay area since at least statehood in 1959. Commercial purse seining occurs in the migration corridors of Icy Strait and Chatham Strait but openings primarily target pink salmon (and chum salmon near Hidden Falls and Armstrong-Keta hatcheries). Troll fisheries in the region primarily target chinook and coho salmon.

Population Health

Annual sockeye and coho escapements into the Hasselborg River appear strong and these stocks are considered healthy. Unfortunately, reliable estimates or indices of salmon escapements into the Hasselborg River are not available beyond the seasonal aerial and foot surveys that ADF&G staff has conducted since the 1960s.

The Kanalku sockeye escapement was poor in 2001. Few fish were observed in the lake and on the spawning grounds by the cooperative subsistence salmon stock assessment crew. Low water conditions persisted through much of the 2001 summer and it is likely that some sockeye salmon couldn't make it into the lake because of the falls on the outlet stream. Community leaders recognized that a second year of poor escapements would be difficult to rebuild from and urged subsistence fishermen to fish at Sitkoh, Basket Bay, or other locations in 2002. Subsistence harvesters heeded this advice, the subsistence fishing effort at Kanalku was low, and spawning escapements are much higher than last year.

Conclusion

Several residents have stated that their ability to experience "quiet enjoyment" when practicing subsistence fishing in the Mitchell Bay assessment area has declined as numbers of guided fisherman have increased in the assessment area. At the same time, the outfitter/guide industry provides substantial economic benefits to the community. Data shows that while there is not an upward trend in use of the area, the majority of use is concentrated in Salt Lake and occurs on salt water in the same areas where subsistence fishing occurs. While there is no evidence that the concentrated use has led any subsistence users to abandon their traditional practices, it has probably led to a decline in the subsistence experience of those individuals. While these adverse impacts vary based upon the type of encounter and individual, they do contribute to a decrease in the overall cultural integrity of the community when compounded with the many other changes affecting Tlingit culture in Angoon.

Recreation: The cultural integrity of the Angoon tribe may be impacted by guides bringing people to the Mitchell Bay area.

While the previous section analyzed the impact of outfitter/guides on subsistence fisheries, this section assesses the impact of guided visitors on the cultural integrity of Angoon.

Legal Authorities

ANILCA reserves the United States government the right of public access and use within the corridor lands of the Mitchell Bay assessment area (Sect. 506.a.3.C.ii). However, it also grants the Secretary of Agriculture the right to protect the resources of the area as well as the “rights of quiet enjoyment of Kootznoowoo, Incorporated, granted by law, including subsistence uses.” This implies provision of some level of public access while at the same time ensuring compatibility with the subsistence lifestyle of the Tlingit of Angoon. In the last few years, residents of Angoon have raised concerns that the increase in guided visitors is eroding the community’s ability to experience “quiet enjoyment” in the area due to overcrowding and verbal conflicts with guided visitors. Compounded with the numerous other social changes that have altered the traditional Tlingit lifestyle, they argue that guided visitors are contributing to a decline in the cultural integrity of the community. At the same time, the outfitter/guide industry is one of the primary economic benefactors in the community.

Given these concerns, this section analyzes the patterns of use in the Mitchell Bay assessment area over the last ten years and the impact of that use on the community of Angoon. This use can be divided into four different categories: non-commercial recreational use, saltwater/intertidal use, commercial recreational use (outfitters and guides), and commercial fishing.

Non-Commercial Recreational Use

Non-commercial recreational use occurs when individuals recreate on Forest Service lands without the assistance of an outfitter/guide. Non-commercial recreation use includes activities such as kayaking, hiking, fishing, and camping. This use is not officially monitored by the Forest Service, but is believed to be low based upon informal observations and community reports. Most of this use occurs in the Mitchell Bay and Salt Lake area in the form of fishing.

Commercial Recreational Use

Commercial recreational use occurs when outfitters and guides bring tourists onto Forest Service lands. Commercial recreational use is monitored by the Forest Service and recorded in the form of Service Days. Since 1990, total commercial use for the area increased from 400 Service Days to 465 Service Days in 2000.

This use is concentrated in the Salt Lake area, a primary subsistence fishing area for the community of Angoon. The Salt Lake area is defined as Salt Lake, Freshwater Lake, and the Hasselborg River and falls. During 2000, almost 80

percent of the recreation use in the Mitchell Bay assessment area occurred in the Salt Lake area. The majority of this use (68 percent) was devoted to fishing. The remaining 20 percent of use in the Mitchell Bay assessment area was outside the Salt Lake area with most of it occurring in Mitchell Bay at Diamond Island and Target Island. Only 4 percent of this use was devoted to fishing. The concentration of use in specific areas such as Salt Lake has led some residents to complain of overcrowding and disturbances to their “quiet enjoyment” of the area while subsistence fishing. These complaints as well as concerns about the health of the resource led the Forest Service to freeze commercial recreation use at 1999 levels (465 Service Days) via a Forest Service moratorium.

At the same time some individuals are voicing concern that use is too high, outfitter/guides are asserting that overall outfitter/guide use in the Mitchell Bay assessment area is too low and that increases in use should be encouraged for both public enjoyment and the economic income it brings to the region (USDA Forest Service, 2001). Existing guides want to maintain their current levels of use. In addition, several entities within Angoon have voiced interest in starting additional guiding businesses to provide jobs within the community. They assert that the outfitter/guide industry is growing in the region and are concerned that the 1999 moratorium on additional special use permits for outfitter/guides in the Mitchell Bay assessment area will limit the community’s ability to pursue this economic development opportunity (USDA Forest Service, 2002). To date, however, no new requests have been submitted.

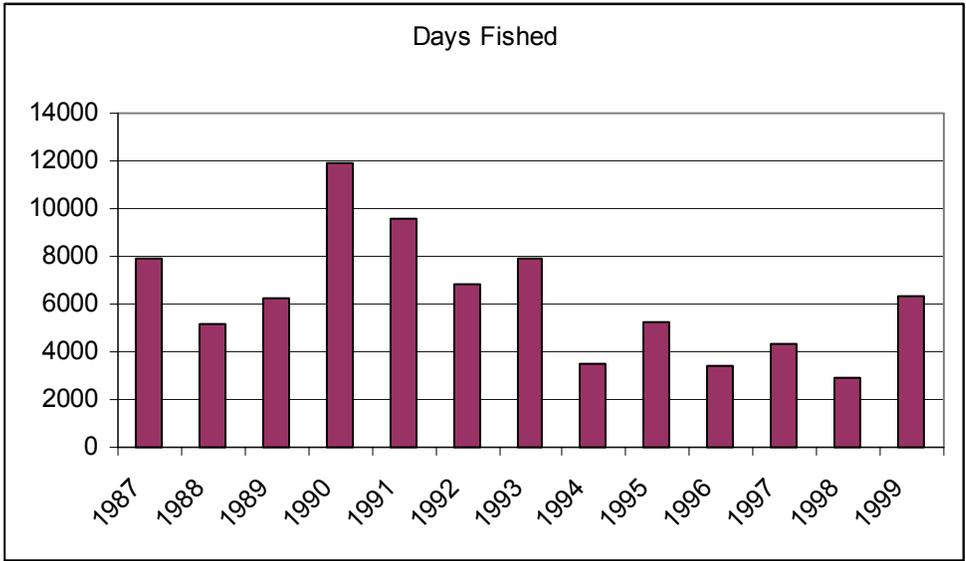
The community of Angoon has also acknowledged the economic benefits of outfitter/guides on the local economy. For example, Whalers’ Cove Lodge employs approximately 75 full and part time employees seasonally (Sheinberg, 1999). Of these, 55 are local residents. This year, Whaler’s Cove also partnered with Kootznoowoo, Inc. to share the cost of Coast Guard six-pack training. Nine residents participated, five of which Whalers’ Cove hired upon completion of the training. In addition, the Lodge sells works of native artisans at no cost to the artisans and hosts a local dance troupe on Friday nights to help educate its guests on Tlingit culture. Finally, the Lodge provides tax revenues to the City of Angoon through a city tax and a bed tax. These efforts provide numerous benefits to residents, cultural groups, and artisans.

Saltwater/Intertidal Use

The majority of use in the Mitchell Bay assessment area occurs in saltwater which is under the jurisdiction of the State of Alaska. Data from the State of Alaska Department of Fish and Game Sportfish Harvest survey reveals that total salt water sport fishing effort in Mitchell Bay is much greater than commercial recreational use on Forest Service lands (Use is between 2,000 and 12,000 days compared to between 400 and 465 commercial recreation days on Forest Service lands) and has varied significantly over time (See Figure 8).

The majority of this use is believed to occur in the Salt Lake area.

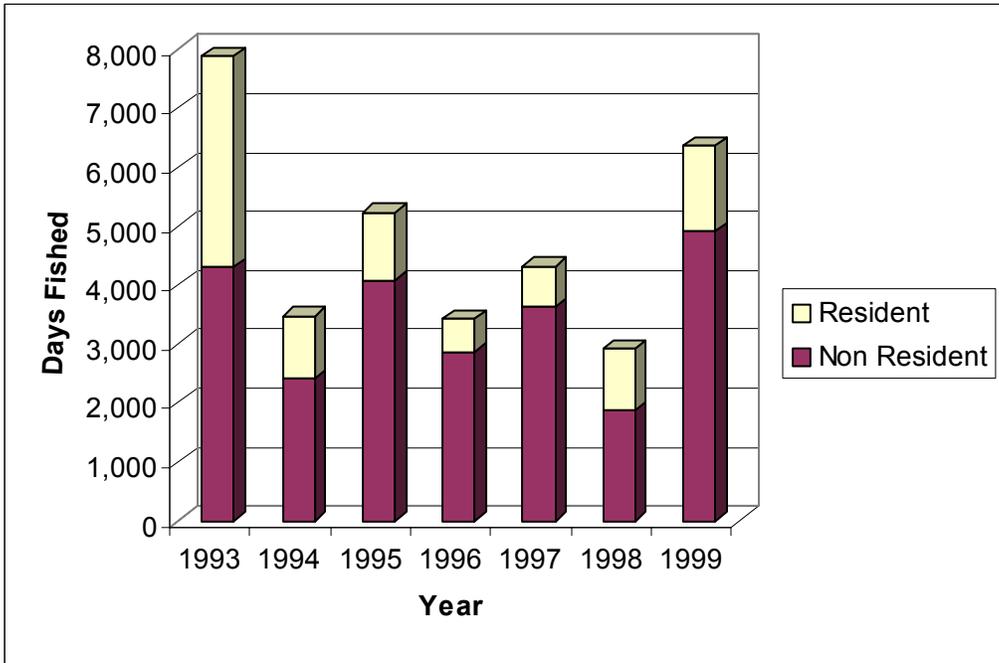
Figure 8: Total Salt Water Sport Fishing Effort in Mitchell Bay



Source: State of Alaska Department of Fish and Game Sportfish Harvest Survey

While this data does not indicate an upward trend, there is evidence that non-residents account for the majority of days fished as shown in Figure 9.

Figure 9: Salt Water Sport Fishing Effort in Mitchell Bay



Source: State of Alaska Department of Fish and Game Sportfish Harvest Survey

The large proportion of use by non-residents in salt water may be the reason that residents feel that their “quiet enjoyment” is being impeded in the Mitchell Bay assessment area. Yet, it also helps illustrate the strength of the sport fishing industry in the area, which in turn is a substantial contributor to the economic base of the community.

Commercial Fishing

Currently, there is no commercial fishing in the Mitchell Bay assessment area.

Conclusion

Several residents have stated that their ability to experience “quiet enjoyment” when practicing subsistence fishing in the Mitchell Bay assessment area has declined as numbers of guided fisherman have increased in the assessment area. Data shows that while there is not an upward trend in use of the area, the majority of use is concentrated in Salt Lake and occurs on salt water in the same areas where subsistence fishing occurs. While there is no evidence that the concentrated use has led any subsistence users to abandon their traditional practices, it has probably led to a decline in the subsistence experience of those individuals. While these adverse impacts vary based upon the type of encounter and individual, they do contribute to a decrease in the overall cultural integrity of the community when compounded with the many other changes affecting Tlingit culture in Angoon.

At the same time, the outfitter/guide industry provides substantial economic benefits to the community. Moreover, the industry would like to increase its use, since local guides would like to begin working in the area. In addition, the Forest Service has found that the sport fisheries in Mitchell Bay are healthy (except for the Kanalku sockeye population which has been depleted due to over fishing—see previous section), and thereby could withstand increases in the sport fishing industry without harm to the fisheries resources.

To address these concerns, a collaborative process needs to be initiated to determine the best way to meet conflicting desires between the guides and the subsistence users for commercial recreation in the Mitchell Bay assessment area. Any changes to current guiding practices need to carefully consider the impact on subsistence experiences as well as on the economic benefits for the community.

ANILCA: A common understanding of cooperative management between the Forest Service and Kootznoowoo, Inc. under ANILCA is needed.

Subsection 506(3)(C) provides that Kootznoowoo, Inc. is granted all right, title, and interest inland six hundred and sixty feet from the mean high tide mark to certain described lands, including Mitchell, Kanalku, and Favorite Bays, subject to the reserved rights of the United States. The rights reserved to the United States are 1) all timber rights; 2) public access and use, subject to regulation by the Secretary of Agriculture to ensure the protection of resources, and to "protect the rights of quiet enjoyment" of Kootznoowoo, Inc. granted by law, including subsistence uses; 3) the subsurface estate; and 4) development rights.

Subsection 506(3)(E) provides that the Secretary of Agriculture shall "consult and cooperate" with Kootznoowoo, Inc. in the management of Mitchell, Kanalku, and Favorite Bays, and "their immediate environs," and the Secretary is authorized to enter into cooperative arrangements that may further the purposes of ANILCA and other laws concerning, but not limited to, permits for any structures and facilities, and "the allocation of revenues therefrom;" regulation of public uses, and management of the recreational and natural values of the area. There is value in looking at the legal definitions and precedents of ANILCA.

Quiet enjoyment. The language in subsection 506(a)(3)(C)(ii): "the rights of quiet enjoyment of Kootznoowoo, Incorporated, granted by law." The concept of quiet enjoyment arises under property law as a covenant insuring against the consequences of a defective title or ensuring that a tenant will not be evicted or disturbed by the landlord or a third person. With respect to title, the covenant of quiet enjoyment assures the grantee that his or her quiet possession or enjoyment of the property will not be disrupted by the grantor or anyone else with paramount title. *James v. McComb*, 936 P.2d 520 (Alaska 1997). In the context of a leasehold, a breach of the covenant of quiet enjoyment occurs if the lessee's enjoyment of the leased land is disturbed in a substantial manner either by the lessor or by the owner of a paramount title. *Berrey v. Jeffcoat*, 785 P.2d 20 (Alaska 1990).

The covenant of quiet enjoyment, therefore, is a promise that the owner or lessee of certain property can enjoy it in peace and without disturbance or interference. As applied to the 660 foot corridor of lands at Mitchell, Kanalku, and Favorite Bays, Section 506 recognizes the public's right to access and use these lands. The Secretary may regulate such public access and use to protect Kootznoowoo's exercise of its rights granted by law to utilize the land without unreasonable disturbance or interference by the public. Exclusive use of these lands by Kootznoowoo was not intended by Congress because the right of public access and use was specifically reserved in the United States. But access and use by the public cannot substantially interfere with the exercise of Kootznoowoo's rights on this property because Congress recognized the need to protect Kootznoowoo's right of quiet enjoyment.

Consult and cooperate. The Secretary must "consult and cooperate" with Kootznoowoo in the management of Mitchell, Kanalku, and Favorite Bays, and "their immediate environs." "Consult" means to deliberate on or discuss; to ask advice of, seek the opinion of, or apply to for information or instruction. "Cooperate" means to act or work with another or others to a common end; to act together. Webster's Third New International Dictionary (1969). Applying the common understanding of consult and cooperate to Forest Service relations with Kootznoowoo in the management of Mitchell, Kanalku, and Favorite Bays requires that the Forest Service seek advice or information from Kootznoowoo and exchange views to work or act together toward a common end or purpose regarding the management of those lands. It does not imply joint management or decision-making authority with respect to management of those lands, but simply discussion that leads to working together for a common end in managing those lands and "their immediate environs." "Immediate" means characterized by contiguity; existing without intervening space or substance; being near at hand; not far apart or distant. "Environs" means any adjoining or surrounding region or space; surroundings. Webster's Third New International Dictionary (1969). Thus, the requirement to consult and cooperate with Kootznoowoo in the management of Mitchell, Kanalku, and Favorite Bays extends to the direct surroundings of those bays, but not beyond.

Allocation of revenues. The Secretary may enter into a cooperative agreement with Kootznoowoo to permit any structures or facilities at Mitchell, Kanalku, or Favorite Bays and the "allocation of revenues therefrom." "Allocation" means the action of apportioning; to apportion and distribute (as costs or revenues) among accounts according to some predetermined ratio or agreed measure of involvement. Webster's Third New International Dictionary (1969). With respect to any structures or facilities that may be permitted at Mitchell, Kanalku, or Favorite Bays and their immediate environs, it appears that any revenue generated from such facilities is to be apportioned between Kootznoowoo and the United States based on some agreed upon ratio identified in a cooperative agreement between the parties.

Conclusion

It is clear that the intent in ANILCA was that Kootznoowoo and the Forest Service work cooperatively in the management of the Mitchell Bay area so that the resources were protected for the community of Angoon. Numerous discussions of the definitions mentioned above have not lead to a clearer understanding but rather have prevented the parties from working on feasible solutions.

Archeological Resources: The Forest Service does not have a complete archeological survey of the Mitchell Bay assessment area.

Archeological investigations and inventories in the Mitchell Bay assessment area have been neither systematic nor complete. In 1946, Walter R. Goldschmidt and Theodore H. Haas completed a regional ethnographic analysis of traditional land use by interviewing local residents. In 1949 and 1950, Frederica de Laguna combined archaeological survey and excavation, with archival and historical research and ethnographical work, interviewing informants and collecting oral histories from residents of Angoon. In *The Story of a Tlingit Community: A Problem in the Relationship between Archaeological, Ethnological and Historic Methods* (de Laguna, 1960) de Laguna documents archaeological sites in Mitchell Bay, Kanalku Bay, Channel Point, Pillsbury Point, Sullivan Point, and Favorite Bay.

In 1982, Barry Roderick completed *A Preliminary History of Admiralty Island from 1794-1942*. In the early 1980s, archeologists Madonna Moss and Jon Erlandson (Erlandson and Moss, 1983, Moss, 1989) completed the most extensive archaeological surveys of Admiralty Island to date. Work was done in 1983 to further the goals of the Admiralty Plan (Glassow, 1980) and to comply with Executive Order 11593 (1971) mandating the inventory of cultural resources of federal lands. In 1985 work was done under Special Use Permit and sponsored by the University of California Research Expeditions Program. In addition to archaeological investigation, Moss collected extensive ethnographical information, in association with Richard Newton, in the form of oral interviews resulting in the publication of *The Subsistence Lifeway of the Tlingit People* (Newton and Moss, 1984).

Other Forest Service personnel (Rachel Myron, Melanie McAfee) have completed archaeological survey within the Mitchell Bay assessment area between 1980 and 2000 (McAfee, Bjotvedt, and Fritz, 1982 and Myron, 1992). Bureau of Indian Affairs archaeologists (Cantley, 1983 and Anderson, 1983) also completed archaeological survey of allotments in Mitchell Bay and Favorite Bay.

While these investigations and inventories cover portions of the Mitchell Bay assessment area, the entire area has not been systematically or completely inventoried or surveyed for cultural resources. Moreover, archaeological investigations to date have been driven by information obtained from residents. This has possibly resulted in bias toward younger sites. While known sites have been dated to 3000 years BP (before present), there remains the possibility of the presence of older sites in the Mitchell Bay assessment area. There are also extensive gaps in the Forest Service's knowledge of the scope and intensity of use of the Mitchell Bay assessment area due to this method of data collection. Recent investigations have focused on discreet project areas, as mandated by Section 106 of the National Historic Preservation Act, rather than complete and systematic coverage of contiguous areas. A complete and systematic archaeological inventory would be necessary to gain more comprehensive knowledge of the prehistoric and historic uses of the Mitchell Bay assessment area.

The National Historic Preservation Act of 1966 requires federal agencies to take into account effects of undertakings to historic properties to preserve and protect cultural resources. Without a comprehensive survey, the Forest Service has been unable to identify sites. Moreover, since the investigations by Moss, Erlandson, and Newton in the 1980s, little work has been completed in the Mitchell Bay assessment area. Many known sites have not been revisited since they were originally located and documented. Some of these sites will need stabilization. Erlandson and Moss in 1983 noted sites were undergoing rapid erosion, and they recommended a program be initiated to assess the integrity of sites and prioritize endangered sites for either stabilization or data recovery as mitigation. A systematic monitoring plan that allows the Forest Service to develop preservation and protection strategies would be necessary to ensure the longevity of these fragile cultural resources.

Recommendations

Economic Development: Angoon shows potential signs of economic distress, and the community is actively seeking ways to bolster the local economy.

The Alliance has made great progress in identifying its shared interests. However, efforts and resources continue to be expended on many initiatives rather than on a focused few projects. Increased attention to fewer priorities may improve the Alliance's ability to move projects forward more quickly. Work at the next CCTHITA Economic Initiatives Town Meeting may provide the opportunity for the Alliance to develop more focused business plans for pursuing its top economic development priorities.

While the ACA ensures that cultural heritage is a consideration in every decision, the community has not developed a systematic way of analyzing loss of cultural traditions and activities. Moreover, current economic development priorities are not strategically tied to cultural revitalization. The community could benefit from documenting what traditions are currently practiced; what traditions have been lost; who might be able to teach current traditions to the young; how to "bring back" lost traditions (for example, seeking assistance from another Tlingit community); and a strategy for teaching these traditions to community members. Practices could then be strengthened or "brought back" as part of a cultural education program or even interwoven into a cultural tourism strategy. In addition, a consensus between generations or clans on what the community is willing to share with the public and what it wants to keep private needs to be developed before pursuing tourism-related economic development opportunities.

Finally, the community needs to develop a strategy for promoting entrepreneurial activity in Angoon. One method for doing this is through a program called the "coordinated entrepreneur," where a successful businessman or woman is given a grant to mentor a community member as he or she starts a business. These mentors may be found within Angoon or outside of the community. These grants may be available through the Forest Service or other funding sources. Additionally, universities, especially business schools, may be willing to conduct feasibility analyses and develop business plans for well-defined business ideas as part of a hands-on classroom experience. Other helpful tools may include contacting other successful entities who have pursued a similar venture such as the Sitka Tribal Museum, who developed a cultural tourism center which also provides private classes for tribal members on traditional practices.

Subsistence: Subsistence uses of coho and sockeye salmon may be impacted by guides fishing in Mitchell Bay assessment area.

A twice a season boat/foot/helicopter aerial survey of Hasselborg Creek coho escapement would aid in the annual assessment of the health of this stock. This is important for USFS, ADF&G, and Angoon subsistence users. Information on the health of the fisheries should be made readily available to the residents of Angoon. Fisheries information may include population information as well as sportfish and subsistence harvest. Whenever possible residents of Angoon should be employed in gathering this information. To lesson conflict between guided clients and subsistence users, use by freshwater fishing guides in Mitchell Bay should not increase.

A fishway on Kanalku Creek would definitely help sockeye make it into Kanalku Lake during low water summers. Some subsistence users have voiced opposition because they like the additional harvest opportunity the falls provided by holding sockeye in the fishing area longer. In the summer of 2002 Walter Jack, Sr. asked Ben Van Alen on behalf of other tribal leaders if a fishway is still under consideration. Having the USFS moving forward on a Kanalku fishway would be a positive action for Kanalku sockeye salmon and Angoon subsistence.

Recreation: The cultural integrity of the Angoon tribe may be impacted by guides bringing people to the Mitchell Bay area.

Since this is not a conflict over natural resource health, but rather an issue of Angoon's cultural and economic health, the Forest Service recommends initiation of a collaborative process between subsistence users and outfitter/guides to determine the proper level and areas for commercial guided use in the Mitchell Bay assessment area, including the salt water portions of Mitchell Bay. The process would need to include the ACA, Kootznoowoo, Inc., City of Angoon, Forest Service, and the business community.

The outcome should include a solution for the current Forest Service freeze on outfitter/guides in the Mitchell Bay assessment area while at the same time ensuring protection for traditional subsistence uses and the quality of the associated experiences. Moreover, the solution should be aligned with the economic development strategy for the community. For example, the community could choose to pursue increases in other outfitter/guide non-consumptive uses such as hiking and kayaking that do not conflict with subsistence uses as part of its strategy.

ANILCA: A common understanding of cooperative management between the Forest Service and Kootznoowoo, Inc. under ANILCA is needed.

It is important at this time for Kootznoowoo and the Forest Service to work cooperatively to design and implement a small, sustainable project in Mitchell Bay. This should be a revenue generating project that is acceptable to Kootznoowoo and the Forest Service and sustainable within the existing resources and infrastructure of the community.

A project that has been suggested by the corporation and is supported by the Forest Service is the development of a “Watchable Wildlife Site” in Kanalku Bay area. This venture could use the services of local guides and equipment with little initial cash outlay. Grants could be sought to secure funding for marketing, construction of viewing blinds or trail construction. This project could contribute to the economic stability of the community, provide jobs and encourage an appreciation of natural resources.

Archeological Resources: The Forest Service does not have a complete archeological survey of the Mitchell Bay assessment area.

Gaps in the archaeological record can be addressed by increased archeological inventory in the project area. Additional inventory work, supplemented with monitoring of known sites, would assist the Forest Service in meeting its goals of preserving and protecting cultural resources on Admiralty National Monument. Efforts are currently under way to develop a five-year, site monitoring plan. Periodic visits to known archaeological sites will allow the Forest Service to gauge change over time, and monitor destruction, vandalism, looting, or erosion. In addition to Forest Service monitoring activities, there are other methods for monitoring archeological sites.

A Site Stewardship program could be implemented to protect known sites from vandalism, erosion, and weathering. Through this program, volunteers visit sites annually, note changes over time, and report cases of vandalism or destruction to the Forest Service to mitigate or investigate these changes. This program provides the opportunity to exchange information with area residents who might be able to visit the sites in their immediate area more often than Forest Service personnel.

Inventory and monitoring work can also be supplemented by Passport in Time (PIT) programs which use volunteers to assist Heritage Program personnel in excavation, testing, surveying, collection of oral histories, and archival research. These volunteers could be solicited from the national clearinghouse already in place, the local community (perhaps local youth who might want to foster an understanding of their ancestral lands while learning the skills of resource management), or a combination of both national and local volunteers.

Finally, Heritage Expeditions, allowed under the Fee Demo Authority, provides an opportunity to develop Cultural Tours or Heritage Tours. These programs provide the visiting public in-depth knowledge of cultural resources through interpretation of cultural sites. Charging a fee to visitors to learn about the history and pre-history of the island would result in funding which could be used for additional testing, inventory and monitoring of culturally important areas.

Appendix

Contractors have completed assessments for several local infrastructure priorities including building an airstrip and helipad, developing a new water source, improving the landfill, and investigating new power sources for Angoon. This appendix provides more detail on these developments as well as the role of the Forest Service in providing permits for the projects to proceed.

Airstrip or Helipad: Angoon can only be reached via float plane or boat. Residents have cited need for an airstrip in case of medical emergencies. In 1998, voters in the municipal election passed a measure supporting development of a land-based airstrip (Sheinberg, 1999). In 2001, the City did a site evaluation of possible locations for the airport (Alaska Department of Transportation, 2001). Several sites are still being considered. Construction of the airport on a site on National Forest Service land would require the issuance of a special use permit.

New Water Source: The Auk' Tah Lake watershed is approximately 800 acres and serves as the primary public water supply for the community of Angoon. The lake area is 50 acres (44 million gallon volume) in size and consists of two basins with a maximum depth of 50 feet. This is a kettle lake formed in depressions left by large chunks of ice that melted after being imbedded in glacial moraine deposits. The watershed is located on carbonate bedrock formation, which explains the high clarity and alkalinity of this water source.

A study done for the Angoon Coastal Management Plan (1990) concluded that the Auk Tah Lake watershed would yield 600,000 gallons per day for domestic water consumption, well over the 20 year projected demand of 291,000 gallons per day. The lake is currently dammed by beavers. If the dams were to break, the lake level would fall a few feet, however, the lake would still yield the same amount of water since water flow into the lake would not change.

Sampling conducted by the Forest Service in 1999 indicates that source water quality in Auk Tah Lake is good and key water quality parameters are all well within limits established in Alaska State Water Quality Criteria (See Table 9).

Table 9: Comparison of Auk Tah Lake Water Quality to Alaska State Water Quality Standards

Parameter	TDS	pH	Alkalinity	Color	Hardness	Iron
Ak State Criteria	Less than 500 mg/l	6-8.5	--	Less than 75	--	--
Auk Tah Lake Samples	85	8	15.3 mg/l	20	74.6 mg/l	30 mg/l

A tributary to Favorite Bay Creek is being evaluated as an alternative public water supply. This is a steep mountain slope stream (HC Process Group) with a watershed area of 2.5 square miles. Preliminary stream flow measurements indicate that Favorite Creek can also meet Angoon's projected water supply needs. Although no quantitative data is currently available, water quality in Favorite Creek is likely good to excellent for domestic uses. Water intake

facilities in Favorite Creek, however, would require frequent maintenance as a consequence of periodic bedload sediment deposition. There is also a risk of episodic debris torrents, triggered by flooding and landslides events in headwater areas, that could damage intake and conveyance facilities and disrupt water supplies.

Landfill Improvement: The landfill in Angoon, located approximately 2 miles from the city center, poses several problems for the community. First, the landfill is only 3,400 feet away from the existing floatplane dock, which poses a bird-strike hazard. Second, the landfill attracts bears, which pose a hazard to pedestrians as well as to the bears, which may be shot if aggressive. Third, the landfill is easily seen by tourists and visitors arriving on the ferry. Fourth, discharges of water and sediment from the landfill have created a water quality problem in the estuary downstream from the landfill. Contractors found that the wetland by the landfill reduces the concentration of typical leachate pollutants by at least 75 percent. Given this, the contractors characterized the water use as a “Secondary Recreation” zone, according to 18 AAC 70 Water Quality Standards. “Secondary Recreation” means activities in which incidental water use can occur such as boating, camping, hunting, hiking, wading, and recreational fishing (no human consumption of fish).

In 2001, the City hired a contractor to evaluate alternatives for improving the landfill or constructing a new one. The Forest Service recognizes the need for a new landfill and is especially concerned about maintaining bear habitat and water quality.

New Power Source: Angoon receives electricity from two diesel-fueled generators operated by the Tlingit-Haida Regional Electric Authority. The aggregate generating capacity of the diesel-fueled generators is 1,115 kW, which is two times the peak load demand of 425 kW and four times the average load of 250 kW (HDR Alaska, 2000). Current residential rates are 32.75 cents per kWh, however, the State Power Cost Equalization (PCE) program provides a subsidy to residents which reduces the costs to 17.79 cents per kWh (Sheinberg, 1999). To reduce reliance on diesel fuel, lower costs especially for non-residential customers, and meet future demand from the new homesites, Kootznووoo contracted a study to analyze feasibility of building a hydro-electric dam on Thayer Creek. The dam would be able to generate over 4 times current energy requirements, but projected costs per kWh would only be “slightly less than current cost” (HDR Alaska, 2000). Construction of the dam on National Forest lands would require the issuance of a special use permit as well as an environmental analysis under NEPA.

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