

## C. Resource Uses

### 1. Forest Products

The Alaska forest resource program is essentially custodial management. No commercial demand exists for forest products from BLM lands in the planning area. Most lands with forest resources are located in remote areas with poor to non-existent access (Maps 3.9 a-d). Many of the timber stands on BLM lands are several hundred miles from the nearest road. State and Nationwide program goals seek to protect and enhance forest health and provide forest products commensurate with public and industry demand, which in the planning area is very low to nonexistent.

### 2. Livestock and Reindeer Grazing

#### a) Livestock Grazing

Livestock Grazing and Range Management includes the management of vegetative forage, animal husbandry and associated facilities on public lands used for domestic livestock including cattle, sheep, horses, mules, goats, pigs, and turkeys. Bison, yak, llama, moose, caribou, elk and other exotic or native species are not considered livestock for the purpose of public land grazing.

Currently there are no BLM livestock grazing leases, permits or special land use or recreation permits for grazing in the planning area. If there is a need in the future for a livestock grazing permit, BLM has the authority to issue such a permit in accordance with the provisions of the Alaska Livestock Grazing Act, 43 U.S.C. 316, 316a-316o. Small scale and casual use commercial and recreational demand for livestock use and grazing associated with big game hunting or other pursuits does not presently occur in the planning area. There is no current demand for livestock forage and grazing privileges on BLM-managed lands in the planning area, nor has there been any during the past 20 years.

There are no grazing management guidelines for the planning area that relate to livestock class, range suitability criteria, range standards, seasons of use, livestock preferences and palatability of plant species, or ability of plant communities to maintain species composition, productivity, ecosystem function, or viable grazing systems. The suitability, capability, compatibility, distribution and quantity of plant resources available for livestock grazing have never been assessed and evaluated.

Also lacking for BLM lands in the planning area is a forage allocation procedure that takes into account the mix of wild and potential domestic species for Bay area ecosystem maintenance. Lands suitable for livestock grazing on a sustained yield basis have not been formally evaluated for compatibility and suitability in the planning area. Although preliminary vegetation studies and land-cover mapping for the planning area have been done, no ecological site survey has been completed within the planning area.

Management recommendations addressing grazing management in the Southwest Management Framework Plan (1981) for the Goodnews Bay block only called for a range inventory to determine carrying capacity and to provide seasonal grazing for domestic livestock including reindeer and musk oxen on a local level where there was public demand and where it was compatible with other uses considered in that plan (BLM 1982). The remainder of the planning area is not covered in any previous BLM land use plan, activity plan or special plans.

The Alaska Department of Fish and Game's 2004 Bristol Bay Regional Management Plan does not address livestock or reindeer grazing. Neither the Togiak, Becherof/Alaska Peninsula Plan, nor the Maritime National Wildlife Refuge Plan allow livestock or reindeer grazing. The Maritime NWR has had conflicts with feral livestock and reindeer in island settings outside of the planning area. The grazing of

livestock, including reindeer, is not an allocated use in the Lake Clark National Park and Preserve, the Katmai National Park and Preserve, or the National Wild and Scenic Rivers System units in the planning area. Military land use plans for the planning area do not include grazing as a compatible use.

Requests for livestock grazing permits for BLM lands will be evaluated on a case-by-case basis. Grazing by saddle and pack animals may be authorized on a case by case basis.

## **b) Reindeer Grazing**

Reindeer grazing, which at one time was a widespread activity in Alaska, is no longer practiced in the planning area. Historically, reindeer grazing was introduced in the 1890s in portions of the planning area but it did not continue beyond the 1950s. No interest or inquiry regarding reindeer grazing on or adjacent to BLM lands in the planning area has occurred in the past decade or more. Future requests for reindeer grazing permits will be evaluated on a case-by-case basis.

## **3. Minerals**

### **a) Leasable Minerals**

#### **(1) Regional or National Demands**

##### Oil and Gas

Maps 3.27 and 3.28 provide the geology and mineral terranes for the planning area. Commercial demand for the oil and gas resource from the Federal domain within the planning area is expected to be low during the life of the plan. Oil and gas resource demand for local energy needs may increase as technological advances are made and if the economics of developing local energy resources is more beneficial than shipping diesel fuel into villages. Exploration and development is driven largely by the price of oil and gas.

Outside of the village communities, the planning area is remote, has no production of oil and gas, and little or no infrastructure. A large accumulation of oil and gas is necessary to justify the exploration and development of remote areas within the planning area. Unless a large deposit of oil and gas is identified in these areas, the likelihood of development of oil and gas is low. There is, however, a possibility of interest in developing small oil and gas deposits for local use if a prospect is found close to a Native village. In addition, the State of Alaska is in the process of licensing approximately 329,000 acres adjacent to BLM lands in the planning area. The State's licensing activity may provide additional knowledge of oil and gas reserves in the area. Prospects for oil and gas exploration and development in the planning area are presently uncertain.

##### Coal and other Leasable Minerals

There are no known occurrences of any type of coal on Federal lands in the planning area and there are no existing coal leases. The local demand for these resources is not likely to change during the life of the plan.

There are few occurrences of potential geothermal resources in the planning area. Katmai Pass Hot Springs are located in the Katmai National Park within the Mt. Katmai A-4 quadrangle and is located on the boundary of the Bay RMP. The springs are located in Katmai Pass between two volcanoes (Mt Mageik and Mt Cerberus). There are several other volcanoes, including Novarupta within a five mile radius. Data from USGS Professional Paper 492 does not give actual temperature of the springs, but rather classifies it as hot (over 50° C). The hot spring is associated with volcanic lava. Deposits of ocher (used as a pigment) and sulfur are known to occur here (Waring, 1965).



Mt. Katmai Hot Springs are located about seven miles to the west-northwest of the Katmai Pass Hot Springs within Katmai National Park—just outside the planning area. The springs are associated with volcanic lava and tuff and are classified as hot. Several springs and fumaroles are present (Waring 1965). Fumaroles, mud pots, hot springs, and a mud geyser have been noted in the Mt. Katmai crater (Motyka 1977).

In the mid-1980s, the National Park Service received a proposal on conducting a drilling investigation of the 1912 eruption of Novarupta Volcano. Scientists chose Novarupta because their research objectives required a volcanic site of recent eruptive activity with a relatively simple geologic structure, and Novarupta is probably the only known location where a vent of a large explosive eruption is preserved without the collapse of its structure. Since the site was located within the National Wilderness Preservation System, Congressional approval would be necessary (Norris 1996). Sandia Laboratories conducted field investigations and geophysical surveys in 1989 to determine a proposed drill site (US DOE 1991). Upon completion of the surface phase, it was determined two core holes would target the vent and one would target the ash-flow sheet (Motyka 1993).

The goal of the project was indirectly geothermal as the holes would test the rate at which magma cooled below the surface as well as the mineralization associated with the magma. Precise gravity and magnetic measurements were taken at 150 points near Novarupta to pinpoint the size, shape, and location of the vent. The holes would reach a total depth between 700 and 4,000 feet. Drilling would wait until the NPS had issued an EIS (which was originally scheduled to be completed in 1991). Various political developments slowed progression, and the EIS was rescheduled for completion by 1994. Sandia had their plan of drilling operations prepared for 1995. However, just before the draft EIS was released in 1993, the Department of the Interior's Secretary's office convinced the Interagency Coordinating Group to withdraw the proposal. The project was officially abandoned in spring of 1994 (Norris 1996).

Geothermal leasing is not permitted within a unit of the National Park System as per 43 CFR 3201.11. However, development potential of these geothermal resources within the Katmai National Park would have to be approved by the National Park Service, which is highly unlikely during the life of the plan.

There are no occurrences of potential phosphates, oil shale, or sodium resources in the planning area.

## **(2) Local Dependence on Public Lands**

Currently, there is no local dependence on Federal Lands within the planning area for leasable minerals resources.

There has been no oil and gas leasing in the planning area to date (Map 3.29). Leasing on BLM lands in the planning area cannot occur until the completion of the land use planning process. Leasing on U.S. Fish and Wildlife Service (USF&WS) refuge land has been deferred by the USF&WS until they make a determination in their land use plan as to whether leasing is compatible with the purposes for which the unit was established (see ANILCA section 1008.(a)). The National Park Service allows for leasing in their planning units only when drainage is occurring and, then, only with a "No Surface Occupancy" stipulation. There are no Forest Service lands in the planning area.

Geophysical operations may be conducted regardless of whether or not the land is leased. Notices to conduct geophysical operations on BLM's surface estate are received by the field office. Administration and surface protection are accomplished through close cooperation with the operator and BLM. Surface use restrictions, if needed, are applied as conditions of approval to address surface resource concerns.

There currently are no coal leases within the planning area. Unless an area is specifically closed to exploration, all unleased BLM lands subject to leasing under 43 CFR 3400.2 are open to coal exploration. Leasing would not occur until a site-specific screening process has been carried out along with an appropriate environmental analysis.

Geothermal leasing is not permitted within a unit of the National Park System as per 43 CFR 3201.11. Development of geothermal resources within the Katmai National Park requires National Park Service approval, which is unlikely.

There are no leases on the Federal estate for other minerals in the planning area. Unless an area is specifically closed to exploration, all unleased BLM lands subject to leasing under 43 CFR 3503 are open to prospecting.

## **b) Locatable Minerals**

### **(1) Mineral Terranes**

The Bay planning area is underlain by eleven Mineral Terrane units whose geologic settings are considered highly favorable for the existence of metallic mineral resources (Resource Data, Inc. 1995) (Map 3.28). Specific mineral deposit types and associated commodities are more likely to exist within each terrane based on a terrane's particular geologic nature. Just because a specific geologic terrane is more likely to contain certain mineral deposit types does not necessarily mean that economic deposits exist within that rock unit. Unmapped areas are generally evaluated as having poor to only moderate mineral potential.

An analysis of the eleven mineral terranes, identified within the planning area, indicate potential for 17 mineral deposit types containing a number of different mineral commodities (Schmidt and others, 2007).

The areas underlain by intermediate granitic rocks (IGI), granodiorite and quartz diorite are favorable for copper, gold and molybdenum deposits. Areas underlain by felsic granitic rocks (IGF), granite and quartz monzonite are favorable for tin, tungsten, molybdenum, uranium and thorium deposits. Areas underlain by undivided granitic rocks (IGU) are favorable for uranium, thorium, rare-earth, tin, tungsten, molybdenum, copper and gold deposits.

Areas underlain by mafic intrusive rocks (IMA) (gabbro locally includes mafic-rich intermediate rocks), are favorable for copper and nickel deposits with byproducts of platinum and cobalt. Areas underlain by ultramafic rocks (IUM), peridotite and dunite, are favorable for chromium, nickel, and platinum group metal deposits with byproduct cobalt. Areas underlain by undivided felsic volcanic rocks (VFU), rhyolite and quartz latite are favorable for copper, lead, and zinc deposits with byproduct silver and gold. Areas underlain by undivided mafic volcanic rocks (VMU), basalt, are favorable for copper and zinc deposits with byproducts of silver and gold. Areas underlain by ophiolite terrane (VOP), pillow basalt and associated mafic and ultramafic intrusives with minor chert and other pelagic sediments, are favorable for copper, nickel, and chromium deposits with byproduct platinum group metals and gold.

The areas underlain by undivided sedimentary and mafic volcanic rocks (VSM), basalt and associated sediments are favorable for copper and zinc deposits with byproducts of silver and gold. Areas underlain by graywacke and shale (SGS), interbedded graywacke and shale with minor volcanic rocks, are favorable for gold or a variety of metallic deposits. Coal-bearing sandstone and shale (SCB), coal-bearing continental sandstone, shale, and conglomerate, are favorable for coal deposits and vanadium.

### **(2) Geologic Units**

The geologic units contained within the planning area are arranged in parallel belts oriented in a northeastern direction (Map 3.27). The area is not as well mapped as other parts of the state, and contains very little detailed geologic information. Many of the geologic maps for this region are old and have not been updated. For some areas, detailed geological maps, geophysical and geochemical work have been accomplished by private industry and the information is not publicly available. The following descriptions of the surface geology are taken from Beikman (1980). Subsurface geology for much of this region is largely unknown.

The oldest rocks within the planning area are a narrow belt of highly metamorphosed Precambrian rocks consisting of schist, gneiss, and small amounts of amphibolite and marble, which are at the far western boundary of the planning area near Quinhagak.

Adjoining to the east is a belt of partly metamorphosed Mesozoic volcanic and volcanoclastic rocks that surround the Goodnews Bay and Upper-Wood/Tikchik Lakes regions, known as the Gemuk Group. Within this unit are a few large bodies of Devonian limestone.

Continuing to the east is a thick belt of partly-metamorphosed stratified sedimentary rocks which are mostly of marine origin. Predominant in this belt is the Cretaceous Kuskokwim Group consisting of greywacke and shale. Dominant a little further to the east is a thick sequence of undifferentiated metasedimentary Cretaceous and Jurassic rocks, consisting of argillite, shale, greywacke, quartzite, conglomerate, lava, tuff, and agglomerate. This unit is separated from the Kuskokwim Group by large northeast trending faults. In places these rocks are highly metamorphosed to the amphibolite facies. North of Togiak extending to the Lower Wood/Tikchik Lake system is a block of Middle Jurassic rocks consisting of argillite, greywacke and conglomerate. North of Lake Iliamna is a block of Lower Jurassic rocks consisting of sandstone and argillite interbedded with volcanic flows and pyroclastic rocks. On the far eastern side of the planning area is a long belt of Upper Jurassic rocks of the Naknek Formation, which consists of sandstone, siltstone, shale and conglomerate.

North and south of Lake Iliamna is a Northeastern trending belt of Tertiary mafic volcanic rocks. There is also a thin belt of these rocks near Togiak. There is a small volcano/vent within this belt that has been active within historic times.

Interspersed through the planning area are a large number and variety of intrusive rocks. These are of particular interest as much of the known and potential mineralization within the area is associated with these rocks. The western portion of the planning area contains a large number of relatively small Tertiary felsic intrusive bodies. These are the probably the source of the gold found at Wattamuse Creek, and a possible source for silver, arsenic, antimony and copper mineralization. Nearby are small bodies of Jurassic mafic intrusives, and other Tertiary felsic intrusives that are mapped as a separate unit. North of Lake Iliamna Upper Cretaceous intermediate intrusive rocks are the probable host for the Pebble Copper deposit. Along the far western planning boundary within the Alaska Range is a long northeastern trending belt of Jurassic intermediate intrusives.

Within the Goodnews Bay region are a number of Jurassic ultramafic rocks, consisting of gabbros, hornblendites, dunites and other undifferentiated ultramafic rocks. These rocks are the probable source of the placer platinum found in the Salmon River and associated drainages.

The south-central portion of the planning area is dominated by Quaternary deposits of alluvium, glacial moraines, lake, aeolian, and beach deposits. These deposits generally grow thicker as one moves away from mapped bedrock geologic units. Additionally, most stream valley floors will be filled with Quaternary and Holocene alluvium.

### **(3) Minerals Occurrence, Potential, and Administration**

Map 3.30 provides information about mineral occurrences for the planning area and Maps 3.31, 3.32 and 3.33 show the mineral potential for the planning area.

### **(4) History and Development**

#### Pebble Copper-Gold-Molybdenum Deposit Area.

Within the northeast portion of the area is the Pebble deposit, a world-class copper/gold/molybdenum porphyry. The deposit is hosted in a north-east trending belt of Cretaceous intrusive rocks ranging from pyroxenite to granodiorite, hosted within Jurassic-Cretaceous andesitic siltstone and argillite. First

discovered in 1987, over 88,000 meters of exploratory drilling has occurred. The deposit is currently in the mine planning stage. Hundreds of square miles of State mining claims have been staked on and surrounding this deposit, which is located on State patented lands. The Pebble deposit contains inferred resources of 2.74 billion tons of ore, with 26.5 million ounces of gold, 16.6 billion pounds of copper, and 900 million pounds of molybdenum. These numbers are expected to change as further drilling and exploration occurs.

As of February, 2007, inferred resources at the Pebble Deposit are:

- 1.0% copper equivalent cutoff, total 1.4 billion tonnes grading
- 1.29% copper equivalent, containing 24.6 billion pounds of copper
- 20.9 million ounces gold
- 1.2 billion pounds of molybdenum.

Northern Dynasty has stated that the combined resources at the Pebble Deposit constitute one of the most significant metal accumulations in the world. In 2007, the company plans to focus efforts on Pebble East with an estimated 250,000 feet of drilling to further expand the resource and upgrade the classification of known mineralization (Northern Dynasty news releases, January 23 and February 20, 2007).

BLM will not have major involvement in the planning and permitting of the development of this deposit. However, the huge size of this deposit has created intense interest in finding other mineral deposits in this area with a potential of affecting BLM lands and resources in this portion of the planning area. A large claim block has been staked on Federal public lands to the southwest of the Pebble deposit on top of a suspected buried granitic intrusive, that may contain similar mineralization.

#### Lode Deposits

There are numerous known lode deposits within the planning area that have never seen mineral production, including deposits of gold, copper/gold, tin/tungsten, and iron/titanium. None of these deposits are located on BLM lands. Kasna Creek is a stratiform copper/lead/zinc skarn deposit located in the northeastern part of the planning area. There are reported reserves of 10 million tons of ore that grade more than 1% copper. To the east is Sleitat Mountain, a large high-grade tin/tungsten deposit, hosted in 59 million year old granite and hornfels. Inferred resources are for 64,000 to 106,000 tons of tin located within 29 million tons of ore. Within the north-central part of the planning area is Kemuk Mountain, a magmatic iron/titanium deposit hosted in Cretaceous pyroxenite. There are inferred reserves of 2.4 billion tons of ore that average 15-17% iron, and 2-3% titanium.

Just north of the northwest portion of the planning area is Shotgun, a gold/copper quartz stockwork and breccia deposit hosted in Late Cretaceous rhyolite. There are inferred resources of 980,000 ounces of gold contained within 36 million tons of ore. The ore is reported to be amenable to recovery by cyanide leaching. Just to the north-east of the planning area is Johnson River, a massive sulfide gold deposit hosted in volcanoclastic, pyroclastic and volcanic rocks of the Talkeetna Formation. The deposit has drilled out reserves of over a million tons of ore grading at 0.32% gold, 0.24% silver, 0.76% copper, 1.17% lead, and 8.37 % zinc.

#### Redtop Mercury Mine

The Redtop mercury mine is an abandoned mine located on top of Marsh Mountain near the village of Aleknagik, on BLM lands. The cinnabar is located in pods and veins in greywacke along right lateral faults and shear zones. Approximately 60 flasks of mercury were produced between 1953 through 1959, with some additional work occurring in the 1960's. It is unknown how much cinnabar ore remains.

Approximately 1,500 feet of underground workings were dug on two levels. The entrance to one mine adit has collapsed. The other was closed by BLM in 2002 for the purpose of public safety. An abandoned mill containing a grinding circuit is located on the property along with several other



abandoned structures. An associated retort millsite was located at the foot of Marsh Mountain along the Wood River, but has since been removed by BLM. An old road connects the mine with the village.

#### Goodnews Mining Camp

The Goodnews Bay platinum mining operation is the only currently active operation on Federal mining claims within the Planning Area. The claimant for the Goodnews claims is currently attempting to resume mining operations. The bucket-line-dredge reportedly became operational during the summer of 2003, but is not actively mining. The deposit is one of the largest known platinum deposits in North America. Platinum is considered a critical and strategic mineral.

Placer platinum mining has historically occurred at the Salmon River near the Goodnews Mining Camp and associated side drainages including McCann Creek, Dowery Creek, Squirrel Creek, Platinum Creek, Clara Creek and Fox Gulch. From 1928 to 1982 an estimated 646,312 troy ounces of platinum were mined from the Salmon River and its tributaries. Early open cut placer mining was conducted by small draglines/sluice-boxes in the side drainages. In 1937 a large bucket-line-dredge with 8 cubic foot buckets was brought in to mine the Salmon River. The dredge operated continuously through 1976, and more sporadically through 1982. Additionally, the bench gravels on the east side were mined by a large dragline.

Much of the drainage is covered with tailings that extend to within a mile of the beach. Little to no reclamation of these tailings occurred as the mining predated current reclamation requirements. This resulted in poor re-vegetation and stream channels that occasionally disappear underground into the tailings. This has affected salmon spawning in this drainage. The claimant re-established fish passage in the early 1990's, but reportedly the passage dries up during periods of low water.

There is an inferred 60 million cubic yards of deeply buried platinum remaining that was too deep for the dredge to reach. There is also an unknown amount of platinum left in the existing tailings. Most bucket-line-dredges operate with estimated 50-60% recovery efficiency at best.

On surrounding Native-managed lands is potential platinum lode mineralization which is the suspected source of the Goodnews Bay Platinum Mine placer deposits. Both Red Mountain and Suzie Mountain have seen exploration drilling in the past.

#### Gold Placer Deposits

Placer gold mineralization has been identified and mined in the past but these operations were small and have been inactive for many years. Placer gold mining has occurred in the headwaters of the Arolik River and the Wattamuse/Slate Creek area, near BLM lands north of Goodnews Bay. The largest gold placer operation within the planning area occurs in Wattamuse Creek and associated drainages and has produced an estimated 30,041 troy ounces of gold between 1917 and 1947.

Additional placer mining has occurred at Trail Creek, a tributary of the Togiak River, at American Creek, north of Naknek Lake, and at Portage Creek and Bonanza Creek, north of Port Alsworth. None of these deposits are on or near BLM lands. Numerous other placer gold occurrences that have never been mined have been identified through out the planning area.

### **(5) Resource Allocation**

Locatable minerals on Federal lands are allocated through the location of mining claims. Prospecting or exploration can take place without a claim, although an unclaimed discovery would be pre-empted by location of a valid claim. A mining claim carries a property right for the claimant and an inherent right to carry a surface patent. Removing that property right on a properly located and maintained mining claim requires buying the right, condemnation proceedings, or conducting a validity examination to challenge and contest the validity of the claim. If the claim is improperly located or the claimant fails to follow certain legal requirements, BLM can find the claim abandoned or void, effectively eliminating that claim.



By law, all public lands are open to mineral entry (mining claim location) unless specifically segregated or withdrawn. Map 3.37 shows those areas that are currently open to mineral entry. Currently, 152,746 acres of land are open to locatable mineral entry. Withdrawals currently constrain mineral development on many lands within the planning area, including many currently unselected lands.

To facilitate the conveyance of State and Native land entitlements under ANCSA and ANILCA, most of the public lands in the planning area were withdrawn from mineral entry. Land withdrawals were issued and remain on all State-selected and Native-selected lands. The purpose of a withdrawal from mineral entry is to prevent mining claim locations from clouding title to the lands which are selected. This was accomplished by a series of withdrawal actions through Public Land Orders issued in the early 1970s. Currently, 1,327,553 acres out of 2,503,822 acres of BLM lands within the planning area are State-selected or Native-selected. No mineral entry or mining will occur on these lands until either conveyance occurs, or the selection is relinquished back to BLM and the withdrawal lifted. Mineral entry or mining on conveyed lands is under the control of the new landowner.

Many of the land withdrawals are on public lands that were not State- or Native-selected, or on lands where selections have been relinquished. The withdrawals have prevented the staking of new mining claims and effectively eliminated mineral exploration, as there is no incentive for private industry to explore for minerals they cannot stake and develop. The consequence has been that for much of the public land within the planning area, the mineral industry has not been able to respond to new mineral models, geologic information, or changes in market conditions to help meet market demand for minerals.

Since the 1970s, the only opportunity to explore and develop mineral resources on public lands within the planning area is on non-withdrawn lands, or pre-existing mining claims where there is an established grandfathered right. There are a few unselected blocks of non-withdrawn lands open to mineral entry. As a result of mining claimants losing interest in maintaining claims because of holding fees, changing market conditions, missed paperwork deadlines, or receiving mineral patent to their claims, the number of active Federal mining claims has steadily decreased over the years. There also has been an active effort by the State to encourage mining claimants on State-selected lands to convert from Federal to State management.

BLM has allowed limited and targeted mineral exploration on Native-selected lands in order to allow the Native corporations to have the best information possible in which to prioritize their selections. The Native corporations have developed partnerships and operation agreements with private mining companies to explore Native and high potential Native-selected lands. Mineral exploration has been authorized under BLM lands and realty regulations (43 CFR 2920). However, mineral development of these lands can not occur until after the land has been conveyed to the respective Native corporation. Between 1990 and 2005, the only authorized mineral exploration on Native-selected lands within the planning area occurred during the mid-1990s near the Goodnews Bay Mining Camp in Southwest Alaska. The target mineral was lode platinum. Mineral exploration on State-selected lands occurs with State concurrence.

## **(6) Mining Claims and BLM Management**

The AFO currently has approximately 1,000 active Federal mining claims, of which approximately 241 are located within the planning area within two contiguous claim blocks. All mining claim locations within the planning area have been digitized based on claimant submitted maps, and have been entered into a Geographic Information System (GIS) database. BLM has made the database available to the public over the internet through an agreement with the State.

Within the planning area, one concentration of claims is located along the Salmon River near Goodnews Bay and the second is in an area southwest of Lake Iliamna. The principal problem in managing regulatory compliance of these claims is their remote location. The Lake Iliamna claims are completely inaccessible by road. The Goodnews Bay claims are connected to the village of Platinum by a maintained gravel road that traverses the claim block, allowing for local access to the beach south of Red

Mountain. The road is used by local villagers as well as the mining claimants. Since the claims predate a 1955 change to the mining law, the claimant could exclude the public from crossing his claims. A small airstrip is also located on the claims. The Goodnews claims have been subjected to mineral survey.

The 63 unmined claims near Lake Iliamna, north of Levelok in the area north of the Kvichak River tributary, have been recently staked for suspected copper/gold mineralization. These active claims were staked in 2000 by BHP Minerals International and recently TNR Resource Ltd. acquired 70% interest. These claims have not been subjected to mineral survey.

Several abandoned mines are located within the planning block, including the Redtop mercury mine on Marsh Mountain north of Dillingham, and several small gold placer mines off the Goodnews River. There are 3,256 State mining claims of which 182 are located on State-selected lands. No active Federal or State mining claims are located on Native-selected lands.

Because mining claimants have the right to prospect for locatable minerals and locate mining claims on public lands under the 1872 Mining Law and without governmental approval, BLM's management is minimal until ground disturbing activities or occupancy commence.

Field Office personnel use an interdisciplinary approach to approving a Plan of Operations under 43 CFR 3809 regulations. Plans of operation are required for any activity that requires access across a wild and/or scenic river corridor that will disturb greater than five acres or has a cumulative disturbance greater than five acres. A Notice must be provided prior to mining areas less than five acres. There are additional requirements under the 43 CFR 3715 regulations for any mining activity on a mining claim requiring occupancy. An environmental assessment or environmental impact statement must be prepared prior to approval of any plan of operation or occupancy on any mining claim. There is currently only one plan of operations under these regulations for the planning area. Plans must be approved prior to any mining by the applicant and a reclamation bond must be provided.

BLM compliance officers conduct inspections of mining operations or occupancies on Federal claims. Currently, all operations are inspected at least once each year. The primary concern of the compliance inspector is that the miner is operating appropriately and that reclamation work is acceptable. During each compliance visit an inspection record is completed that describes the inspector's observations of the operation. If any problems or violations exist at the mine site, the compliance inspector discusses them with the operator, sets a time frame for correction, and issues a notice of noncompliance where necessary. The mine site is revisited to ensure that corrective actions have taken place.

Mining claim recordation, adjudication and statewide program policy are BLM State Office functions. BLM Alaska's State Office processes Notices of Intent to perform annual assessments and holding fees and maintains all mining claim files.

### **c) Salable Minerals (Mineral Materials)**

Salable minerals disposition is addressed under the Materials Act of July 31, 1947, as amended by the Acts of July 23, 1955, and September 28, 1962. These acts provide for disposal of certain mineral materials through a contract of sale or a free-use permit. The Materials Act of 1947, as amended, removes petrified wood, common varieties of sand, stone, gravel, pumice, pumicite, cinders, and some clay from location and leasing. These materials may be acquired by purchase only and are referred to as salable minerals.

Significant quantities of salable minerals known to be present in the Bay planning area include, but are not limited to, sand and gravel aggregate, silica sand (abrasives), dimension and decorative stone, and common or bentonite clay. Production value of mineral materials sales were about \$500,000 for FY 2001 statewide, and the trends indicate increases in yearly sale activity.

There are currently no mineral material contracts or free-use permits issued by BLM within the planning area. Many of the sites in the planning area are roadside material sites owned by municipalities or the State.

## **4. Recreation Management**

### **a) General Recreation**

Recreation opportunities are quite diverse within the planning area. Recreational activities/resources managed by BLM include rivers, sport fishing, motorized and non-motorized boating, camping, hiking, skiing, commercial recreation activities (guides and outfitters), sightseeing, wildlife viewing, and traditional recreation activities. The recreation program is also responsible for visual resources and Off-Highway Vehicle (OHV) management. Currently, there are no special area designations within the planning area.

Tourism is a leading industry in Southwest Alaska, and provides an economic base for the region both directly, in the form of guided hunting and fishing, and indirectly through the many services provided (i.e. lodging, food, transportation), particularly in the "hub" communities. Demands on recreational resources are focused on guided and self guided hunting and fishing opportunities. In response, local dependence on public lands is increasing in order to accommodate the additional commercial and non-commercial recreation demands of visitors. It should be noted that due to the extreme remoteness of the planning area, the opportunities for recreation are limited and expensive due to access difficulties and lack of amenities such as hotels and restaurants.

Changes in technology and a trend toward visitation to areas that were previously remote and inaccessible creates a potential for adverse impacts to recreation and other resources that may require heightened management attention. Without that attention BLM lands identified as a Semi-Primitive Motorized opportunity may develop into areas more appropriately categorized as a Roaded Natural opportunity.

Guided tourism for fishing and hunting during the peak season (June – September) is limited by a lack of accommodation and guides, many of which are booked years in advance. This industry has proven to be quite resilient to national and international crises and thus is expected to increase.

Law enforcement and compliance with permitted activities is difficult or non-existent on BLM lands due to the large land base, remote location and expensive access. Many trespass issues or resource abuses including un-permitted commercial use are discovered by chance or reported by the public long after they have occurred. Back country or remote area use is particularly difficult to manage.

### **b) Special Recreation Permits**

There are currently four BLM Special Recreation Permits (SRPs) authorized to operate on BLM-managed lands and waters within the planning area. These permits are issued to commercial big game hunting and fishing guide services. Currently the State of Alaska Division of Occupational Licensing lists more than 200 licensed guides in the planning area. Environmental Assessments (EAs) are conducted to assess the condition of natural resources and establish specific management parameters for these commercial guiding operations. Post use reports for SRPs are supplied with each authorization and are requested for submission to BLM within 30 days of completion of permitted activity. These numbers are recorded within the Recreation Management Information System (RMiS), a national database designed to track recreation use statistics.

For commercial operations, attempts are made to perform compliance checks annually or when designated camps are in use. Use seasons vary according to when hunting seasons are prescribed. Compliance exams are sometimes conducted in the company of a BLM law enforcement ranger.

Permittees are checked to make sure permits are in their possession and that they are operating according to the stipulations and conditions established under the permit

There is limited information available regarding non-commercial dispersed recreation activities. Information on commercial use is derived from tourism surveys, BLM SRPs and types of business licenses held by permittees, all of which are components used in making comprehensive recreation management decisions.

Law enforcement and compliance with permitted activities is difficult or non-existent on BLM-managed lands due to the large land base, remote location and the expense of access. Many trespass issues or resource abuses including un-permitted commercial use are unreported or unknown, discovered by chance, or reported by the public long after they have occurred. Back country or remote area use is particularly difficult to manage.

### **c) Recreation Opportunity Spectrum**

A Recreation Opportunity Spectrum (ROS) is a framework for classifying and defining different classes or types of outdoor recreation environments, activities, and experience opportunities. The BLM approach to ROS analysis evaluates a land area's physical, social and managerial parameters to describe the existing conditions that define a land area's capability and suitability for providing a particular range of recreational experience opportunities. For example, some recreationalists seek an undeveloped setting emphasizing solitude and self-reliance, while others seek an experience with more comfort, security, and social opportunities. An ROS framework helps provide managers guidance to ensure that recreational opportunities are provided for a wide range of users.

Recreation opportunity classes describe conditions that range from high density urban environments to primitive settings. Along this continuum, physical, social, and managerial conditions will vary. Physical conditions for the urban classification include areas with relatively easy access and a high degree of human alteration, such as buildings, roads, and power lines. In contrast, the physical environment classification is remote and relatively free of human alteration. The social environment varies from settings with abundant opportunities for solitude to areas where other people are nearly always within sight and sound. The managerial environment is the degree and type of management actions taken to control visitation. Urban/developed sites may have more on-site aids such as interpretive and directional signing whereas at primitive sites, less interpretation is desired or necessary.

#### **(1) Definition and Examples of Recreation Opportunity Spectrum Classes**

The current ROS classification for BLM lands within the planning areas is "Semi-primitive motorized." The setting of a Semi-primitive motorized ROS classification is described as:

An area characterized by a predominantly unmodified natural environment of moderate to large size. Concentration of users is low, but there is often evidence of other users. Area is accessible to specialized OHVs but is generally not accessible to most four-wheel drive vehicles. Sights and sounds of the road system may or may not be dominant. Some portions of the area may be distant from road systems, but all portions are near motorized trails. Vegetation and soils are predominantly natural but localized areas of disturbance may exist. Local traditional subsistence use is evident but environmental impacts are minimal. An example of this area is the Upper Arolik River watershed.

#### **(2) Recreation Opportunity Spectrum (ROS) Prescription Tables**

Table 2.8 describes all six of the BLM ROS classes. Table 3.16 provides the physical, social and administrative management controls and service settings for the ROS class which best represents the Bay planning area.

**Table 3.16. Semi-Primitive Motorized Recreation Opportunity Spectrum Prescriptions**

Management Criteria	Current Condition Description		
	Remoteness	Naturalness	Facilities
<b>Physical Criteria - Resources and Facilities</b>	Moderate opportunity for solitude and self reliance	Naturally appearing landscape, modifications not readily noticeable	Recognized Motorized trails (may have seasonal or other restriction) that may be maintained
	Adjacent to or easily accessible to access points or trail systems	Trails are evident but not dominant to landscape	
	Human improvements may be within distant sight or sound.		
	Social Encounters	Evidence of use	
<b>Social Criteria - Visitor Use and Users</b>	Moderate possibility of visual or direct social encounter. Likely to be of similar recreational interest	Footprints, motorized vehicle tracks, airstrips, engine noise	
	Group size (<5)	Increased frequency of camp sites and tracks deeper into the back country	
	Visitor Services	Management Controls	User Fees
<b>Administrative – Management Controls and Service Settings</b>	Maps with locations of known trails identified and regulations associated with those trails	Visitor controls in areas that have specific restrictions	None (Fees associated with Commercial Use Permit Required)
	Guided opportunities depending upon services requested	Potential use limits  Enforcement presence rare but available	

### (3) Summary

BLM-managed lands are quite fragmented, making it difficult to provide and apply long-term recreation management prescriptions unique to a specific area. As a consequence, the ROS applications are fairly general.

Because a large portion of the BLM lands within the planning area are selected for conveyance, many recreation management prescriptions are made cooperatively with neighboring land management agencies, private landowners and the public.

### d) Recreation Opportunity Regions

Four areas have been identified as either requiring different management prescriptions or are simply physically different due to the large area covered by the Bay planning effort. Regionalizing provides a better opportunity to apply accurate management recommendations to an area's specific issues of concern.



These areas are as follows:

### **(1) Alagnak River Region**

This region includes BLM lands south of the Kvichak River. The Alagnak Wild River, a portion of the Alagnak River, designated as a wild river by Title VI, Section 601(25) and 601(44) of ANILCA, preserves the free-flowing condition of the river and protects the river and its immediate environments for the benefit and enjoyment of present and future generations. The river corridor and lands within the designated wild river boundary (1/2 mile either side of the river) are managed by the National Park Service (NPS). BLM manages significant portions of land outside this corridor boundary. Close coordination with the NPS is important to provide for public opportunity and protection of the recognized resources.

The Alagnak River is the most popular fly-in fishery in southwest Alaska and has experienced a significant increase in use over the last several years. The increasing sport fishery on the river is a topic of concern to many local residents.

The meaning of Alagnak in Yup'ik is "making mistakes" because "the channel is always changing, causing mistakes and getting lost." Prehistoric people who lived along the Alagnak River left the remains of their camps and villages, ranging in age from as early as 8,000 years ago to the 18th century. The occupations include small scatters of stone tools, small settlements (up to four houses), and large late prehistoric villages with up to 69 houses. Historically there were many villages and cabins at various locations on the Alagnak River, including villages such as Alagnag'llug, Lockanok, and "Sleepy Town." The last historic settlement on the river was abandoned by the 1960s. Apparently, the Alagnak River was not only used by Yup'ik people from the Kvichak River but also from the Nushagak and even Yukon and Kuskokwim drainages, a testament of its rich subsistence resources during the historic period. The descendants have since moved to Kokhanok, Igiugig and Newhalen. Many people still return to the area for subsistence purposes (USDI NPS 2004). Discussion of specific resources within this region (OHV, rivers, visual, ROS) will be discussed in their own sections.

### **(2) Goodnews Bay Region.**

BLM lands in the Goodnews Bay area are surrounded by the Togiak National Wildlife refuge and are far removed from other parcels of BLM land. Thus, it is important that this area be examined to meet demands and unique recreation opportunities.

Again, this region is known for its world class fishing opportunities. Getting to this region can be difficult and expensive. Small charter flights can be obtained from Dillingham and Bethel. There are no commercial aircraft providers in Goodnews Bay.

Unique physical characteristics of this area are the dramatic visual relief of the numerous mountains in the area, the many clear-water streams and the coastal influence. Discussion of specific resources within this region (OHV, rivers, visual, ROS) will be discussed in their own sections.

### **(3) Iliamna Lake Region.**

The BLM-managed portion of the upper Iliamna Lake region has world class recreational values, primarily sport fishing and hunting. This area in particular is experiencing increasing competition between commercial and public recreation and traditional subsistence users (ADNR, 2004a).

The BLM lands in this region include small fragmented parcels, providing little opportunity for effective recreation management. The Upper Iliamna River area, while containing many selections for conveyance, is a significant recreation management concern due to increased use and potential development scenarios. Commercial providers under BLM permits (hunting and fishing) as well as private and subsistence users frequent the area.

This area is physically unique to the rest of the planning area as it runs from the dramatic Chigmit mountain range to the shores of Iliamna lake. Specific resources within this region (OHV, rivers, visual, ROS) will be discussed in their own sections.

#### **(4) Kvichak/Nushagak Region**

This area has been separated from the Alagnak River region due to its special status. This region includes all the BLM lands north of the Kvichak River and all drainages of the Nushagak River. The Kvichak and the Nushagak rivers are the dominant feature of this region. BLM lands in this region are very diverse and provide ample recreation opportunities, primarily fishing and hunting, to both riverine and upland users. A recreation management plan was completed for the Nushagak region in 1990 by the Alaska Department of Natural Resources, Alaska Department of Fish and Game and the Bristol Bay Coastal Resources Service Area. This plan identified recreation management prescriptions for specific units within the Nushagak drainage. This plan will attempt to mirror those management guidelines and recommendations. The Kvichak River basin contains one of the largest and most important salmon fisheries in the world. This river is the pipeline for all salmon fisheries of the Iliamna and Lake Clark watersheds. Discussion of specific resources within this region (OHV, rivers, visual, ROS) will be discussed in their own sections.

## **5. Travel Management**

### **a) Travel Management Overview**

Very few roads exist within the Bay Planning Area. Most of the villages in the planning area are isolated and roads between neighboring villages do not exist. There are more trails than roads within the planning area.

### **b) Roads & Trails**

Existing, proposed, and recognized routes are covered in this section.

#### **(1) State-recognized RS 2477 Routes**

Under Revised Statute 2477, Congress granted a right-of-way for the construction of roads, trails, or highways over unreserved public land. Although the R.S. 2477 provision was repealed in 1976 by FLPMA sec. 706, a savings clause preserved any existing R.S. 2477 rights-of-way. The State of Alaska recognizes these routes. These routes must be adjudicated or asserted through a process (43 CFR §1864) that will occur outside of this planning process. Only a court of jurisdiction can determine the validity of an R.S. 2477 claim. Within the planning area, these routes are based on historical or traditional trails. Because of lack of regular maintenance or use, many of the mapped State-recognized R.S. 2477 routes may no longer exist on the ground.

#### **(2) 17(b) Easements**

Section 17(b) of ANCSA provided for the reservation of easements across Village and Regional Native Corporation lands to provide public access to publicly owned lands or major waterways, generally for the purposes facilitating transportation, however, easements *are also reserved* for utility purposes, air, light and visibility easements or easements to guarantee international treaty obligations. BLM is responsible for identifying and reserving 17(b) easements during the conveyance process. The management of these easements lies with BLM or, under a Memorandum of Understanding, the appropriate Federal land manager (e.g., USFWS, NPS). BLM retains management responsibilities of easements reserved to access State lands, but is able to transfer jurisdiction of a 17(b) easement to the State of Alaska or to one of its political subdivisions (DOI Departmental Manual, Part 601, Chapter 4.2., March 1980).

Road Right-of-Way. One road right-of-way exists in the planning area. It is for the road that connects the villages of King Salmon and Naknek. Ownership of the right-of-way was transferred to the State of Alaska under an omnibus road act shortly after statehood.

Waterways. The waterways of the major rivers in the planning area are important transportation routes in both winter and summer. During the ice-free months, private and commercial boats from villages and lodges utilize navigable waterways to access rich hunting and fishing areas throughout the watersheds for subsistence and recreation. Frozen waterways and adjacent wetlands also serve as winter transportation routes for snow machine traffic to upriver villages and hunting sites.

Air Routes and Air Strips. Established commercial air service in the planning area is available to Dillingham, King Salmon, Good News Bay, and Iliamna. These towns and other villages in the planning area are also generally accessed by charter services and private aircraft. Transporters licensed by the State of Alaska deliver fisherman, hunters, river users and others to remote sites throughout the planning area, landing on gravel bars, sand blows, waterways, private runways, and regulated and unregulated airstrips. No BLM authorized airstrips exist in the planning area.

### **c) Off-Highway Vehicle Management**

Advances in technology, coupled with a rise in popularity and demand, have required BLM to address impacts caused by OHVs on BLM lands. To comply with BLM regulation 43 CFR 8342.1, all BLM lands must be categorized with one of following designations:

- “Open” – OHVs may travel anywhere; cross-country travel is permitted.
- “Limited” – OHVs are restricted to certain areas or specific trails, with restrictions that can include vehicle weight, type of vehicle, seasonal limitations, or travel restricted to designated trails.
- “Closed” – no OHV activity is allowed.

Currently all regions within the planning area are open to OHV use (Maps 3.35 a, b, c, and d).

As stated under “Designation Criteria,” all designations shall be based on the protection of the resources of the public lands, the promotion of the safety of all the users of the public lands, and the minimization of conflicts among various uses of the public lands . . .” (43 CFR 8342.1).

The current State of Alaska policy on casual (non-permitted) OHV use on State lands is outlined in the Alaska Administrative Code (AAC) at 11 AAC 96.020, “Generally Allowed Uses on State Land,” and 11 AAC 96.025 “Conditions for Generally Allowed Uses.” Use of highway vehicles with a curb weight up to 10,000 lbs. or recreational-type vehicles (OHVs) with a curb weight of less than 1,500 lbs. is allowed on or off an established road easement if use off the road easement does not cause or contribute to water quality degradation, alteration of drainage systems, significant rutting, ground disturbance, or thermal erosion. To prevent damage to wetlands, stream banks, and other areas with poorly drained soils, and erosion and wildlife disturbance or displacement, and to provide access to public lands, the Alaska Department of Natural Resources (DNR) may designate certain State lands as “Special Use Lands.” This State designation may result in regulation of OHV and other uses to protect specific resource values (ADNR 2004c).

OHV use on BLM lands within the planning area is minimal and does not appear to have increased in recent years. This use pattern is likely a result of the remote locations of most BLM lands and a preference for other modes of access (ADF&G 2004).

OHV use on established trails as well as overland travel is very important to local users, commercial operators, and recreationists. Established trail systems are not well known and efforts are ongoing to identify and understand the location and use characteristics of these trails. Overland trails are much more difficult to identify. Most important is to understand destinations and general routes.

ANILCA provides for OHV use for subsistence purposes (Sec. 811) and for ingress and egress to inholdings on conservation system units, national recreation areas, national conservation areas, and those public lands designated as wilderness study (Sec. 1110). Currently there are no closures on BLM lands within this study area.

BLM-managed 17(b) easements play a role in providing public access across Native corporation and Regional corporation lands. 17(b) easements allow public use and access to Federal and State lands for the purposes of recreation, hunting, transportation, utilities, docks, and other such public uses. OHV use on 17(b) easements as well as any established trail, may be subject to a variety of limitations, including type, seasonal and weight restrictions, depending on the frequency and type of trail use and the potential for resource damage. A large number of 17(b) easements exist within the planning area, although a formal inventory has not been conducted.

There are no BLM planning documents for the majority of the Bay planning area. A Management Framework Plan for the Southwest Planning Area was signed in November 1981, but only a small portion of that plan area, the Goodnews Block, overlaps the planning area. The Bay area is surrounded by many National Refuges and Preserves (Togiak, Yukon Delta, Lake Clark, Katmai, Becharof) as well as State Parks (Wood Tikchik). BLM will follow the existing OHV prescriptions (if any) of these special areas as closely as possible.

In accordance with the provisions of FLPMA, 43 CFR 8340 and the National Management Strategy for OHV Use on Public Lands, BLM management practices are to inventory and document OHV trail development and provide interim management until official decisions regarding OHV use designations are implemented. This inventory data provides a "snapshot" of the current status of resources. Regular monitoring is critical to understanding current use, identifying cumulative impacts, and the effective development of mitigation measures to protect resources.

The NEPA process is used to evaluate all proposed authorizations. Proposed actions involving OHV use are carefully analyzed on a case-by-case basis to ensure minimal impact to visual, cultural, and other biological resources.

Due to the size, remoteness and large geographical distances between the planning area and BLM's Anchorage Field Office, many of the lands are rarely visited. This results in a limited understanding of current OHV use levels, use areas and important access routes. For the purposes of this planning effort, BLM has solicited the help of local users to better understand OHV use in the planning area.

## **6. Renewable Energy**

Renewable energy resource potential, with an emphasis on clean energy sources, is a recent and prominent consideration in modern resource management planning. Currently there is no demand for renewable energy development on BLM lands within the planning area, although some alternative energy sources have been investigated. In the 1990s Sandia Laboratories investigated the feasibility of thermal energy resource development in the Aleutian Range in the Katmai National Park. Development did not occur partly as a result of remote character of the resource. One family in the planning area has utilized wind energy to generate electricity for personal use for the last 15 years.

In cooperation with the National Renewable Energy Laboratory (NREL), BLM assessed renewable energy resources on public lands in the western United States (BLM and DOE 2003). The assessment, which did not include Alaska, reviewed the potential for concentrated solar power, photovoltaics, wind, biomass, and geothermal resources on BLM, BIA, and USDA Forest Service lands in the west.

## **a) Photovoltaics (PV)**

Photovoltaic (PV) technology makes use of semiconductors in PV panels (modules) to convert sunlight directly into electricity. Criteria used for determining potential include amount and intensity of sunlight received per day, proximity to power transmission lines, and environmental compatibility. To date, the BLM has not authorized any PV facilities for commercial power production, nor has any interest been expressed by industry in developing such facilities on BLM lands, which tend to be somewhat remote to villages that would use the power.

## **b) Wind Resources**

Interest in developing wind energy in Alaska is increasing. The Alaska Energy Authority and rural utilities are considering developing wind power projects at many villages. There is an ongoing program to assess wind energy resources in western and southwestern Alaska and to develop a high-resolution wind map for this area. Development of this map will increase understanding of Alaska's wind resource and will allow communities to more easily apply for U.S. Department of Energy (DOE) wind energy funding programs. In February 2005 the Governor of Alaska established a Rural Energy Action Council to report on short-term proposals to reduce the cost of energy in rural Alaska. One issue addressed by the Council is accelerated development of wind turbine generator installations.

The potential to use wind as a supplemental energy source for local communities within the planning area is high. Most of the communities in the planning area rely on diesel-powered generating stations. The cost of generating electricity in this manner is very high. Using wind turbines along with diesel generation can save significant amounts of fuel.

The potential of a large wind farm on BLM lands or elsewhere within the planning area is low. The population in the planning area is relatively low and infrastructure to move electricity outside of the region does not exist. The best sites are near the coast and to be effective need to be close to communities. Most of the land around villages is owned by Native corporations, and BLM manages very little land along the coast. That which it does manage, the proposed Carter Spit ACEC, is not a viable site for windmills because of the large migratory bird population in the area in the spring, summer, and fall.

## **c) Biomass**

Biomass technology utilizes organic matter waste products for production of paper and pulp, value-added commodities, and bio-energy or bio-based products such as plastics, ethanol, or diesel. There is some interest in biomass development in Alaska. The State has sought DOE funding to investigate fish oil and diesel blends, conversion of wood residues to fuel grade ethanol, conversion of fish and wood waste to Btu gas, and replacement of oil-fire boilers with wood-fired boilers to reduce energy costs in rural communities.

Although there are no known biomass projects in the planning area, BLM is currently experimenting with a biomass demonstration project used to provide energy for the Campbell Creek Science Center in Anchorage. In this case, the fuel used is spruce bark beetle-killed trees. The energy generated is used to heat the Science Center building and two storage sheds of over 10,000 ft<sup>2</sup> by means of an in-floor radiant heat system.

The National Energy Policy recommends development of a strategy to encourage the use of biomass from public lands as a source of renewable energy. The potential for the use of biomass from public lands within much of the planning area is very limited. An average of 17% of the planning area is forested. This number rises to up to 33% in the Lake Iliamna – Alagnak River region, where there are currently large areas of beetle-killed spruce trees. While the probability of the development of a biomass



project on BLM lands in the planning area seems remote, a viable project might be started in the Lake Iliamna – Alagnak River region. There is no known market in the planning area at this time.

## **7. Lands and Realty**

There are two primary objectives of the lands and realty program. One objective is to implement the actions contained in the FLPMA. The second objective is to facilitate the transfer of lands to the State of Alaska, ANCSA Native corporations and individuals through the various entitlement Acts.

The lands and realty program manages land use under the authority of multiple statutes, regulations and guidance, such as FLPMA, the Recreation and Public Purposes Act (R&PP), and the Mineral Leasing Act (MLA).

Land ownership in the Bay planning area is influenced by three main entitlement Acts, the Native Allotment Act of 1906, the Alaska Statehood Act, and the ANCSA. Although millions of acres of land have been conveyed to individual Alaska Natives, Native corporations, and the State of Alaska, there is still much land that will be conveyed out of Federal ownership in the near future.

Lands that are selected by Native corporations or the State that are within the boundaries of a Conservation System Unit (CSU) are interimly managed by the Federal agency that administers that CSU. BLM has an adjudicative role in conveying land within CSUs, but not surface management responsibilities. Alternatives for management of CSU lands are not addressed within the scope of this planning document.

### **Conservation System Unit (CSU)**

A Conservation System Unit, or CSU, as defined by ANILCA Section 102(4), is any unit in Alaska of the National Park System, National Wildlife Refuge System, National Wild and Scenic Rivers Systems, National Trails System, National Wilderness Preservation System, or a National Forest Monument including existing units, units established, designated, or expanded by or under the provision of this Act, additions to such units, and any such unit established, designated or expanded hereafter.

## **a) Discretionary Land Uses**

### **(1) Land use authorizations**

Land use authorization means any authorization to use the public lands under 43 CFR §2920. Land use authorizations are used to permit activities when other land actions cannot be used, such as a right-of-way or R&PP lease.

The only type of land use authorization currently authorized in the planning area is a Permit, which authorizes an applicant to use public lands for specified purposes, normally involving little or no land improvement, construction or significant monetary investment. Permits do not convey a possessory interest in land and are normally issued for three years or less and may be renewed at the discretion of the Authorized Officer.

Leases authorize uses of public lands involving substantial construction, development, or land improvement and the investment of large amounts of capital amortized over time. A lease conveys a possessory interest and is revocable only in accordance with its terms and the provisions of 43 CFR

§2920.9–3. Leases are issued for a term which is consistent with the time required to amortize the capital investment.

Easements may be used to assure that uses of public lands are compatible with non-Federal uses occurring on adjacent or nearby land. The Authorized Officer determines the term of the easement. An easement granted under this part may be issued only for purposes not authorized under Title V of the Federal Land Policy and Management Act or section 28 of the Mineral Leasing Act.

## **(2) Rights-of-Way**

A Right-of-Way grants an applicant the right to use specific public land to build such things as roads, communication facilities and power lines. Generally, Rights-of-Way are issued for long-term projects that require significant investment. Rights-of-Way are a possessory interest in land. Usually, Rights-of-Way are issued for a maximum of 20 year terms with the option to renew.

## **(3) Withdrawals**

Withdrawals are formal actions that set aside, withhold, or reserve Federal lands by administrative order or statute for Federal purposes. The effect of a withdrawal is to segregate and close Federal land to the operation of all or some of the public land laws and/or one or more mineral laws; transfer total or potential jurisdiction of Federal land between Federal agencies; or dedicate Federal land for a specific Federal purpose.

Agency Withdrawals (other than ANCSA § (d)(1)). These withdrawals are for administrative sites, power sites, and military purposes. Two water power withdrawals, six military withdrawals, and nine administrative site withdrawals, approximating over 38,500 acres, lie within the planning area. Creating, modifying, renewing or revoking withdrawals for other Federal agencies is forecast to continue to be a recurring function of BLM. As populations grow throughout the region, pressures placed on resources will escalate and may affect requests from Federal agencies for withdrawals or demands for withdrawal review may increase from state or local governments. Maps 3.36 and 3.36a-d show withdrawals within the planning area.

ANCSA 17(d)(1) withdrawals. ANCSA §17(d)(1) withdrawals are a series of public land orders (PLOs) issued from 1972 to 1975 that placed a protective withdrawal on Federal lands for the purpose of study and review to determine the proper classification and “to ascertain the public values in the land...” The intent of the withdrawals was to limit appropriation of the lands in order to complete inventories of resources and assessment of values which meet public needs (Map 3.37) within the planning area affected by (d)(1) withdrawals). In the 1980s studies and assessments were completed, and opening orders were issued on some lands covered by ANCSA §17(d)(1). Table 3.17 describes the ANCSA 17(d)(1) withdrawals within the planning area.

**Table 3.17. Effect of ANCSA §17(d)(1) Withdrawals on Federal Public Lands**

PLO	Description
5174	Withdrew lands for village or regional deficiency selections under the authority of Section 11(a)(3) of ANCSA. Each of these PLO's contained a paragraph in which a withdrawal under Section 17(d)(1) was also placed on the same lands. Lands were withdrawn from selection by the State, not open to location and entry under the mining laws, nor leasing under the mineral leasing act. Section 906(j) of ANILCA and PLO 6092 opened most 17(d)(1) withdrawals to State Selections.
5179	Withdrew approximately 80 million acres of land in aid of legislation for creating or adding to conservation system units under the authority of Section 17(d)(2) of ANCSA, which had a termination provision. A second paragraph added—a 17(d)(1) withdrawal to the same lands, and did not have a termination provision. Lands were withdrawn from selection by the State, not open to location and entry under the mining laws, nor leasing under the mineral leasing act. PLO 5657 opened many lands to State Selection except in Umiat and portions of Kateel River Meridians.
5180	Placed a 17(d)(1) withdrawal on approximately 47 million acres including the lands in the transportation and utility corridor withdrawn by PLO 5150. Lands were withdrawn from selection by the State, not open to location and entry under the mining laws (except locations for metaliferous minerals), nor leasing under the mineral leasing act. PLO 5180 was amended by PLO 5418 which placed a 17(d)(1) withdrawal on all unreserved land and any lands which may become unreserved in the future. PLO 5657 opened many lands to State Selection.
5181	Placed a 17(d)(1) withdrawal on lands for classification and study as possible additions to the National Wildlife Refuge System. Closed lands to all forms of appropriation under public land laws, including selections by the State of Alaska under the Alaska Statehood Act, 72 Stat. 339 and from location and entry under the mining laws and from leasing under the Mineral Leasing Act.
5184	Placed a 17(d)(1) withdrawal on lands originally withdrawn under section 11 of ANCSA for selection by the village corporations, and all of those lands lying between 58° N. and 64° N. Latitude, and west of 161° W. Longitude that were not withdrawn for any part of the National Wildlife Refuge System. These areas are withdrawn from all forms of appropriation under public land laws, (except State Selection) and from location and entry under the mining laws and from leasing under the Mineral Leasing Act. All of those lands withdrawn under section 11 lying between 58° N. and 64° N. Latitude, and west of 161° W. Longitude that were not withdrawn for any part of the National Wildlife Refuge System are withdrawn from all forms of appropriation including State Selections. Set aside for study and review by the Secretary of the Interior for the purpose of classification or reclassification of any lands not conveyed pursuant to section 14 of said Act.
5186	Withdrawal for classification and protection of the Public Interest in lands not selected by the State. Lands are not open to location and entry under the mining laws (except locations for metaliferous minerals), nor leasing under the mineral leasing act. Lands are available for State Selection.

#### **(4) Recreation and Public Purposes Act**

Under the Recreation and Public Purposes Act (R&PP), state and local government agencies, municipal utilities, and non-profit entities can acquire public land (at less than fair market value) through a patent or lease. There have been three patents issued under the R&PP Act within the planning area, but no lands are currently under lease. The patents were issued for two church sites and a church camp (Map 3.38). These patents contain a reverter clause requiring BLM concurrence of any change in use and ownership; otherwise the land would revert back to the United States. Considering the evolving land ownership pattern near populated areas in the planning area (conveyances out of Federal ownership), a demand for land under the R&PP is not anticipated.



## **(5) Land Tenure Adjustment**

When all of the conveyances under the entitlement acts are complete, there will be a broken/scattered land ownership pattern in some areas. Land and resource management will be difficult for owners of large tracts of lands in the area. It is likely that landowners may want to consolidate their lands through land exchanges, disposal, or acquisitions. BLM does not anticipate acquiring lands within the planning area during the life of this plan (except through exchange).

The preferred method of land tenure adjustment would be through land exchange. BLM may consider FLPMA sales on a case-by-case basis. No proposals for sales are identified in the planning area (Map 3.39).

## **(6) Trespass Abatement**

Unauthorized uses are activities that do not substantially alter the physical character of public lands and resources. Unauthorized occupancies are activities resulting in full or part time human occupancy or use. Unauthorized development issues arise from activities which disturb the earth's surface or physically alter the character of the land or vegetation. Collectively, the above activities are termed trespass situations.

When presented with a trespass situation, BLM has three options to resolve the situation: removal of the trespasser (which could include taking possession of structures or improvements and utilizing them for Federal purposes), authorization of the trespass activity, or sale of the land to the trespasser. Each situation is handled on a case-by-case basis, according to BLM regulations and policies.

## **(7) Subsurface Estate**

When the Federal government patents land to individuals it does so under a variety of land laws. Many laws, such as homestead laws<sup>2</sup> or the R&PP Act, require BLM to reserve the subsurface or mineral estate. BLM may reserve all mineral rights; or perhaps one of several rights, such as oil and gas rights only.

To complete this management plan, Master Title Plats were reviewed and all patents with reservations of subsurface rights were inventoried. Subsurface data were searched on October 18, 2004. Within the planning area, Federally-reserved subsurface interests such as oil and gas, all minerals, and coal were identified through a reading of each patent (Map 3.40).

## **b) ANCSA 17(b) Easement Identification and Management**

BLM identifies ANCSA 17(b) easements for travel across Native lands to access publicly owned lands<sup>3</sup>, major waterways, and for travel between communities on lands that will be conveyed to Native corporations. If the easement is reserved to access lands managed by the U.S. Fish & Wildlife Service or the National Park Service, management responsibilities of the easement will be formally transferred to those agencies after the lands are conveyed. BLM manages those easements providing access to BLM-managed lands and State of Alaska lands (Appendix F).

<sup>2</sup> Homestead Laws were repealed with the passage of FLPMA in 1976, except the repeal did not go into effect in Alaska until 1986.

<sup>3</sup> Publicly owned lands means all Federal, State, or municipal corporation (including borough) lands or interests therein in Alaska, and submerged lands as defined by the Submerged Lands Act. 43 CFR §2650.4-7(b)

#### **ANILCA 906(e) Topfilings**

Section 906(e) of ANILCA allows for future "TOP FILINGS" by the state of Alaska. Basically, the state may file a future selection application or amendment for lands which are not, on the date of filing of the application, available within the meaning of §6(a) or (b) of the Alaska Statehood Act. For instance, lands could be withdrawn (i.e. not available) under section 11(a)(3) of ANCSA to allow for selections by ANCSA corporations. In that case, the state filing would not be a valid right, but would be a potential future interest in the land. At the time the village entitlement was fulfilled, and over selections rejected, the state's topfiling would fall into place and attach to the land, becoming a valid selection.

### **c) Detailed Descriptions of Planning Blocks**

This section is separated into 10 different sections with distinct levels of detail and focus for each section. Sections 1-2 are designed to provide a general analysis of areas near Dillingham/Aleknagik, and King Salmon/ Naknek/South Naknek. In these areas BLM manages land in the interim, but is expected to not manage lands after the conveyance process is completed. Sections 3-10 are in depth discussions of individual planning blocks where BLM will retain large tracts of land beyond the finality of the conveyance process. These planning blocks are: Alagnak, Goodnews Bay, Iliamna East, Iliamna West, Koggiling Creek, Klutuk Creek, Kvichak, and Yellow Creek. (Maps 3.2-3.4)

#### **(1) Dillingham/Aleknagik Vicinity**

In the area generally located near Dillingham and Aleknagik, BLM is the interim manager of 66,597 acres of land (Map 3.41). Within this area, all lands are selected for conveyance by Native Corporations and the State of Alaska, or they have been applied for as Native Allotments. Native Corporations have selected 32,367 acres; Native Allotment applications exist and in some cases overlap other selections on 831 acres; and 34,231 acres of land are selected by the State of Alaska. Almost all lands that have not been prioritized by Native Corporations have been prioritized by the State of Alaska. However, it is anticipated that BLM will manage 1,295 acres after the conveyance process is completed. According to the best available information, there are four areas with small tracts of land that are not prioritized by either the State or Native Corporations. The areas near Aleknagik comprise two sections, 7 and 18 (1,228 acres) in T. 10 S., R. 53 W., located about 13 miles east of Aleknagik, which will likely remain in Federal ownership at the conclusion of the conveyance process. These sections will be surrounded entirely by lands owned by a Native Corporation and the State of Alaska and should be considered for land tenure adjustment, such as a land exchange, with either entity or disposal through sale. There is also the former Red Top Mine mill site, U.S. Survey 12403, lots 1 & 2, (5 acres) near Aleknagik that will likely remain in BLM ownership for the foreseeable future. This small site located within sec. 32 in T. 10 S., R. 55 W. BLM is conducting HAZMAT response actions at the site, which should result in Interim Cleanup status being granted by the Alaska Department of Environmental Conservation. Once Interim Cleanup status is attained the site could be considered for exchange or disposal by sale with the caveat that Institutional Controls will be in place. There are also two areas near Clarks Point that will remain in BLM ownership and should be exchanged or disposed of by sale. The areas are in section 8, lots 1 & 2 (46 acres) in T. 14 S., R. 55 W.; and in sections 6; section 7, lots 1, 2 and 3; and section 18, lots 1, 2 and 3 (25 acres) in T. 15 S., R. 55 W (Refer to Map 3.39).

Within this area, BLM has patented two separate tracts of land under the R&PP Act:

- The Seventh Day Adventists received a patent in 1972 (Patent # 50-73-0080) to 10 acres of land for a church camp located on Lake Aleknagik. The land is described as U.S. Survey 4931; located within T. 9 S., R. 57 W., sec. 26. The case is serialized as A-048645.
- The Catholic Archbishop of Anchorage received a patent in 1984 (Patent # 50-84-0403) to 1.8 acres of land for a church site located in Clarks Point. The land is described as U.S. Survey 4992, Tract B; located within T. 15 S., R. 56 W., sec. 36. The case is serialized as A-052661 (Map 3.38). BLM is



responsible for ongoing compliance management of these parcels to ensure they are used for the purposes for which they were patented.

There are two withdrawals within the vicinity of Dillingham. One is for the benefit of the U.S. Department of Health and Human Services, Alaska Area Native Health Services, Public Health Services, serialized as AA-58074, and encompasses 87.47 acres. The second is for the Federal Aviation Administration, serialized as A-58836 and encompassing 95.94 acres. A third withdrawal existed at the time that the Draft Resource Management Plan was written. The area has since been transferred to the City of Dillingham. That withdrawal was serialized as A-52010, and encompassed 2.67 acres.

Within this area, there are no rights-of-way or land use authorizations.

## **(2) Naknek/King Salmon Vicinity**

In the area generally located near Naknek, South Naknek and King Salmon, BLM is the interim manager of 18,183 acres of land (Map 3.42). Within this area, all lands are selected for conveyance to Native corporations or the State of Alaska, or claimed as Native Allotments. Native corporations have selected 17,833 acres. Native Allotment applications exist – and in some cases overlap other selections – on 181 acres, and 351 acres of land are selected by the State of Alaska. All lands not prioritized by Native corporations have been prioritized by the State of Alaska. BLM anticipates no Federal land retention in this area at the conclusion of the conveyance process.

Within this area, BLM has patented one tract of land under the R&PP Act. The Federation of Norwegian Lutheran Youth Peoples Society Inc. received a patent in 1962 (Patent # 1224794) to 1.73 acres of land for a church site located in Naknek. The land is described as U.S. Survey 3539, lot 3; located within T. 17 S., R. 47 W., sec. 3. The case is serialized as A-031707. BLM is responsible for ongoing compliance management of this parcel to ensure it is used for the purposes for which it was patented (Map 3.38).

Two rights-of-way have been issued in this area under FLPMA authority:

- BLM issued a right-of-way for a power line to the Naknek Electric Association in 1960. Serialized as A-051081, the right-of-way is 40 feet wide and 15.1 miles in length, encumbering 73.2 acres of land. The power line is located in T. 17 S., R. 45 W., T. 16 S., R. 46 W., T. 17 S., R. 46 W., and T. 17 S., R. 47 W. As lands were patented along the route of this line, the patents would have been made subject to this right-of-way. This right-of-way expires on July 10, 2008. If the lands remain under BLM's jurisdiction there will be an option to renew.
- BLM issued a right-of-way for a road to the Bristol Bay Borough in 1996. Serialized as AA-077688, the right-of-way is 50 feet wide and 1,110 feet in length, encumbering 1.26 acres of land. The road is located in T. 17 S., R. 45 W. This right-of-way expires on May 1, 2026, with an option to renew.

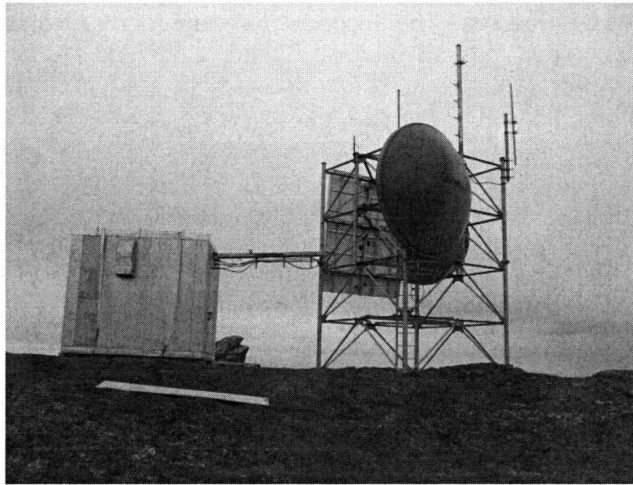
There are 10 withdrawals within the vicinity of Naknek, South Naknek and King Salmon. Four withdrawals are for the Federal Aviation Administration, serialized as: A-46709, encompassing 91.81 acres; A-50813, encompassing 5 acres; A-53428, encompassing 133.75 acres; and AA-65121, encompassing 1.58 acres. The National Park Service has one withdrawal serialized as A-42044, encompassing 11.43 acres. The National Marine Fisheries has one withdrawal serialized as A-72642, encompassing 6.29 acres. The U.S. Air Force has four withdrawals serialized as A-23000, encompassing 16.97 acres; A-31940, encompassing 15 acres; AA-82862, encompassing 1.2 acres; and AA-2838, encompassing 640 acres.

Within this area, there are no land use authorizations or areas identified for land tenure adjustment.

## **(3) Alagnak Planning Block**

The Alagnak Planning Block is bordered by the Alagnak Wild and Scenic River on the Northeast, the Bristol Bay Fisheries Reserve (Kvichak River) on the west, the Katmai National Park and Preserve on the East, and Native or State land to the North and South (Map 3.43). The area contains about 328,603 acres. Once all selected lands have been conveyed in this planning block, it is anticipated that BLM will

manage approximately 153,085 acres of public land. Currently BLM is the interim manager of about 39,712 acres of land. Native corporations have priority selections on 1,858 acres, and the State of Alaska has priority selections on 8,901 acres. Within the life of this plan, prioritized land selections should be conveyed out of Federal ownership.



**Photo 3.13. Bristol Bay Cellular Partnership Communications Site**

#### Land Use Authorizations/Rights-of-Way

There is one right-of-way authorized in the Alagnak Planning Block in Section 33, T. 14 S., R. 41 W., Seward Meridian. Bristol Bay Cellular Partnership has maintained a communications site in that section since May 2000 under land use authorization AA – 081909 (Photo 3.13).

As these lands are on the State's selection priority list, they will likely be conveyed out of Federal ownership and jurisdiction over this right-of-way will be transferred. There are no Land Use Authorizations within this planning block.

#### Alagnak Planning Block 17 (b) Easements

Within the Alagnak Planning Block there are 4 easements. One is a site easement, one is a proposed 25 ft. wide trail, one is a 25 ft. existing trail, and one is a 25 ft. existing winter trail. Table 3.18 provides information regarding each easement within this planning block. Map 3.41 is an overview map of the ANCSA 17(b) easement reservations in this planning block.

**Table 3.18. 17(b) Easements within the Alagnak Planning Block**

<b>Easement I.D.</b>	<b>Administrative Agency</b>	<b>Landowner IC/Pat#</b>	<b>Land Access</b>	<b>Easement Type</b>	<b>Location Information</b>
bbleve013 EIN 8b C6 D9 Dillingham A-2	BLM	IC 193 Levelock Natives Limited	Public Land	1 acre site easement	Sec. 20 T.13 S., R.44 W.
N/A EIN 8c C4 Dillingham A-2	BLM	IC 193 Levelock Natives Limited	Public Land	Proposed 25-ft trail	Beginning in Sec. 20 T.13 S., R.44 W., southerly to public lands
bb / NA EIN 29d C5 Naknek D-3	BLM	50-91-0600 Paug-vik Inc. Ltd	Public Land	Existing 25-ft. trail	Beginning in Sec. 33 T.14 S., R.46 W. Easterly to public lands
bb / NA EIN 14 C3,D1,D9 Naknek D-3	BLM	50-91-0600 Paug-vik Inc. Ltd	.Public Lands	Existing 25-ft. trail. <b>Winter use</b>	Sec. 3 T.17 S., R.47 W., Northerly to Village of Levelock (transportation between communities)

**Agency Withdrawals**

There are no withdrawals within the planning block.

**Recreation and Public Purposes Act Sites**

There are no Recreation and Public Purposes Act Sites within the planning block.

**Land Tenure Adjustment**

There are no areas for Land Tenure Adjustment within the planning block.

**Subsurface Estate.**

There are approximately 692 acres of land where the United States has reserved an interest in "Oil & Gas" within the planning block. There are 1.19 acres of land where the United States has reserved an interest in "All Minerals" within the planning block (Map 3.40).

**(4) Goodnews Bay Planning Block**

The Goodnews Bay Planning Block is bound by the Togiak National Wildlife Refuge on the North, South and East and by the Kuskokwim Bay and the Bering Sea on the West. The area contains about 531,214 Acres (Map 3.44). Once all selected lands have been conveyed in this planning block, it is anticipated that BLM will manage approximately 136,030 acres of public land. BLM is currently the interim manager of about 130,655 acres of land. Native corporations have priority selections on 33,048 acres, and the State of Alaska has priority selections on 125,920 acres. Within the life of this plan, the prioritized land selections should be conveyed out of Federal ownership.

Land Use Authorizations/Rights-of-Way

No land use authorizations or Rights-of-Way are authorized in this Planning Block.

ANCSA 17(b) Easements

There are several easements reserved within the Goodnews Planning Block (Table 3.19).

**Table 3.19. 17(b) Easements within the Goodnews Planning Block**

<b>Easement I.D.</b>	<b>Administrative Agency</b>	<b>Landowner IC/Pat.#</b>	<b>Land Access</b>	<b>Easement Type</b>	<b>Location Information</b>
bb / NA  EIN 1 C3,C5,D1,D9 M  Kuskokwim Bay D-1	BLM	50-95-0437 Arviq Inc.	Public lands	Existing 25-ft trail Seasonal use <b>(winter)</b> Northwesterly to public land	Sec.19 T.12 S., R. 74 W., sm
bb / NA  EIN 3 C3, C4, D1, D9  Goodnews A-8	BLM	IC 1660 Calista Corp.	State of Alaska	Existing 25-ft trail Southwesterly to Sec.10 T.8 S., R. 72 W. sm	Sec.31 T. 7 S., R.71 W., sm
bb / NA  EIN 3a C3, C4,D1,D9  Goodnews B-7	BLM	IC 1660 Calista Corp.	State of Alaska	Existing 25-ft <b>(winter)</b> trail from Sec.27 T.8 S., R.72 W.southwesterly to Sec. 27 T.8 S., R. 72 W. sm	Sec. 27 T.8 S., R. 72 W., sm
bb / NA  EIN 3b C3, C4, D1, D9  Goodnews B-7	BLM	IC 1660 Calista Corp.	State of Alaska	Existing 25-ft <b>(summer)</b> trail from Sec. 10 T.8 S., R. 72 W. southwesterly to Sec. 27 T.8 S., R. 72 W. sm	Sec10 T. 8 S., R.72W., sm
bb / NA  EIN 4 C3,C4, D1,D9  Goodnews B-6	BLM	IC 1660 Calista Corp.	Public Land	Existing 25-ft trail. <b>Winter</b> Northeasterly to intersect w/EIN 6a, C4,D9 <b>Proposed</b> a 50ft. trail in Sec.15 T.10 S.,R.71W. sm to 1 acre site EIN 6 C4, D9	Sec.21 T.10 S., R.71 W., sm
bb / NA  EIN 15 C4, D1 Goodnews B-6	BLM	Easement not with the Conveyance Document		1-acre Site Easement EIN C4, D1 identified to be reserved when land is conveyed. <u>Existing</u> trail EIN 15a C4, D1	

Map 3.43 depicts three trails located in T. 8 S., R. 72 W., Seward Meridian. They are reserved in IC 1660. They are all 25-foot wide trails. EIN 3a C3, C4, D1, D9 is limited to use in the winter only. EIN 3b C3, C4, D1, D9 is limited to summer use only. All allow for transportation from public lands (BLM-managed lands on the South) to public lands (the Togiak National Wildlife Refuge on the North). The State has a priority selection on lands to the south and Calista Corporation has a priority selection on some of the lands to the north. Ultimately, the trail system will provide access from State Lands to the Togiak National Wildlife Refuge.

Map 3.44 depicts three trail easements and two site easements. Trail EIN 4 C3, C4, D1, D9 was reserved in IC 1660 and provides access from the village of Goodnews Bay to State Public lands in Section 25, T. 9 S., R. 71 W., Seward Meridian. The trail crosses both Native-selected and Native-conveyed lands. The selected lands are priority selections for Calista Corporation. The trail is 25 feet wide from south to north until it intersects with EIN 6a, C4, D9 in Section 15, T. 10 S., R. 71 W., Seward Meridian where it changes to a width of 50 wide until it reaches State lands in Section 25, T. 9 S., R. 71 W., Seward Meridian.

Easement EIN 6a, C4, D9 is a proposed easement reserved in IC 1660 which is 50 feet wide and proceeds from trail easement EIN 4 C3, C4, D1, D9 in Section 15, T. 10 S., R. 71 W., Seward Meridian southeasterly to site easement EIN 6 C4, D9. Approximately one half mile of this easement has yet to be reserved.

Trail easement EIN 15a C4, D1 has yet to be reserved as well. It proceeds from site easement EIN 15 C4, D1 in Section 23, T. 10 S., R. 71 W., Seward Meridian southwesterly to BLM lands. The easement crosses Section 26, of T. 10 S., R. 71 W., Seward Meridian which was originally selected by Goodnews Bay or Mumtrak Village. That selection however, is no longer a priority selection nor is the section on the State's priority conveyance list. Therefore, the section will likely remain in the Federal Public Domain and the trail will be at least a mile to a mile and a quarter shorter than originally proposed. Section 23, T. 10 S., R. 71 W., Seward Meridian, the beginning of the trail and the location of its attendant site easement, is a priority selection by Calista Corporation and will likely be transferred out of Federal ownership.

Map 3.44 depicts one of the two trails mentioned at the beginning of this discussion. It is part of a trail that goes from Goodnews Bay to Bethel. It is a winter trail, but more importantly it is part of an inter-community trail system that ought to be preserved. Here, EIN 1 C3, C5, D1, D9, M was reserved in Patent 50-95-0632, dated September 27, 1995. The subsurface estate is owned by Kuitsarak, Inc. The trail is 25 feet wide and its use is limited to winter transportation.

Map 3.44 depicts systems out of the Village of Goodnews Bay through Native-conveyed lands to two areas of State Conveyed lands. The northeastern portion of the system was discussed under Map 3.44. The main trail discussed under Map 3.44 and described as EIN 4 C3, C4, D1, D9 was again reserved under Patent 50-95-0632, dated September 27, 1995. The trail is 25 feet wide and its use is limited to winter. Those portions of land it crosses which remain in the Federal ownership are priority selections for Goodnews Bay and Mumtrak Villages.

EIN 11 C5 is a site easement on the left bank of the Goodnews River in Section 2, T. 11 S., R. 72 W., Seward Meridian. Its purpose is to accommodate a change in mode of transportation from water to ground. Its purpose is related to EIN 11a C5, a proposed trail easement that provides access to a block of land locked State Land, Sections 1, 12, 13 and 24 in T. 11 S., R. 72 W., Seward Meridian. Both easements were reserved in Patent 50-95-0632, dated September 27, 1995. Both easements are on lands owned by Kuitsarak, Inc.

EIN 12 C5 intersects EIN 4 C3, C4, D1, D9 in Section 3 of T. 12 S., R. 73 W., Seward Meridian. It provides access to a large block of State owned land to the west. It was reserved in Patent 50-95-0632, dated September 27, 1995.

There is one new trail to add to this discussion. See Map 3.44: EIN 3 C3, C4, D1, D9. EIN 3 C3, C4, D1, D9 is reserved in Patent 50-95-0632, dated September 27, 1995. It is an existing trail and it is 25 feet



wide. While it appears to begin on BLM land in Section 20, T. 12 S., R. 74 W., Seward Meridian, the lands are a priority selection of Calista Corporation. The trail proceeds north from Section 20, T. 12 S., R. 74 W., Seward Meridian to public lands in Section 2, T. 11 S., R. 74 W., Seward Meridian. The trail is designed to proceed further if the lands to the north of Section 2, T. 11 S., R. 74 W., Seward Meridian are conveyed to the Native community. Calista Corporation has a priority selection on Sections 13, 22, 23, and 24 of T. 10 S., R. 74 W., Seward Meridian. The State claims a priority selection on Sections 26 and 35 of T. 10 S., R. 74 W., Seward Meridian and Section 3 of T. 11 S., R. 74 W., Seward Meridian. The northern portion of the trail system will therefore fall on both State and Native owned lands. The left or western portion of the branch in the trail system is demarcated as EIN 16 C4, D1 and has yet to be reserved in any conveyance.

Map 3.44 depicts the last of the ANCSA 17(b) easements in the Goodnews Planning Block. EIN 3 D1, D9 and EIN 6 C3, D1 were both reserved in Patent 50-95-0437, dated August 15, 1995. EIN 6 C3, D1 is a sixty (60) foot wide road easement. It goes from the South Spit at Platinum and the Platinum Airstrip south to the Goodnews Mining Camp. EIN 3 D1, D9 is an existing trail easement from Platinum to Goodnews Bay.

#### Agency Withdrawals

There are no withdrawals within the planning block.

#### Recreation and Public Purposes Act Sites

There are no Recreation and Public Purposes Act Sites within the planning block.

#### Land Tenure Adjustment

Section 18, T. 9 S., R. 72 W., appears to be BLM lands that do not have a State or Native selection on them. The area encompasses 605 acres and because it would be isolated public land at the completion of the conveyance process, it would be suitable for land tenure adjustment, such as a land exchange or sale.

#### Subsurface Estate

The Federal government has no subsurface estate within the Goodnews planning block (Map 3.40).

### **(5) Iliamna East Planning Block**

The Iliamna East Planning Block occupies an area east of the Kvichak Block, adjoining the Iliamna West Planning Block in which both the East and West Planning Block takes in Lake Iliamna. The area contains about 1,283,817 Acres (Map 3.45). Once all selected lands have been conveyed in this planning block, it is anticipated that BLM will manage approximately 55,156 acres of public land. BLM is currently the interim manager of about 263,457 acres of land. Native corporations have priority selections on 46,366 acres, and the State of Alaska has priority selections on 164,631 acres. Within the life of this plan, the prioritized lands should be conveyed out of Federal ownership.

Land Use Authorizations/Rights-of-Way. There are no land use authorizations or Rights-of-Way in this Planning Block.

ANCSA 17(b) Easements. There are 39 ANCSA 17(b) site and trail easements in the Iliamna East Planning Block area. There are 27 one-acre site easements and three ½ acre site easements. There are six proposed 25 ft. wide trail easements, and one 25 ft. existing trail easement. One easement is for a 50 ft. existing trail, and there is an easement for an airstrip measuring 250 ft. x 1,500 ft. These easements are shown in Map 3.45, and details are provided in Table 3.20.

Table 3.20. 17(b) Easements within the Iliamna East Planning Block

Easement I.D.	Administrative Agency	Landowner IC / Pat #	Land Access	Easement Type	Location Information
bbilia001  EIN 24 C5, D1 N  Lake Clark A-6	BLM	Kijik Corporation IC 300  Easement not identified in a conveyance document	State Conveyed	A one acre site easement starting at Long Lake accessing proposed 25-ft trail to the Chulitna River.	Sec.31 T.1N., R.33W., sm
bbilia001  EIN 4a D1  Lake Clark A-6	BLM	Kijik Corporation Patent No. 50-94-0485  Easement not identified in a conveyance document	State Conveyed	<u>Existing</u> 25-ft trail for public purpose and access. Northwesternly to public lands	Sec.30 T.2S., R. 32W., sm
bbilia003  EIN 12b D9  Lake Clark A-6	BLM	Kijik Corporation IC 300	Public Land	One acre site	Sec.11 T.1S. R.34W., sm
bbilia005  EIN 12e C5  Lake Clark A-5	BLM	Kijik Corporation IC 300	Public Land	Proposed 25-ft trail for public purpose and access. Southerly to public lands	Sec.16 T.1N., R.32W sm
bbilia005  EIN 13a D9  Lake Clark A-5	BLM	Kijik Corporation IC 300	Public Land	One acre site	Sec.16 T.1N., R.32W., sm
bbilia007  EIN 20 C5, D1, N  Lake Clark A-5	NPS	Kijik Corporation PA No. 50-94-0485  Easement not identified in a conveyance document	Public Land	Trailhead for 25-ft proposed trail accessing public land and periodic site on the Chulitna River.	Sec.5 T.1N., R.31W., sm
bbilia009  EIN 22 C5, D1, N  Lake Clark A-5	NPS	Kijik Corporation  PA No. 50-94-0485  Easement not identified in a conveyance document	Public Land	Trailhead for 25-ft proposed trail accessing isolated public land.	Sec.16 T.1N., R.31W., sm
bbilia011  EIN 10kE  Lake Clark A-5	NPS	Kijik Corporation IC 300	Public Land	Proposed 25-ft trail for public purpose and access. Northwesternly to public lands.	Sec.5 T.1S., R.31W., sm

<b>Easement I.D.</b>	<b>Administrative Agency</b>	<b>Landowner IC / Pat #</b>	<b>Land Access</b>	<b>Easement Type</b>	<b>Location Information</b>
bbilia015  EIN 16 L  Lake Clark A-5	NPS	Kijik Corporation IC 300	Public Lands	Existing bush airstrip, 250' width and 1500' length used to access public lands.	Sec.18 T.1N., R.30W., sm & Sec. 13 T.1 N., R. 31 W., sm
bbilia016  EIN 16b L  Lake Clark A-5	NPS	Kijik Corporation IC 300	Chulitna River	One acre site	Sec.18 T. 1 N., R.30W., sm
bbilia018 bb / NA  EIN 102 C5  Lake Clark A-4	NPS	Kijik Corporation IC 1337	Lake Clark NP	½ acre site	Sec.11 T.2S., R.30W., sm
bbilia020  EIN 27 C-5  Lake Clark A-4	NPS	Kijik Corporation IC 1337	Lake Clark NP	½ acre site	Sec.11 T.2S., R.30W., sm
bbilia022  EIN 100 C4  Iliamna D-5	NPS	Kijik Corporation IC 1337	Lake Clark NP	One acre site	Sec.26 T.2S., R.31W., sm
bbilia024  EIN 26b C5, D1, N  Iliamna D-5	NPS	Kijik Corporation IC 300  Easement not identified in a conveyance document	Lake Clark NP	One acre site	Sec.28 T.2S., R.32W., sm
bbilia026  EIN 27a D1  Iliamna D-5	NPS	Iliamna Natives Ltd IC 1341.	Lake Clark NP	One acre site	Sec.9 T.3S., R.31W., sm
bbilia028  EIN 27 D1  Iliamna D-5	NPS	Iliamna Natives Ltd. IC 1339	Lake Clark NP	One acre site	Sec.8 T.3S. R.31W. SM

Easement I.D.	Administrative Agency	Landowner IC / Pat #	Land Access	Easement Type	Location Information
bbilia031  EIN 17a D1  Iliamna D-5  17 D1	Selected PD Proposed	Applicant AA6685-0	Lake Clark NP	Proposed trail accessing isolated public land.  Site easement	Sec.8 T.3S., R.32W. SM
bbilia032  EIN 11a C5  Iliamna D-5	NPS	Iliamna Natives Ltd. 50-94-0481	Lake Clark NP	One acre site	Sec.27 T.3S., R.32W., sm
bbilia034  EIN 12a C5  Iliamna D-5	NPS	Iliamna Natives Ltd. 50-94-0481	Lake Clark NP	½ acre site	Sec.22 T.3S. R.32W., sm
bbilia035  EIN 15c D9  Iliamna D-5	BLM	Iliamna Natives Ltd. 50-94-0481	Public Land	One acre site	Sec.1 T.5S. R.32W., sm
bbilia037  EIN 11d D1, D9  Iliamna D-5	BLM	Iliamna Natives Ltd. IC 402	Public Lands	One acre site.	Sec.31 T.3S. R.32W., sm
bbilia039  EIN 22 E  Iliamna D-6	BLM	Iliamna Natives Ltd. IC 402	State Conveyed	One acre site	Sec.28 T.4S. R.33W., sm
bbilia041  EIN 4a C4  Iliamna C-6	BLM	Alaska Peninsula Corporation IC 283	Public Land	One acre site Sec. 17 and/or Sec.20 T.5 S.,R.33W. sm at end of EIN 4b D9	Sec.17 T.5S. R.33W., sm
bbilia045  EIN 3e D9  Iliamna C-6	BLM	Alaska Peninsula Corporation IC 283	Public Land	One acre site	Sec.13 T.6S., R.35W., sm
bbilia046  EIN 5B D1, D9, L  Iliamna C-6	BLM	Alaska Peninsula Corporation IC 283	Public Land	One acre site	Sec.28 T.5S., R.33W., sm

<b>Easement I.D.</b>	<b>Administrative Agency</b>	<b>Landowner IC / Pat #</b>	<b>Land Access</b>	<b>Easement Type</b>	<b>Location Information</b>
bbilia047 EIN 6a D9  Iliamna C-5	BLM	Iliamna Natives Ltd. IC 402	Public Land	One acre site	Sec.15 T.5S., R.33W., sm
bbilia051  EIN 24a D3  Iliamna D-5	BLM	Iliamna Natives Ltd. IC 649	Public Land	One acre site	Sec.12 T.5 S., R.33W., sm
bbilia052  EIN 24b D3  Iliamna D-5	BLM	Iliamna Natives Ltd. IC 649	Major Waterway – Slopbucket Lake	One acre site	Sec.12 T.5S., R.33W., sm
bbkokh001  EIN 12b D9  Iliamna C-5	BLM	AK Pen Corp IC 357	Navigable Water	One acre site	Sec.35 T.7S., R.31W., sm
bbkokh002  EIN 12k D9  Iliamna C-4	BLM	AK Pen Corp IC 357	Public Land	One acre site	Sec.34 T.7S., R.30W., sm
bbkokh004  EIN 23 E  Iliamna B-4	BLM	AK Pen Corp IC 357	Public Land	One acre site	Sec.24 T.8S. R.30W., sm
bbkokh006  EIN 8a D9  Iliamna B-5	BLM	AK Pen Corp IC 357	Public Land	One acre site	Sec.5 T.9S., R.31W., sm
bbkokh008  EIN 22 E  Iliamna B-5	BLM	AK Pen Corp IC 357	State Conveyed	One acre site	Sec.7 T.9S., R.31W., sm
bbkokh010  EIN 24 C5  Iliamna B-5	BLM	AK Pen Corp IC 1042	State Conveyed	One acre site	Sec.2 T.10S., R.32W., sm



<b>Easement I.D.</b>	<b>Administrative Agency</b>	<b>Landowner IC / Pat #</b>	<b>Land Access</b>	<b>Easement Type</b>	<b>Location Information</b>
bbkokh012  EIN 25 C5  Iliamna B-5	BLM	AK Pen Corp IC 1042	State Conveyed	One acre site	Sec.31 T.9S. R.32W., sm
bbkokh014  EIN 4a D9  Iliamna B-5	BLM	AK Pen Corp 50-92-0730	Public Land	One acre site	Sec.35 T.8S., R.33W., sm

#### Agency Withdrawals

There are two Agency withdrawals within the planning area. One is for the Federal Aviation Administration, serialized as AA-721 and encompasses 709 acres. The second withdrawal is for the Department of Interior, serialized as AA-6497, encompassing 13,951 acres (Map 3.45).

#### Recreation and Public Purposes Act Sites

There are no Recreation and Public Purposes Act Sites within the planning block.

#### Land Tenure Adjustment

These areas are potential disposal, acquisition or land exchange sites:

Chulitna River, located in secs. 21 to 23 and sec. 28, T. 1 N., R. 32 W.; approximately 2,560 acres are lands recommended for exchange. A village selection application, AA-6686-K, still remains on secs. 29 to 32, but secs. 31 and 32 are not prioritized for conveyance, are anticipated to remain in Federal ownership and would be appropriate for exchange. Total acreage for these lands is 3,836 acres (Map 3.45).

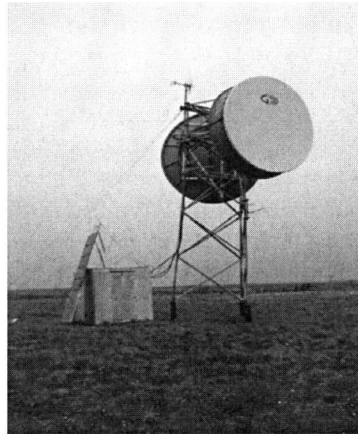
Some land will remain in Federal ownership after the conveyance process is completed in the area near Chekok Creek, located in Tps. 2 and 3 S., R. 30 W. The south half of this township is on the State's priority list. Lands located outside the boundary of Lake Clark National Park and Preserve and not conveyed to the State should be considered for exchange or sale. Total acreage would be 8,935 acres (Map 3.45).

#### Subsurface Estate

The Federal government has reserved oil and gas interests on several Native allotments and all minerals on at least one Native allotment.

### **(6) Iliamna West Planning Block**

The Iliamna West Block occupies an area east of the Kvichak Block, and west of the Iliamna Lake, adjacent to the Village of Igiugig. The Iliamna West Block is located approximately 12 miles northwest of King Salmon, Alaska. The area contains about 549,182 Acres (Map 3.46). Once all selected lands have been conveyed in this planning block, it is anticipated that BLM will manage approximately 236,850 acres of public land. BLM is currently the interim manager of about 19,657 acres of land. A Native Corporation has a priority selection on 640 acres, and the State of Alaska has priority selections on 15,491 acres. Within the life of this plan, the prioritized lands should be conveyed out of Federal ownership.



**Photo 3.14. Iliamna West Block Communication Site**

**Land Use Authorizations/Rights-of-Way.** There are no land use authorizations or Rights-of-Way are authorized in this Planning Block.

**ANCSA 17(b) Easements.** There are six ANCSA 17(b) site and trail easements in the Iliamna West Planning Block area. There are two 1 acre site easements. There are three proposed 50 ft. wide trail easements, and one 50 ft. existing trail easement. These easements are shown in Map 3.46, and details are provided in Table 3.21.

**Table 3.21. 17(b) easements within the Iliamna West Planning Block**

<b>Easement I.D.</b>	<b>Administrative Agency</b>	<b>Landowner IC / Pat#</b>	<b>Land Access</b>	<b>Easement Type</b>	<b>Location Information</b>
bb / NA EIN 19b C4 Iliamna B-8	BLM	Igiugig Native Corp 50-89-0710	Public Lands	1 acre site	Sec. 15 T.10 S., R.38 W., sm
bb / NA EIN 6C D9 Iliamna B-8	BLM	Igiugig Native Corp 50-89-0710	Public Lands	1 acre site	Sec. 14 T. 10 S., R.40 W., sm
bb / NA EIN 19a C4 Iliamna B-8	BLM	Igiugig Native Corp 50-89-0710	Goes to Public Land	Proposed 50-ft trail. southerly to public lands	Sec.15 T.15 S.,R.38 W., sm
bb / NA EIN 11 D9 Iliamna B-8	BLM	Igiugig Native Corp	Goes to Public Land	50- ft proposed trail.	Sec. 18 T.10 S., R. 39 W., sm
bb / NA EIN 11a C4 Iliamna B-8	BLM	Igiugig Native Corp	Goes to Public Land	50-ft trail	Sec. 7 T.10 S., R. 39 W., sm
bb / NA EIN 18a C4	BLM	Igiugig Native Corp 50-89-0710	Public	Proposed 50-ft trail. Easterly to Sec.33 T.11 S., R.37W. sm	Sec.36 T.11S.,R.38 W., sm

Withdrawals

There is a withdrawal for the U.S. Air Force, serialized as A-32838, encompassing 335.37 acres. The Air Force is currently remediating the site for return to the public domain, however, the State of Alaska has a priority selection on the land they may be conveyed out of Federal ownership during the life of the plan.

Recreation and Public Purposes Act Sites

There are no Recreation and Public Purposes Act Sites within the planning block.

Land Tenure Adjustment

These areas are potential disposal (sale) or land exchange sites:

This area is located about 14 miles southeast of Iguigig; it is in T. 11 S., R. 37 W., secs.2, 3, 4, 9, 10, and portions of sec. 16 and 21. This area is State-selected but not prioritized for conveyance, and is anticipated to remain in Federal ownership. Total acreage for these lands is 3,533 acres; it would be appropriate for sale or exchange. A second site is located in T. 11 S., R. 35 W., sec. 1, 323 acres, noted as Katmai Boundary. The Katmai Boundary parcel would be appropriate for sale or exchange. If no willing acquiring party is identified, management by the National Park Service through an agreement would be appropriate (Map 3.39).

Subsurface Estate

There are approximately 2,702 acres of land where the surface estate has been conveyed and the United States has reserved an interest in "Oil & Gas" within the planning block (Map 3.29).

**(7) Koggiling Creek Planning Block**

The Koggiling Creek Planning Block occupies an area west of Levelock, and east of Dillingham. The southern boundary of the planning block is formed by Kvichak Bay and Kvichak River (Map 3.47). The Lower Nushagak River and the Keefer Cutoff form a broad nearly level river valley that cuts through the western side of the planning block. The area contains about 543,671 Acres. Once all selected lands have been conveyed in this planning block, it is anticipated that BLM will manage approximately 183,399 acres of public land. Currently BLM is the interim manager of about 54,043 acres of land. Native corporations have priority selections on 19,125 acres, and the State of Alaska has priority selections on 11,321 acres. Within the life of this plan, the prioritized lands should be conveyed out of Federal ownership.

Land Use Authorizations/ Rights-of-Way

There is one land use authorization in the Koggiling Creek Planning Block. BLM issued a communications site right-of-way on April 12, 1991 to Bristol Bay Cellular Partnership serialized as AA-74046. The right-of-way expires on April 11, 2016, and may be renewed. The granted use is for an H-1 repeater site, occupying .08 acres, located within the W $\frac{1}{2}$  NW $\frac{1}{4}$  NE $\frac{1}{4}$ , E $\frac{1}{2}$  NE $\frac{1}{4}$  NW $\frac{1}{4}$ , sec. 9, T. 16 S., R. 50 W., S.M. The improvements located on the site are a 40 foot tower with two 12 ft. diameter microwave antennas located at the top of the tower. A small electronics shelter is located near the base of the tower. This land is selected by the Bristol Bay Regional Corporation (Map 3.47). There are no other land use authorizations within this planning block.

**ANCSA 17(b) Easements**

Within the Koggiling Planning Block there are 9 site and trail easements. There are four one acre site easements, 4 proposed 25 ft. wide trail easements, and one 25 ft. existing trail easement. These easements are shown in Map 3.46, and details are provided in Table 3.22.

**Table 3.22. 17(b) easements within the Koggiling Creek Planning Block**

<b>Easement I.D.</b>	<b>Administrative Agency</b>	<b>Landowner IC / Pat #</b>	<b>Land Access</b>	<b>Easement Type</b>	<b>Location Information</b>
bbdill079  EIN 1 D1, N  Dillingham A-5	BLM	BBNC IC 1658	Public lands	One acre site	Sec. 20 T.12 S., R.50 W., sm
bbdill080  EIN 1a D1, N  Dillingham A-5	BLM	BBNC IC 1658	SOA	Proposed 25-ft trail from EIN 1 D1, Northwesterly to public lands in Sec 18 T.12 S., R.50W. sm	Sec. 20 T.12 S., R.50W., sm
bbdill081  EIN 2 D1, N  Dillingham A-5	BLM	BBNC IC 1658		One acre site	Sec. 34 T.12S., R.50W., sm
bbdill082  EIN 2a D1, N  Dillingham A-5	BLM	BBNC IC 1658	SOA	Proposed 25-ft trail from EIN 2 D1, N easterly to public lands in Sec. 35 T.12 S., R.50 W. sm	Sec. 34 T.12 S., R.50 W., sm
bbnakn001  EIN 29 C5	BLM	Paug-vik inc. 50-91-0600	SOA	Existing 25-ft trail westerly to public lands	Sec. 25 T.14S., R.47W. sm
bbnakn083  EIN 8b C5  Naknek D-6	BLM	Choggiung Limited 50-93-0519	SOA	Proposed 25-ft trail from EIN 8a C5 westerly to public lands	Sec. 14 T.14 S., R 51 W., sm
bbnakn084  EIN 8a C5  Naknek D-6	BLM	Choggiung Limited 50-93-0519	N/A	One acre site	Sec. 14 T14 S., R51W., sm
bb / NA  EIN 2 D1, C5  Naknek D-5	BLM	BBNC 50-88-0370	Public land	One acre site	Sec. 25 T.16 S., R.50 W., sm
bb / NA  EIN 2a C5  Naknek D-5	BLM	BBNC 50-88-0370	BLM	Proposed 25-ft trail from EIN 2 D1, C5 through sec.25 & 26 T.16 S., R.50 W. to public land at southern boundary sec.23	Sec. 25 T.16S., R.50W., sm

**Agency Withdrawals**

There are no withdrawals within the planning block.

Recreation and Public Purposes Act Sites

There are no Recreation and Public Purposes Act Sites within the planning block.

Land Tenure Adjustment

There are no areas for Land Tenure Adjustment within the planning block.

Subsurface Estate

The Federal government has retained mineral rights on several Native allotments (Map 3.34)

**(8) Klutuk Creek Planning Block**

The Klutuk Creek Planning Block is located south of the Village of Koliganek and north of the Village of New Stuyahok. The Block is east of the Wood Tikchik State Park. The confluence of the Mulchatna and Nushagak Rivers is within this area. The area contains about 1,169,064 Acres. Once all selected lands have been conveyed in this planning block, it is anticipated that BLM will manage approximately 142,135 acres of public land (Map 3.48). BLM is currently the interim manager of about 38,631 acres of land. Native corporations have priority selections on 20,705 acres, and the State of Alaska has priority selections on 5,096 acres. Within the life of this plan, the prioritized lands should be conveyed out of Federal ownership.

Land Use Authorizations/Rights-of-Way

There are no land use authorizations or Rights-of-Way in this Planning Block.

ANCSA 17(b) Easements

There are a total of 18 17(b) site and trail easements within the Klutuk Planning Block. There are nine one-acre site easements and nine proposed 25-ft wide trail easements. These easements are shown in Map 3.48, and details are provided in Table 3.23.

**Table 3.23. 17(b) Easements within the Klutuk Planning Block**

<b>Easement I.D.</b>	<b>Administrative Agency</b>	<b>Landowner IC / Pat #</b>	<b>Land Access</b>	<b>Easement Type</b>	<b>Location Information</b>
bbekwo002  EIN 30 C4, Dillingham D-4	BLM	Koliganek Natives Ltd. IC 228	Public Lands	One acre site	Sec.36 T. 3 S., R.48W., sm
bb/NA  EIN 30a,C4  Dillingham D-4	BLM	Koliganek Natives Ltd. IC 228	Public Lands	Proposed 25-ft trail from EIN 30 C4, westerly to public lands.	Sec. 36 T.3 S., R. 48 W., sm
bbekwo003  EIN29 C4,  Dillingham D-4	BLM	.Koliganek Natives Ltd. IC 228	Public Lands	One acre site	Sec.18 T.4 S., R.47W., sm
bb/NA  EIN29a,C4  Dillingham D-4	BLM	Koliganek Natives Ltd. IC228	Public Lands	Proposed 25-ft trail from EIN 29 C4, easterly to public lands.	Sec. 18 T.4 S.,R.47 W., sm



<b>Easement I.D.</b>	<b>Administrative Agency</b>	<b>Landowner IC / Pat #</b>	<b>Land Access</b>	<b>Easement Type</b>	<b>Location Information</b>
bbekwo005  EIN28 C4,  Dillingham D-4	BLM	.Koliganek Natives Ltd. IC 228	Public Lands	One acre site	Sec. 23 T.4 S., R. 47 W., sm
bb/NA  EIN28a,C4  Dillingham D-4	BLM	Koliganek Natives Ltd. IC228	Public Lands	Proposed 25-ft trail from EIN 28 C4, southerly to public lands.	Sec. 23 T.4 S., R.47 W., sm
bbekwo008  EIN25 C4, Dillingham C-3	BLM	Koliganek Natives Ltd.. IC 228	Public Lands	One acre site	Sec.21 T.5 S., R. 45 W., sm
bb/NA  EIN 25a,C4  Dillingham C-3	BLM	Koliganek Natives Ltd. IC 228	Public Lands	Proposed 25-ft trail from EIN 25 C4 westerly to public lands	Sec. 21 T.5 S., R.45 W., sm
bbekwo012  EIN33 C4,  Dillingham C-5	BLM	Stuyahok Ltd. IC 290	Public Lands	One acre site	Sec(s). 6 fractionally, Sec. 7 fractionally T. 6 S., R. 46 W., sm
bb/NA  EIN33a,C4  Dillingham C-5	BLM	Stuyahok Ltd. IC 290	Public Lands	Proposed 25-ft trail from EIN 33 C-4 easterly to public lands.	Sec(s). 6 fractionally, Sec. 7 fractionally, T.6 S., R. 46 W., sm
bbekwo010  EIN 32 C4  Dillingham C-4	BLM	Stuyahok Ltd. IC 290	Public Lands	One acre site	Sec.6 T.6 S., R. 46 W., sm
bb/NA  EIN32A,C4  Dillingham C-4	BLM	Stuyahok Ltd. IC 290	Public Land	Proposed 25-ft trail from EIN32 C4 westerly to public lands.	Sec.6 T. 6 S., R. 46 W., sm
bbekwo014  EIN 119 D1,M  Dillingham C-5	BLM   x	BBNC 50-92-0709	Public Lands	One acre site	Sec. 14 T.7 S., R. 46 W., sm

Easement I.D.	Administrative Agency	Landowner IC / Pat #	Land Access	Easement Type	Location Information
bb/NA  EIN 119a D1, M  Dillingham C-5	BLM   x	BBNC 50-92-0709	Public Lands	Proposed 25-ft trail from EIN 119 D1,M	Sec. 14 T.7 S., R.46 W., sm
bbekwo023  EIN 16 C4,  Dillingham B-5	BLM	Ekwok Natives Ltd. 50-92-0738	Public Lands	One acre site	Sec. 33 T.9 S., R.50 W., sm
bb/NA  EIN 16a C4  Dillingham B-5	BLM	Ekwok Natives Ltd. 50-92-0738	Public Lands	Proposed 25-ft trail from EIN 16 C4 northerly to public lands	Sec.33 T.9 S., R.50 W., sm
bbekwo025  EIN 14 C4 Dillingham B-5	BLM	Ekwok Natives Ltd. 50-92-0738	Public Lands	One acre site	Sec. 31 T.9S., R.50 W., sm
bb / NA  EIN 14a C4  Dillingham B-5	BLM	Ekwok Natives Ltd. 50-92-0738	Public Lands	Proposed 25-ft trail from EIN 14 C4 southwesterly to public lands.	Sec. 31 T.9S., R.50 W., sm

**Agency Withdrawals**

There are no withdrawals within the planning block.

**Recreation and Public Purposes Act Sites**

There are no Recreation and Public Purposes Act Sites within the planning block.

**Land Tenure Adjustment**

There are no areas for Land Tenure Adjustment within the planning block.

**Subsurface Estate**

There are approximately 2,491 acres of land where the subsurface in Oil and Gas has been reserved (Map 3.29).

**(9) Kvichak Planning Block**

The Kvichak Planning Block generally is located on each side of the lower portion Kvichak River. BLM-managed lands within the block are generally located off of the major rivers, with legal access provided by proposed trails reserved as 17(b) easements. The area contains about 362,756 Acres. Once all selected lands have been conveyed in this planning block, it is anticipated that BLM will manage approximately 92,263 acres of public land (Map 3.49). BLM is currently the interim manager of about 46,191 acres of land. Native corporations have priority selections on 5,114 acres, and the State of Alaska has priority selections on 33,477 acres. Within the life of this plan, the prioritized lands should be conveyed out of Federal ownership.

**Land Use Authorizations/Rights-of-Way**

There are no land use authorizations or Rights-of-Way in this Planning Block.

ANCSA 17(b) Easements

There are a total of 12 17(b) Easements within the planning block. Five are one acre site easements; four located along the Kvichak River and one located along the Alagnak River. Five easements are 25-ft. wide easements for proposed trails to provide access to public lands. Two of the easements are for 25-ft. existing winter trails that provide for travel between communities. These easements are shown in Map 3.49, and details are provided in Table 3.24.

**Table 3.24. 17(b) easements within the Kvichak Planning Block**

<b>Easement I.D.</b>	<b>Administrative Agency</b>	<b>Landowner IC / Pat #</b>	<b>Land Access</b>	<b>Easement Type</b>	<b>Location Information</b>
bbleve002  EIN 1b D9, C6  Dillingham A-2	BLM	Levelock Nat. Ltd. IC 193	Public lands	One acre site	Sec. 19 T.11S., R.43 W., sm
bb / NA  EIN 1f D9, C6  Dillingham A-2	BLM	Levelock Natives Ltd. IC 193	Public lands	Proposed 25-ft trail. Northerly to public lands	Sec. 19 T.11S., R.43 W., sm
bbleve004  EIN 1c D9, C6  Dillingham A-2	BLM	Levelock Natives Ltd. IC 193	Public Lands	One acre site	Sec.36 T.11S., R.44W., sm
bbleve006  1d D1,D9,L  Dillingham A-2	BLM	Levelock Nat. Ltd IC 193.	Public lands	One acre site	Sec. 4 T.12S., R.44W., sm
bb / NA  EIN 1g C6,D1,D9,L  Dillingham A-2	BLM	Levelock Nat. Ltd. 193	Public lands	Proposed 25-ft trail from EIN 1c C6,D1,D9, L / Sec. 36 T.11 S.,R.44 W. sm	Sec. 36 T.11S., R.44W., sm
bb / NA  EIN 1h D1,D9,L  Dillingham A-2	BLM	Levelock Nat. Ltd. 193	Public lands	Proposed 25-ft trail from EIN 1d D1,D9, L / Sec.13 T.12 S.,R.45W.	Sec.4 T.12S., R.44W., sm
bbleve008  EIN 2e C4  Dillingham A-3	BLM	Levelock Nat. Ltd. 193	Public lands	Proposed 25-ft trail. Northerly to Public lands	Sec.33 T.13S., R.45 W., sm

Easement I.D.	Administrative Agency	Landowner IC / Pat #	Land Access	Easement Type	Location Information
bb EIN 12b E Dillingham A-2	BLM	Levelock Nat. Ltd. 193	Public lands	Proposed 25-ft trail. Northerly to public lands	Sec.31 T.11S., R.44W., sm
bbleve001 EIN 13 E Dillingham A-2	BLM	Levelock Nat. Ltd. 193	Public lands	Existing 25-ft winter trail. Parallels Kvichak River thru selection Winter use	Sec. 13 T.11S., R.43W.. sm
bbleve010 EIN 14 E Dillingham A-3	BLM	Levelock Nat. Ltd 193	Public lands	Existing 25-ft winter trail on L.H. side of river across from Village of Levelock, southerly to public land in Sec. 6 T.14 S., R.45W., sm Winter use	Sec. 27 T.12 S., R. 45 W., sm
bbleve008 EIN 15a C5 Dillingham A-2	BLM	Levelock Nat. Ltd 193	Public lands	One acre site	Sec. 31 T.11S., R 44W., sm
bbleve011 EIN 16 C5 Dillingham A-3	BLM	Levelock Nat. Ltd 193  x	Public lands	site	Sec.33 T.13 S., R.45W., sm

**Agency Withdrawals**

There are no withdrawals within the planning block.

**Recreation and Public Purposes Act Sites**

There are no Recreation and Public Purposes Act Sites within the planning block.

**Land Tenure Adjustment**

There are no areas for Land Tenure Adjustment within the planning block.

**Subsurface Estate**

The Federal government has retained mineral rights on several Native allotments (Map 3.34).

**(10) Yellow Creek Planning Block**

The Yellow Creek block is located east of New Stuyahok and west of Ekwok. The Nushagak River runs northwest and the Kvichak River runs southeast of the planning area. New Stuyahok is located within the Bristol Bay Recording District and on the Nushagak River, just 12 miles upstream from Ekwok. The area contains about 573,056 acres. Once all selected lands have been conveyed in this planning block, it is anticipated that BLM will manage approximately 266,812 acres of public land (Map 3.50). Currently, BLM is the interim manager of about 76,536 acres of land. Native corporations have priority selections on



11,488 acres, and the State of Alaska has priority selections on 42,035 acres. Within the life of this plan, the prioritized lands should be conveyed out of Federal ownership.

#### Land Use Authorizations/Rights-of-Way

There are no land use authorizations or Rights-of-Way in this Planning Block.

#### ANCSA 17(b) Easements

There are a total of five 17(b) easements within the Yellow Creek Planning Block. There are four one-acre site easements, and one 25-ft existing trail easement. These easements are shown in Map 3.50, and details are provided in Table 3.25.

**Table 3.25. Yellow Creek 17(b) Easements**

<b>Easement I.D.</b>	<b>Administrative Agency</b>	<b>Landowner IC / Pat #</b>	<b>Land Access</b>	<b>Easement Type</b>	<b>Location Information</b>
bb / NA EIN C4 Dillingham B4	BLM	Easement not noted in conveyance document  x	public lands	One acre site	Sec. 21 T.9S., R 48 W., sm
bb / NA EIN 37 E Dillingham B4	BLM	Ekwok Natives Ltd. 50-92-0738	public lands	One acre site adjacent to EIN 38E left bank of Nushagak R.	Sec. 11 T.10 S., R.49W., sm
bb / NA EIN 10 B C4 Dillingham B5	BLM	State of Alaska  x	public lands	One acre site	Sec. 25 T.10 S., R.50 W. sm
bb / NA EIN 13 E Dillingham A3	BLM	Levelock Natives Ltd. 50-89-0751	public lands	Existing 25-ft trail. From east end sec.13 southwesterly to public lands in Sec.34 T.13 S.,R.46 W. sm	Sec. 13 T.11S. R.43W., sm
bb / NA EIN 119 D1, M Dillingham C3	BLM  x	Easement not noted in conveyance document	public lands	One acre site	Sec. 14 T.7 S. R.46W., sm

#### Agency Withdrawals

There are no withdrawals within the planning block.

#### Recreation and Public Purposes Act Sites

There are no Recreation and Public Purposes Act Sites within the planning block.

#### Land Tenure Adjustment

This area is a potential disposal (sale) or land exchange site. Due to conveyance patterns the following area will become isolated public lands. The area is located in secs. 5, 6, 7, 8, 17, 18, and 19, T. 11 S., R. 44 W, S.M. Neither the State nor an ANCSA corporation has selected the lands and they would be appropriate for exchange or sale. Total acreage for these lands is 4,415 acres (Map 3.39).

#### Subsurface Estate

There is no identified subsurface estate retained by the Federal government (Map 3.40).

## D. Special Designations

### 1. Areas of Critical Environmental Concern

#### a) Background

Areas of Critical Environmental Concern (ACECs) are an administrative designation unique to BLM. BLM regulations (43 CFR Part 1610) define an ACEC as an area "... within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards." While an ACEC may emphasize one or more unique resources, other existing multiple-use management can continue within an ACEC so long as the uses do not impair the values for which the ACEC was designated. Section 202 (c)(3) of FLPMA mandates that BLM give priority to the designation and protection of ACECs in the development and revision of land use plans. BLM Manual 1613 describes the process followed to nominate ACECs and to evaluate areas for their suitability for ACEC designation. Currently there are no designated ACECs within the planning area.

#### b) Nominated Areas

During scoping, BLM actively solicited nominations and comments from the public regarding areas that should receive consideration as ACECs. Two nominations were received from the public and BLM specialists (Maps 2.31 and 2.32):

- Carter Spit ACEC – Nominated by BLM specialists.
- Bristol Bay ACEC – Nominated by the Alaska Coalition, the public, and BLM specialists.

Based on interdisciplinary review, the following areas met both the relevance and importance criteria and will move forward for additional consideration within the Alternatives examined in this Environmental Impact Statement. For more specific information on specific measures proposed for these areas, see the detailed Alternative comparison tables in Chapter II.

#### (1) Carter Spit ACEC

The Carter Spit area has known cultural resources and also has high potential for previously undiscovered resources given its geographic setting on the coast within prime hunting areas for marine and terrestrial game and fish. Historic sites are located within the proposed Carter Spit ACEC, including *Neqlercuryaraq*, a lake located on the southeast portion of Carter Spit, *Taqikatarmiut*, located within the northwest portion of the ACEC at the mouth of Cripple Creek and *Maqallarliq*, located at the base of an unnamed spit in Jacksmith Bay. Archaeological surveys have not been conducted in the area.

The main waterways and tributaries of Cripple Creek and Jacksmith Creek provide habitat for economically important subsistence, commercial and recreational fisheries. This area is part of the Kuskokwim Bay ADF&G Fisheries Management Area. The rainbow trout stocks which inhabit the area are considered "world class" with high catch rates and large rainbow trout.

Several wildlife-related resources and considerations of species diversity justify protection of the habitats in the Carter Spit ACEC. Carter Bay and the coastal areas provide molting and staging habitat for Steller's eiders, a threatened species under the Endangered Species Act (Shaw et al. 2005). Many migratory birds and BLM sensitive species use the area for staging and migration in fall including black brant, black scoters, blackpoll warblers, bristle-thighed curlews, grey cheeked thrush, harlequin ducks, king eiders, long-tailed ducks, red-knot, hudsonian godwit, red-throated loon, surf scoter, white-fronted geese and harbor seals (Seppi 1997). The area is also remarkable for its wide variety of vegetation, and

several rare plant species have been documented in the area (Lipkin 1996, Parker 2005). The coastal estuaries and watersheds have concentrations of breeding shorebirds and waterfowl, including several trans-oceanic shorebird species.

Subsistence activities serve local communities, through egg and spring waterfowl hunting, fishing, seal and Beluga whale hunting. Brown bears, a subsistence and sport hunted species, concentrate in coastal areas in the spring to forage for vegetation and feed on marine mammal carcasses. They later concentrate on coastal salmon streams to catch salmon.

The Jacksmith Creek watershed is a fresh water source for the Togiak National Wildlife Refuge Coastal Wetlands and the Jacksmith Bay/Carter Spit estuary and mudflats. The islands in Carter Bay and the coastal estuaries, while not in BLM jurisdiction, are dependent upon the terrestrial watersheds within the ACEC for fresh water and the nutrient input which maintains the estuary tidal flat ecosystems adjacent to BLM lands.

An unnamed creek that drains an unnamed lake south of Carter Creek and empties into Carter Bay was particularly noted during scoping as being an important water body deserving of protection as the only source of fresh water in that area.

## **(2) Bristol Bay ACEC**

The Bristol Bay ACEC, taken as a whole, provides habitat for the Mulchatna caribou herd, spawning and rearing habitat for five species of salmon and numbers of freshwater fish, year round habitat for moose, and a summer fisheries forage base for brown bears. The northeast portion of the ACEC has concentrations of nesting trumpeter swans (Gibson and Maley 2003) and the remainder of the ACEC has nesting tundra swans (Wilk 1987). The widespread wetland habitats in the Bristol Bay ACEC, considered separately, have moderate productivity; however, taken all together the area ranks high in statewide waterfowl productivity. Waterfowl hatched and reared here are harvested throughout the Pacific flyway. Sensitive species in the region include trumpeter swans, white-winged and black scoters, black-poll warblers, rusty blackbirds (not on the Special Status Species list), and bald eagles. These BLM lands, though discontinuous, provide movement corridor and seasonal habitats for caribou, including calving areas and important winter range. Five plant species noted by the Alaska Natural Heritage Program as rare are located in the Bristol Bay ACEC (Batten and Parker 2004). Tidal mudflats that are not BLM lands but are adjacent to the Bristol Bay ACEC in Kvichak Bay and Nushagak Bay are recognized as a shorebird migration stopover site of regional importance under the Western Hemisphere Shorebird Reserve Network (WHSRN 2005). These migratory shorebirds may also use the shores of the many lakes in the region during migration.

BLM lands in the Bristol Bay ACEC are almost exclusively situated away from the major rivers draining the Bristol Bay region; however, the headwaters of many of the streams emptying into these rivers are located in the Bristol Bay ACEC, and are important to the terrestrial watersheds within the ACEC and elsewhere for fresh water, nutrient input, and habitat for a world-class red salmon fishery, and for spawning and rearing the wide variety of other fish species found here.

Residents of the region are dependent upon this area for commercial, subsistence, and sport fishing, and for subsistence and sport hunting. The Bristol Bay ACEC offers an area for guided sport hunting and fishing in a remote, pristine setting.

## **2. Wild and Scenic Rivers**

An assessment of comparative resource values for river segments within the planning area is ranked according to river eligibility. These rankings can be found in Appendix B. In order for a river to be eligible for designation as a component of the National Wild and Scenic River System, a river must be both free-flowing and possess one or more “outstandingly remarkable” characteristics described below. Rivers that

receive a value of 1 or 2 have an outstandingly remarkable value. Outstandingly Remarkable Value is defined as a unique, rare or exemplary feature that is significant at a comparative regional or national scale. The criteria used for ranking rivers, creeks, and tributaries are based on a numerical value of 1 to 5. The rating key used for the Wild and Scenic River Matrix is listed below:

1. Exemplary, one of the better examples of that type of resource at a national level.
2. Unique, a resource or combination of resources that is one of a kind at a regional level.
3. High quality at a regional and/or local level.
4. A common resource at the regional and/ or local level.
5. Unknown. A BLM resource specialists' team inventoried and assessed these water bodies, leading to a determination of the river's eligibility.

Below are the factors considered for each resource team specialist.

**Fisheries.** The Kvichak River, the largest sockeye salmon run in the world (Minard 1998), was the only river to receive a value of 1; however, the river is not in BLM jurisdiction. A value of 2 was assigned to rivers with existing high recreation and subsistence fishing for anadromous and resident fish species. A value of 3 was assigned to rivers with moderate recreation and subsistence fishing for anadromous and resident fish species. Rivers and creeks with no subsistence or recreational fishing were assigned a value of 4. The majority of the subsistence and recreational fishing activity occurs within the rivers that received a value of 2 or 3.

**Recreation.** The ratings provided were based on recreational and scenic qualities within the rivers, creeks, and tributaries. Rivers that are free-flowing with unique recreational features and accessible to large numbers were ranked with a value of 2. For example, the Kvichak River is a unique watershed with trophy rainbow trout fisheries. Scenic values are unique because of the river basin is widely used and all five salmon species appear here. Those rivers rated with a value of 3 received the ranking because of high populations of fish and usage.

**Wildlife/Subsistence.** Both Subsistence and Wildlife were grouped together for the purpose of this evaluation. Rivers and creeks ranked with a value of 1 represent anadromous fish runs, known bear or moose or caribou harvest, and include the main stem portion of the watershed, for example, the Alagnak River. A value of 2 was assessed where salmon runs and bear numbers were less than those in areas ranked with the number 1 and/or the extent of habitat were less than those areas ranked as 1. A value of 3 shows high quality habitat; but not unique in the region which only accounts for a small portion of the watershed within high elevations. All other rivers and creeks rated at a 4 since they are common on a local or regional basis, no salmon runs occur and there is no association with a higher order watershed.

**Cultural/Historic.** The ranking system used for these rivers, creeks, and tributaries was based on a numerical value ranging from 1 to 5. The criteria for evaluation of cultural resources on proposed wild & scenic rivers within the Bay RMP are listed below.

A value of 1 recognizes an observable settlement pattern of cultural sites (either eligible for listing on National Register of Historic Places individually or as a group), and/or sites exhibiting evidence of two or more cultures using the area, and/or an area of religious or cultural significance for local population (TCP eligible). A rating of 2 recognizes that there is at least one site eligible for listing and a high potential for more.

Rivers and Creeks that rank as 3 suggest that no cultural resources are known for this segment, but there is high potential for cultural resource presence. Indicators of high potential for cultural resource presence include: well drained areas adjacent to salmon streams/rivers, inlets/outlets to lakes that do not freeze to bottom in the winter; overlooks where game herds would funnel through a natural constriction such as a valley. A value of 4 suggests that no cultural resources are known within such segments, but there is medium potential for them. A value of 5 indicates that no cultural resources are known within such segments, and there is low potential for them. Indicators of low potential for cultural resource presence include: poorly drained areas, areas not adjacent to trout or salmon streams, streams draining from lakes that freeze to the bottom in winter, and steep slopes of over 30 degrees.

## **E. Social and Economic**

### **1. Public Safety**

#### **a) Abandoned Mine Lands**

The BLM Abandoned Mine Lands (AML) Program is administered to meet Federal and State cleanup requirements. The AML Program addresses the mines as environmental and safety hazards on public lands (BLM 2004b). The AML program focuses on longer term clean up of mine related waste materials that may be considered hazardous to human health and the environment. If hazardous materials are present at abandoned mine sites they are most often considered non-time critical removal actions under the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) rather than emergency removal actions. Typical hazardous materials found at the sites include petroleum hydrocarbons from diesel powered equipment and building heating fuel, lead acid batteries associated with heavy equipment and vehicles, asbestos insulation and lead paints used in mine building construction, and mine tailing wastes. The AML program also focuses on physical safety dangers from open shafts, adits, and pits.

#### **b) Hazardous Materials Management**

Hazardous materials are a broad category of substances or chemicals that humans bring onto or produce on Federal lands. Hazardous materials are defined by multiple Federal regulations, but may be summarized as follows: hazardous materials are substances or materials capable of posing an unreasonable risk to health, safety, and property. Some regulations list specific chemicals as hazardous, and evaluate other materials based on their characteristics: toxic, ignitable, corrosive, or reactive.

Hazardous materials which may be present on public lands are there because they were used or produced by recreational or industrial processes, included with illegally dumped household or industrial solid waste, used and generated by clandestine drug lab operations, or result from off-site releases that migrate onto public land. Authorized industrial processes on public land may include mineral exploration and production of oil, gas, metallic ores, and gravel or rock material for construction purposes.

BLM's objective is to be in full compliance with all Federal and State laws, regulations, and policies related to hazardous materials (Appendix A). The Hazardous Materials Management Program goals include:

- Protection of public health and safety from hazardous materials on public lands, including public land users, visitors, neighbors, employees and other publics.
- Compliance with applicable hazardous materials management and other laws and regulations at the Federal and State levels.
- Minimization of future hazardous material related liabilities and costs.
- Protection of natural resource(s) and the environment from hazardous materials.
- Coordination and mutual support with other Bureau programs that have hazardous materials roles, activities, or implications on public lands.

BLM manages hazardous materials in the planning area in a manner that is consistent with Federal, State, and local governmental requirements and constraints. The BLM Alaska Environmental Protection Program is responsible for identifying and protecting public lands and the users of those lands from the effects of hazardous materials and waste. The Environmental Protection Program is responsible for the:

- Inventory of public land for hazardous materials.
- Investigation and reporting of hazardous waste/materials sites.



- Assurance that conveyed lands to and by the Federal government do not contain known hazardous materials/wastes.
- Completion of cleanup of contaminated Federal sites.
- Support of legal actions to recover cleanup costs on hazardous waste sites.
- Point of contact for the emergency response plan (BLM 2005c).

## **(1) Affected Environment**

Current management concerns related to hazardous materials on BLM lands in the planning area consist of one active hazardous materials site.

### **Red Top Mine and Mill Site (two geographically separate sites)**

The Red Top Mine and Mill Site are located approximately two miles east-southeast of Aleknagik. The site consisted of a mercury lode mine on Marsh Mountain, and a mill site on the east bank of the Wood River. Cinnabar was first discovered on Marsh Mountain in 1941. Exploration and minor development continued until 1952. According to available information, from 1952 until about 1955 sixty flasks (1 flask equals 2.5 quarts or 76 pounds) of mercury was produced from ore extracted from Marsh Mountain. Cinnabar ore was transported from the mine to the mill facility built on the banks of the Wood River where the mercury was retorted (heated to a high temperature, separating and collecting the liquid). Mining ended by 1959, leaving an ore stockpile at the mill estimated to contain another 60 flasks of mercury. In the 1960s the stockpiled ore was high-graded and shipped to a retort facility in Anchorage. In 1985 BLM issued abandoned and void decisions for the Red Top Mine and Mill Site claims AA-012608. All of the Site lands, with the exception of the Mill Site, were Interim Conveyed to Aleknagik Natives, Ltd. in 1980. The legal description for the parcel that remains under BLM management is: Lots 1 and 2, USS 12403, Section 32, Township 10 South, Range 55 West, Seward Meridian. Lot 1 is 2.57 acres and Lot 2 is 2.39 acres.

BLM became aware of hazardous materials issues at the Site in 1992 and initiated cleanup. In coordination with the Alaska Department of Environmental Conservation site characterization, interim removal activities, and site remediation began in 1994. Work progressed in stages with some periods of inactivity. EPA placed the site on the Federal Agency Hazardous Waste Compliance Docket on June 27, 1997. In 1998 work was completed on a CERCLA based Emergency Removal Action at the retort site. The remaining stockpiled cinnabar and mercury contaminated soils were removed from the site along with a number of drums of Bunker C oil and oil impacted soils. BLM completed the CERCLA required Preliminary Assessment for the site on December 31, 1998. The materials were loaded on a barge, taken to Dillingham and shipped to approved disposal facilities. EPA notified BLM on September 10, 1999 that after evaluating the Remedial Action reports, the Hazard Ranking System score applied was not high enough for the site to be listed on the National Priorities List. The Docket now reflects a No Further Remedial Action Planned status for the site. The Site remains listed as an active cleanup site in the ADEC contaminated sites database. BLM is in the process of seeking closure from ADEC.

BLM land management activities regarding hazardous sites in the planning area are implemented by the BLM's Anchorage Field Office (AFO) (BLM 2005c). The AFO is also responsible for administering the Hazmat Program for the planning area. Typical hazardous materials and waste issues on BLM properties are found around abandoned mines, logging operations, abandoned military sites, illegal dumps, or due to accidental spills of hazardous materials. Hazardous materials may threaten the health and safety of public lands and its users directly or indirectly through the contamination of soil, surface water, or ground water. A summary of potential hazardous materials sources within the planning area is provided in Table 3.26. Abandoned mine operations and former military sites are the most common sites on BLM lands where hazardous materials impacts have been identified. Former mine claimants and military operations have left hazardous materials in the form of drums of chemicals, fuels, oils, solvents; as well as batteries, asbestos, heavy metal contaminated mine tailings, and fuel contaminated soils. Typically, the U.S. Army Corps of Engineers or other Department of Defense agencies provide funding, management, and cleanup operations of Formerly Used Defense Sites and other Department of Defense sites involving hazardous

materials and are not specifically listed in this document. However, BLM typically manages cleanups of abandoned mines and illegal dumping activities on non-DOD property where there have been hazardous material impacts.

**Table 3.26. Activities and Associated Hazardous Materials**

Potential Hazards	Examples
Hazardous materials associated with historic and active mine operations	Heavy metals leaching from tailings impoundments, chemicals associated with processing ore or used in laboratories (i.e. cyanide and/or xanthates); explosives such as dynamite, ammonium nitrate, caps, and boosters; heavy metals from mine tailings; asbestos; batteries, and petroleum hydrocarbons from mine operations (e.g., fuel, oil, and solvents); and PCBs from power generation/distribution systems.
Hazardous materials associated with historic and active logging operations	Asbestos; batteries; and petroleum hydrocarbons from logging operations (e.g., fuel, oil, and solvents)
Military operations	Unexploded ordinances; petroleum hydrocarbons from military operations (e.g., jet fuel, diesel fuel, gasoline, solvents); PCBs; asbestos; lead based paint; heavy metals; and batteries
Illegal dumping	Unauthorized drum dumping of waste fuels, oils, and PCBs; solid waste dumping; dumping of lead acid batteries; dumping of miscellaneous other chemicals; and lead-based paint or asbestos containing building materials.
Illegal activities	Drug labs, debris burn sites; illegal firearm activity (lead and heavy metal impacts)
Spillage of hazardous materials	Materials spilled from overturned trucks, cars, or train cars; spillage from pipelines
Oil and Gas activities	Hydrogen sulfide gas, oil spills; petroleum hydrocarbons from drilling wastes and operations; heavy metals and fuel contamination from drilling wastes (e.g., chromium, barium, diesel based drill muds); and seismic survey related blasting agents
Facilities on public land either Federal or private (under a right-of-way)	Leaky underground storage tanks, asbestos; PCBs; batteries; petroleum hydrocarbons

Source: (BLM 2004b; BLM 2004c)

**Illegal Dumping.** Illegal dumping of hazardous materials is a management concern on BLM property. BLM's policy is to identify potentially responsible parties (PRPs) who are liable for hazardous materials releases affecting BLM lands or resources. After a PRP is identified, BLM will ensure that the PRP cleans up the hazardous material, or reimburses BLM for costs incurred in cleaning up a hazardous substance release.

**Oil Spills.** Spills of oil are a management concern on BLM property. BLM's policy is to require all users of BLM lands to fully comply with State and Federal regulations concerning prevention of and response to releases of oil. BLM includes the requirement to comply with Spill Prevention, Control, and Countermeasures prescribed by Federal and State regulations in all Land Use Permits (Appendix A). When a release of oil, usually a diesel or gasoline range fuel, is identified, BLM policy is to identify PRPs who are liable for the release. After a PRP is identified, BLM will ensure that the PRP cleans up the oil release or reimburses BLM for costs incurred in cleaning up the release.

**ADEC and EPA Listed Sites.** There are no U.S. Environmental Protection Agency (EPA)-permitted hazardous waste treatment/Storage/Disposal facilities on or adjacent to public lands within the planning area. Non-hazardous solid waste disposal facilities (NHSW Landfills) are regulated by EPA and administered by ADEC under 18 AAC 60. BLM generally does not permit landfills on public land; however, properly permitted NHSW landfills are occasionally established/operated at Federal mine claims or other industrial sites. Closed landfills of various sizes exist on or near public lands within the planning area. Some of these landfills are included in the ADEC's records, some are yet undiscovered/unrecorded. Hazardous materials are likely to have been placed in some landfills that operated prior to establishment of modern disposal standards. If present these hazardous materials can

possibly leach into groundwater. Other potentially regulated sources of hazardous materials within the planning area include the use of aboveground storage tanks (ASTs) and underground storage tanks (USTs). With the exception of specifically excluded UST uses (e.g., home heating oil), UST operations are regulated by the USEPA and administered by the ADEC under 18 AAC 78. A listing of permitted USTs in Alaska can be obtained at the following web site:

[http://www.state.ak.us/dec/spar/csp/db\\_search.htm](http://www.state.ak.us/dec/spar/csp/db_search.htm) Based on that database, no BLM-owned regulated USTs are located in the Bay RMP planning area; however, there may be USTs on BLM lands that are owned by other entities (e.g., DOD, other Federal agencies).

EPA and the ADEC have identified contaminated sites within the Bay RMP planning area. ADEC contaminated sites program is administered under the regulatory authority of 18 AAC 75. This program identified sites that are known to have current contamination or that have been cleaned up during administration of the program. Due to the large area included in the planning area, sites may be included in both the ADEC and EPA databases. Additionally, other regulatory programs may have sites that are not included in the ADEC and EPA databases such as those reported to the US Coast Guard or other Federal agencies.

## **2. Social and Economic Conditions**

This section summarizes demographic and economic trend information, and describes key industries in the planning area that could be affected by BLM management actions. Local industries most likely affected by BLM land management policies and programs are: fisheries, travel, tourism and recreation, and mineral exploration and mining.

### **a) Regional Overview**

The Bay planning area includes the Lake and Peninsula Borough, the Bristol Bay Borough, the Dillingham census Area, and the villages of Goodnews Bay, Platinum, and Quinhagak within the eastern Bethel Census Area. There are 24 villages or towns in the planning area. Dillingham and King Salmon are "gateway communities," as the trade and transportation centers of the region. Naknek and Iliamna are also gateway communities, given their importance to commercial and recreation activities in the region. The total population within the planning area is 7,917 (2000 Census).

Dillingham, Iliamna, and King Salmon have commercial airline service connecting cities outside the region. Air service provides the only year round access to most villages in the planning area. Although there are roads connecting communities on the north side of the Naknek River, in the Iliamna area, and in the Dillingham area, no road leaves the planning area and there are no roads connecting the communities, although waterways are important travel routes and links between communities in this region during months of ice free water. Cross country snowmachine travel is relied upon for nearly six months of the year.

The planning area can be characterized as a mixed subsistence-market economy. Villages such as Twin Hills and Kokhanok fit this description closely, while Dillingham and King Salmon are closer to a Western economic model. Subsistence is of universal significance in the planning area and Bristol Bay communities are natural resource dependent.

Many of the villages and towns are incorporated and collect sales tax ranging from 2% in Togiak to 6% in Dillingham. Several towns and villages collect other taxes, including raw fish taxes, liquor taxes, bed taxes, and gaming taxes. Property tax is assessed in Dillingham. Bristol Bay Native Corporation, and Calista Corporation are regional corporations formed under ANCSA. Native village corporations within the planning area are also corporations formed under ANCSA. There are 25 villages with Tribal status. The village of Ekuk is not included in economic analysis because census data is unavailable.

The Bristol Bay region has long been reliant on commercial salmon fishing as its main industry. The Alaska Department of Labor and Workforce Development reported 1,881 workers in the seafood processing industry of which 1,569 were nonresidents for Bristol Bay in 2003 (Hadland et al. 2005). Both the value and volume of fish harvest in the planning area have declined in the last 20 years. The majority of Alaska's fish harvest now occurs beyond state waters in the Federally-controlled Extended Economic Zone (ADOL 2004).

Recent change agents in the planning area include the passage of ANCSA, and the passage of ANILCA. ANILCA facilitated the creation of five conservation units in the area. These include: Alaska Maritime National Wildlife Refuge, Becharof National Wildlife Refuge, Katmai National Park and Preserve, Lake Clark National Park and Preserve, and Togiak National Wildlife Refuge. These events directly resulted in employment and income in the planning area. With growth of major population centers (Southcentral Alaska and Fairbanks), visitation, and use of area resources has dramatically increased in the last 20-30 years. Population in the area has grown over the last three decades, although migration from the area has also increased. Also, renewed interest in exploration for oil and gas, and minerals is occurring. The Pebble Prospect is within the planning area, although not located on BLM-managed land.

Increasing incomes and desire for basic amenities often not available in Bush villages inspire out-migration. Consider for example, in the Dillingham Census Area almost 20% percent of housing lacked complete plumbing and 14% lacked complete kitchen facilities.

Energy is very expensive in the region. Market basket surveys conducted by the University of Alaska Fairbanks Cooperative Extension Service in December, 2004 reported Dillingham area electricity 76% more expensive than Anchorage, and 156% higher than the U.S. average; heating oil 17% less expensive than Anchorage; unleaded gasoline 82% higher than Anchorage; and propane 91% higher than Anchorage. Census 2000 reported that almost 22% of workers in the Dillingham Census Area walked to work and 17% used "other means," referring to personal modes of transportation other than motor vehicles and public transportation. Diesel generated electricity provides the main source of power throughout the region. Food costs are much higher in the planning area than urban centers in Alaska. The market basket for a family of four in Dillingham cost 1.76 times of the price of the same basket of goods in Anchorage and 1.9 times the price in Fairbanks in March, 2005.

Data used in this analysis are largely from the Alaska Department of Labor and Workforce Development, the Alaska Department of Commerce, Community, and Economic Development, the U.S. Census Bureau, and from the Sonoran Institute's Economic Profile System.

## **b) Community Profiles**

Community profiles for all villages, towns, and cities in the state, in both summary and detailed report forms, are available at the Alaska Department of Commerce and Community Development, Community Database or online at [http://www.commerce.state.ak.us/dca/commdb/CF\\_BLOCK.htm](http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm). Detailed information on planning area communities can be found at this site.

## **c) Demographics**

Dillingham (2,466), has the highest population in the planning area, followed by Togiak (809), Naknek (678), Quinhagak (555), and New Stuyahok (471). The remaining 19 villages within the planning area range in population from 36 (Portage Creek) to 399 (Manokotak). The planning area encompasses two boroughs, the Dillingham Census Area, and three towns in the Bethel Census Area. The population is approximately 70% Alaska Native, primarily indigenous Alutiiq, Athabascan, and Central Yup'ik people. In comparison, Alaska Natives comprised 16% of the state's population, which is a larger percentage of Native Americans than in any other state. The balance of the racial distribution in the area and the state is primarily white, comprising as much as 70% of the state population. Although the Alaska Native population has doubled in the last 30 years, the population growth in these regional communities slowed

in the 1990s. Tables 3.28 and 3.29 are a compilation of historic and modern population figures for communities and boroughs in the planning area.

Alaska Natives are migrating to urban population centers including the Matanuska-Susitna Borough, and Anchorage. The growth rate of the Native population for these two areas is 68.3% and 30% respectively. The growth rate of Native population in Fairbanks North star Borough is relatively low at 7.2% for the decade, which is half the growth rate for the state (See Table 3.27, Growth of Alaska Native Population).

Overall, the population growth in the three boroughs/census areas touching the planning area is very similar to the population growth rate for the State of Alaska, while it is far below the population growth rate of southcentral Alaska. The median age ranges from 29 in the Dillingham Census Area and Lake and Peninsula Borough to 36 years in the Bristol Bay Borough. The State median age was just over 32 years (2000).

Out migration is evident with 3.4 persons per year per 1,000 individuals within the population leaving the Dillingham census Area, and 14.8 persons per year per 1,000 individuals within the population left both Bristol Bay and Lake and Peninsula Boroughs between 1990 and 2003. This is similar to Fairbanks North Star Borough (-11.5/1000/year), and similar to most of rural Alaska. Net positive migration was reported in Juneau, Anchorage, the Kenai Peninsula, and the Matanuska-Susitna Borough (highest at 25.5/1,000/year) during the same reporting period (Alaska Department of Commerce, 2005).

#### d) Employment and Income

Table 3.33 provides information about local employment. Commercial salmon and herring fishing has long been the predominant economic activity in Bristol Bay and in Southwest Alaska. As elsewhere in rural Alaska, public employment is very important to the economy of the planning area. The largest employers in the region are the Bristol Bay Area Health Corporation, Bristol Bay Native Association, Wards Cove Packing Association, and Borough government and school districts.

**Table 3.27. Growth of Alaska Native Population**

Area/Year	1990	2000	Percent Growth
Alaska	85,698	98,043	14.4%
Anchorage	14,569	18,941	30%
Fairbanks	5,330	5,714	7.2%
Mat-Su	1,939	3,264	68.3%
Dillingham Census Area	2,925	3,452	18%
Bristol Bay Borough	455	550	20.9%
Lake and Peninsula Borough	1,261	1,340	6.2%

Source: U.S. Census Bureau, Census 1990, 2000

**Table 3.28. Population per Community, Historic U.S. Census Data**

Community	Year				
	1960	1970	1980	1990	2000
Aleknagik	231	128	154	185	221
Clark's Point	138	95	79	60	75
Dillingham	424	914	1,563	2,017	2,466
Ekwok	106	103	77	77	130
Goodnews Bay	154	0	168	241	230
Igiugig	36	36	33	33	53
Iliamna	47	58	94	94	102



<b>Community</b>	<b>1960</b>	<b>1970</b>	<b>1980</b>	<b>1990</b>	<b>2000</b>
King Salmon	227	202	545	696	442
Kokhanok	57	88	83	152	174
Koliganek	100	142	117	181	182
Levelock	88	74	79	105	122
Manokotak	149	214	294	385	399
Naknek	249	178	318	575	678
New Stuyahok	145	216	331	391	471
Newhalen	63	88	87	160	160
Nondalton	205	184	173	178	221
Pedro Bay	53	65	33	42	50
Platinum	43	55	55	64	41
Port Alsworth	0	0	22	55	104
Portage Creek	0	60	48	5	36
Quinhagak	228	340	412	501	555
South Naknek	142	154	145	136	137
Togiak	220	383	470	613	809
Twin Hills	0	67	70	66	59

Source: U.S. Census Bureau, Census 2000

**Table 3.29. Population of Selected Boroughs, Census Areas**

<b>Regional Entity</b>	<b>Year</b>				
	<b>1960</b>	<b>1970</b>	<b>1980</b>	<b>1990</b>	<b>2000</b>
Fairbanks North Star Borough	43,412	45,864	53,983	77,720	82,840
Anchorage Municipality/Borough	82,833	126,385	174,431	226,338	260,283
Dillingham Census Area	1,213	2,322	3,203	4,012	4,922
Bristol Bay Borough	618	1,147	1,094	1,410	1,258
Lake and Peninsula Borough			1,384	1,668	1,823

Source: ADOL 2005b

Both seafood harvesting and processing are seasonal industries in Bristol Bay. Salmon and herring fishing comprise most of the harvest activity which occurs between May and September. In 2003, 21% of private sector workers in Alaska were nonresidents of the state. (ADOL 2005b) Seafood processing employs the highest number of nonresident workers (63.4%) in this state. In 2002, there were 2,820 fish harvesting jobs in Southwest Alaska. This was 21% of all private sector employment. Adding seafood processing workers (3,900) makes the fishing industry in Southwest Alaska the largest sector of employment (49% of private jobs). The State reports fish harvesting jobs using a regional approach, estimating employment since the number of workers does not correspond to wage and salary employees who are qualified for workers compensation. Although Southwest Alaska includes areas outside the planning area, it is a reasonable measure of the Bristol Bay region.

**Table 3.30. Workers and Wages in the Seafood Processing Industry**

<b>Locale</b>	<b>Total Workers</b>	<b>Total Wages (millions)</b>	<b>Nonresident Workers</b>	<b>Nonresident Percent</b>	<b>Nonresident Wage (millions)</b>	<b>Nonresident Percent</b>
Bristol Bay Borough	1,316	\$9.2	1,071	81.4%	\$7.1	76.8
Dillingham	228	\$2.0	180	78.9%	\$1.6	81.0
Lake and Peninsula Borough	337	\$2.9	318	94.4%	\$2.7	91.8
Plan area Total	1881	\$14.1	1,569	83.4	\$11.4	80.9
Alaska	19,480	\$247.4	13,858	71.1%	\$156.8	63.4

Source: ADOL 2005b

**Table 3.31. Commercial Fishing Permits Held by Residents**

Community	Permits
Aleknagik	33
Clark's Point	16
Dillingham	277
Ekwok	6
Goodnews Bay	41
Igiugig	5
Iliamna	17
King Salmon	36
Kokhanok	8
Koliganek	18
Levelock	15
Manokotak	96
Naknek	115
New Stuyahok	43
Newhalen	7
Nondalton	14
Pedro Bay	3
Platinum	9
Port Alsworth	4
Portage Creek	Not reported
Quinhagak	83
South Naknek	43
Togiak	244
Twin Hills	15
<b>Total</b>	<b>1148</b>

Source: Alaska Department of Commerce, Community & Economic Development, Alaska Economic Information System 2004

Government employment includes State of Alaska, borough, city, and Federal agency jobs in the planning area. The Alaska Department of labor reported that government employment ranged from 33% of the workforce in Bristol Bay Borough (398 of 1,203), 39% in the Dillingham Census Area (904 of 2,332), to 50% in the Lake and Peninsula Borough (320 of 636) during 2003.

**Table 3.32. Employment by Sector (Percentage of Total Employment)**

Employment by Sector	Dillingham Census Area	Bristol Bay Borough Area	Lake and Peninsula Borough	Alaska
Agriculture, forestry, fishing, hunting, mining	3.9	0.9	1.4	4.9
Construction	4.2	11.4	4.8	7.3
Manufacturing	1.9	1.5	1.2	3.3
Wholesale trade	0.6	0.3	0.5	2.6
Retail trade	10.0	7.7	5.7	11.6
Transportation, warehousing and utilities	9.9	17.4	10.2	8.9
Information	1.1	6.4	0.9	2.7
Finance, insurance, real estate, rental and leasing	2.7	2.4	1.0	4.6
Professional scientific, management, administrative and waste management	1.8	4.1	2.4	7.6
Education, health and social services	37.9	23.6	33.9	21.7
Arts, entertainment, recreation, accommodation and food services	2.9	7.2	6.2	8.6
Other services	9.4	2.2	7.2	5.6
Public administration	13.7	14.7	24.6	10.7

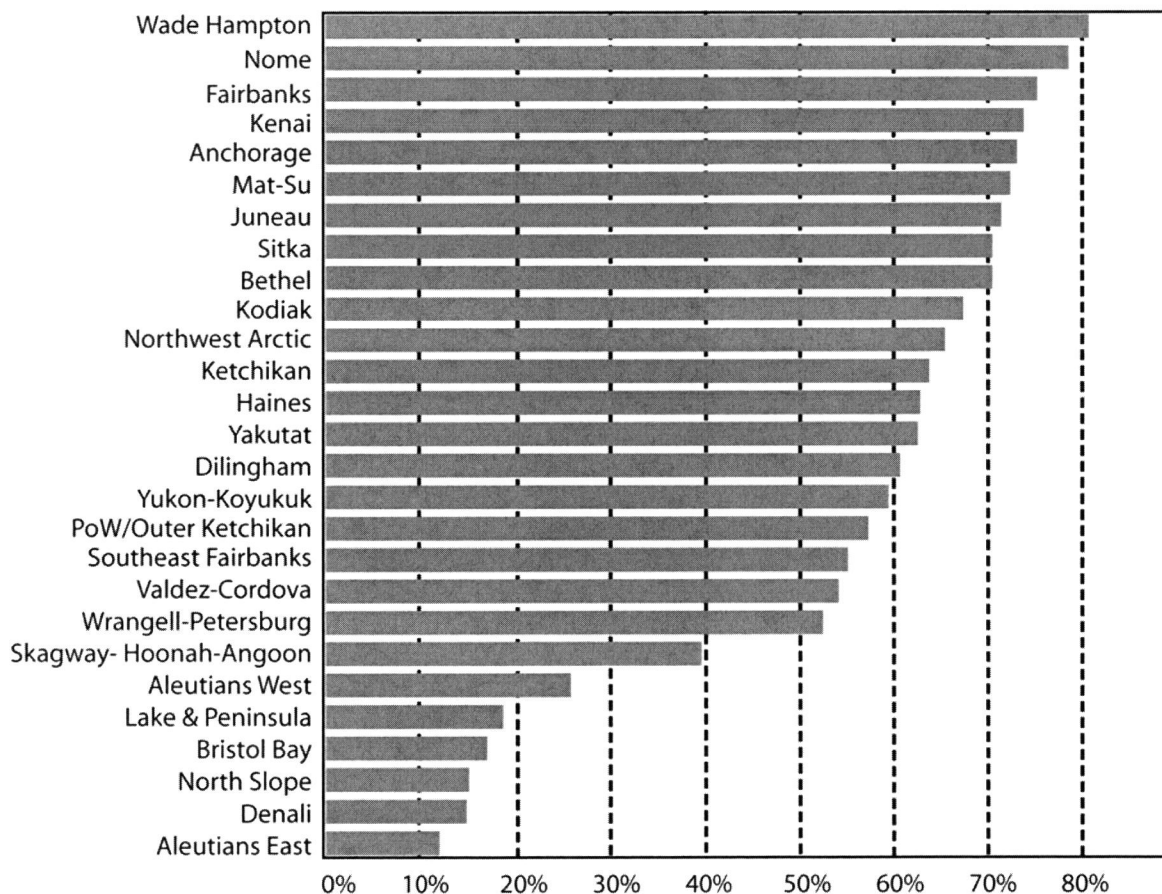
Source: U.S. Census Bureau, Census 2000.

State of Alaska statewide data indicate that mining, oil and gas, and oil and gas service industries employed 24% to 26% non-resident workers in 2003. North Slope Alaska industry employs less than 15% within region labor. These industries, which may be expanding presence in southwest Alaska, are likely to provide jobs to Alaskans; however, they will be primarily out of region residents. Teck Cominco Alaska has worked with NANA Regional Corporation to employ NANA shareholders at Red Dog Mine in northwest Alaska. However, most of the NANA shareholders employed at the mine are out of region residents.

Teck Cominco Alaska provided 412 direct jobs to employees and contractors in 2003. This is slightly over 14% of wage and salary employment, and 22% of non-government employment in the Borough. Over 50% of mine workers are NANA shareholders. Those directly employed by Teck Cominco Alaska receive free transportation to the job site from their residence within the state. As a result only about 140 employed NANA shareholders live in the planning area. The mine operation also resulted in the Borough's largest source of revenue through payments in Lieu of taxes of \$5.9 million in 2003 (ADOL 2004).

Even visitor related industry provides a significant number of jobs to non-resident Alaskans. ANCSA Corporations and subsidiaries provide jobs in some locations within the planning area. The regional corporation is headquartered in Anchorage.

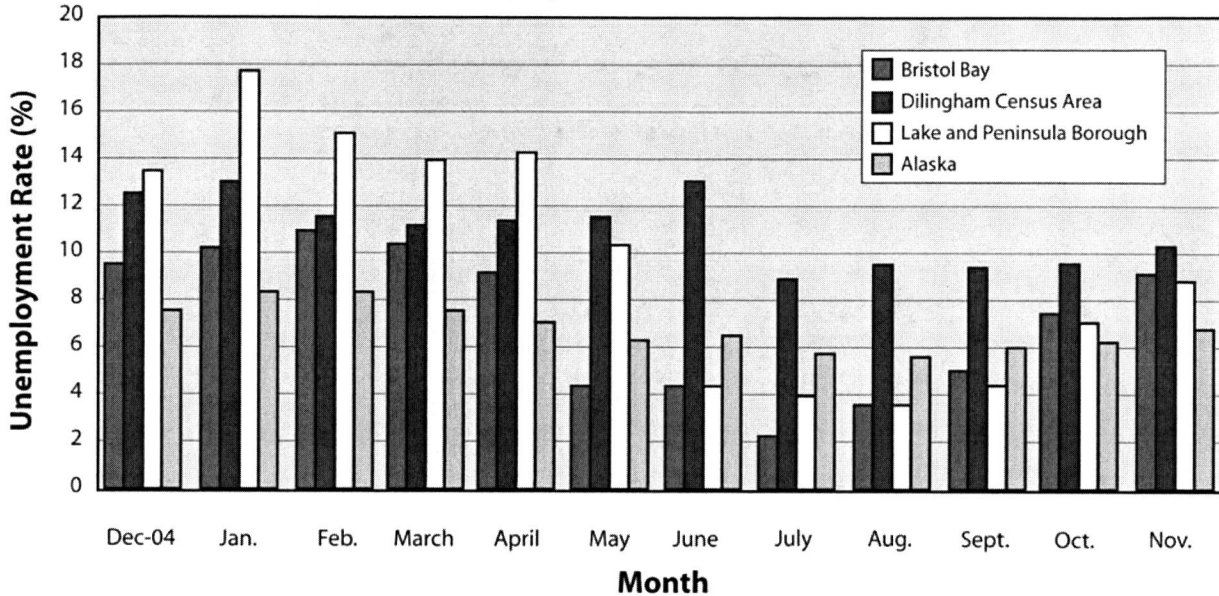
**Table 3.33. Percent of Private Sector Workers Who Are Local Residents**



Source: Alaska Department of Labor and Workforce Development, Research and Analysis  
 Jeff Hadland, et.al., Nonresidents Working in Alaska-2003, Alaska Department of Labor and  
 Workforce Development, January 2004.

Unemployment in the planning area fluctuates widely compared with urban centers in Alaska and the state average. According to State of Alaska data, average unemployment during 2004 ranged from 6.6% in Bristol Bay, 10.2% in the Lake and Peninsula Borough, and 11.2% in Dillingham Census Area. At the same time the state average was 7.5% (ADOL 2005a).

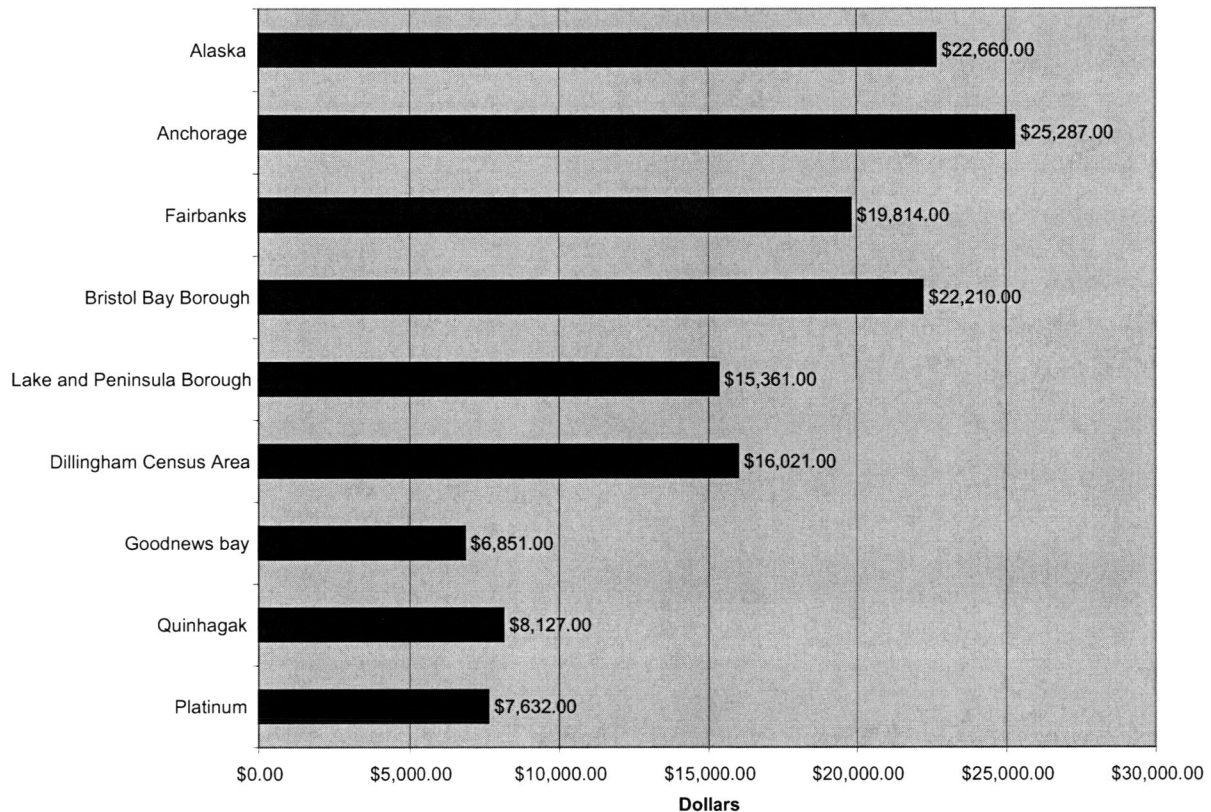
**Table 3.34. Comparative Unemployment Rates December 2004-November 2005**



This measure reports the number of individuals in a census area that are not seeking employment. Labor force participation rates are low as is typical in bush Alaska (Table 3.34). Census data shows that Kokhanok has the lowest participation rate in the planning area, where about 64% of the population was not in the labor force in 2000. Eleven villages in the planning area have labor force participation rates in excess of 50%. This underscores the relative scarcity of jobs, and emphasizes the role and importance of subsistence activities or the phenomena could be attributable to the dynamics of acculturation and cross culturalization.

The educational attainment curve lags in bush villages. Over 88% of the residents in the State have completed high school, 60% of the residents in Alaska have some college education; and almost 25% have college degrees. In the planning area, 59% of the residents completed high school, and 11% hold bachelor's degrees or advanced degrees. The difference may be attributable to skewing as a result of out-migration by individuals with higher education; perhaps, a consequence of the dynamics of acculturation and cross culturalization between Western culture and the culture of an indigenous people.

Per capita income in the planning area ranges from almost equal to the Alaska average in Bristol Bay Borough to under \$8,000 per year in smaller villages (Table 3.35 and Table 3.36). Only in the regional centers does per capita income begin to track with the high cost of living.

**Table 3.35. Comparison of Per Capita Income (2000)**

The number of individuals considered at or below poverty level in the planning area is much higher than the average for the state of Alaska. In the Bristol Bay Borough 9.5% Individuals were below poverty level in 2000. In the Dillingham Census Area 21.4% Individuals were below poverty level in 2000. In the Lake and Peninsula Borough, 18.9% of the population was below poverty level in 2000. In comparison, 9.4% of individuals in Alaska were below the poverty level in 2000.

## e) Environmental Justice

The United States Department of the Interior and the Bureau of Land Management are under a legislative mandate to "...cause the least adverse impact possible on rural residents who depend upon subsistence uses of the resources..." of the federal public lands in Alaska, 18 U.S.C. §3112 (1), and an Executive Order to "...identify... the need for ensuring protection of populations with differential patterns of subsistence consumption of fish and wildlife....", E.O. 12898, dated February 11, 1994.

A Presidential Memorandum accompanying Executive Order 12898 requires Federal agencies to "...analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low-income communities, when such analysis is required by the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. section 4321 et seq."

Alaska Natives, Yup'ik, Alutiiq, and Dena'ina Athabaskan, are the predominant minority population of the planning area. Demographic characteristics for communities within the planning area are presented in Table 3.36. Data shows that all but four villages and towns have very high minority populations, in excess of 50%. These same locales have high percentages of individuals and households with incomes



below poverty level, although there is wide variability between villages. The work force participation percentage for all communities in this area is consistently lower than the participation rate for the state as a whole. Unemployment rates are high in Bristol Bay. Despite the positive income effect of commercial fishing in the region, poverty rates remain high in most Bristol Bay communities. The Western concept of poverty maybe an inappropriate label when one factors in considerations of and an appreciation for the significance of a subsistence lifestyle, a lifestyle engaged in throughout the planning area.

President Clinton's cover memo to Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, emphasizes public participation in the NEPA process. Executive Order 13175, "Consultation and Coordination with Indian Tribal Governments," requires the BLM to consult with tribal governments in the planning area on Federal matters that significantly or uniquely affect their communities. The EPA's Environmental Justice guidance of July 1999 stresses the importance of government-to-government consultation. In fostering tribal participation, the BLM held scoping meetings in seven villages in the planning area.

Scoping meetings and alternative development meetings were held during development of the draft plan and draft EIS. Six scoping meetings were held from January through April 2005 at communities in the planning area, and in Homer and Anchorage. During this scoping process, BLM received feedback on potential Environmental Justice concerns of the local residents.

Major concerns expressed at these meetings included:

- The Native community wants continued access and opportunity for subsistence hunting, but is concerned about impacts to subsistence activities, mostly related to mining, and increased recreational or sport hunting and fishing activities.
- A more detailed discussion of public concerns is provided in the Bay Resource Management Plan Scoping Report (June, 2005).
- Subsistence activity is an important source of food and material which offsets high cost of living and high unemployment.

**Table 3.36. Environmental Justice Data from the 2000 Census**

State or City	Per Capita Income	Percent of Population as a Minority	Percent of Individuals Below Poverty Level Income	Percent of Households Below Poverty Level Income	Percent of Unemployed Population Over 16 Years of Age	Percent Population Over 16 Years of Age Not In The Labor Force
<b>Alaska</b>	\$22,660	19.0	9.4	6.7	6.1	28.7
Aleknagik	\$10,973	81.9	40.8	21.7	13.3	39
Clark's Point	\$10,988	90.7	45.7	20	5.1	53
Dillingham	\$21,537	52.6	11.7	9.2	7.1	27
Ekwok	\$11,079	91.5		29.2	11.1	44
Goodnews Bay	\$6,851	92.6	39.0	37.8	9.9	55
Igiugig	\$13,172	71.7	6.9	0	0	55
Iliamna	\$19,741	50.0	3.1	0	0	28
King Salmon	\$26,755	29.0	12.4	8.8	6.9	22
Kokhanok	\$7,732	86.8	42.6	40.0	4.1	64
Koliganek	\$13,242	87.4	19.3	14.9	9.2	30
Levelock	\$12,199	89.3	24.5	16.7	0	53
Manokotak	\$9,294	94.7	35.3	32.5	5.5	54
Naknek	\$21,182	45.3	3.7	3.1	6.7	29
New Stuyahok	\$7,931	92.8	31.7	32.6	9.2	46
Newhalen	\$9,448	85.0	16.3	26.7	17.9	43
Nondalton	\$8,411	89.1	45.4	37.3	18.7	50
Pedro Bay	\$18,420	40.0	6.0	0	0	21
Platinum	\$7,632	90.2	22.0	33.3	20.0	26.7
Port Alsworth	\$21,716	4.3	6.0	0	0	29
Portage Creek	\$8,010	86.1	0	0	0	50
Quinhagak	\$8,127	96.0	26.1	27.2	6.3	59
South Naknek	\$13,019	83.9	27.1	16.1	12.5	48
Togiak	\$9,676	86.3	29.9	32.5	11.9	55
Twin Hills	\$16,856	84.1	27.9	22.2	0	50

Source: Census 2000

There is some income outflow evident in the planning area. In Bristol Bay Borough, the outflow decreased from 45.6% in the 1980's to 28% in 2000 (EPS 2005). The Dillingham Census Area and the Lake and Peninsula Borough experience income outflow to a far lesser degree.

## f) Revenue

Local government revenue in the planning area is influenced by exemption of ANCSA village corporations and regional corporations from certain forms of property taxation.

Villages and boroughs are empowered to levy and collect tax revenues if they are incorporated political subdivisions. Several villages or towns in the planning area levy sales taxes and specific use or product taxes. The City of Dillingham and the Bristol Bay Borough collect property tax.

Table 3.37, 2004 Per Capita Tax Revenues in Dollars, lists collections by those villages and boroughs that levy taxes. The columns labeled "Other Tax" aggregate collections for items such as liquor, tobacco, bed use, and fish processing. The North Slope Borough collections and revenue are greatly enhanced by North Slope oil field property taxes. This greatly skews the per capita revenues compared with the rest of

the state. Anchorage, Fairbanks North Star Borough, Matanuska-Susitna Borough, and the city of Fairbanks are included in the table for comparison purposes.

**Table 3.37. 2004 Per Capita Tax Revenues in Dollars**

<b>Municipality<sup>1</sup></b>	<b>Property Tax (Inc. Oil &amp; Gas)</b>	<b>Sales Tax</b>	<b>Other Taxes</b>	<b>Total Taxes Reported</b>	<b>Population (2004)</b>	<b>Per Capita Revenue</b>
Lake and Peninsula Borough	0	0	\$731,799	\$731,799	1627	\$450
Bristol bay Borough	\$1,747,532	0	\$363,737	\$2,111,269	1,103	\$1,914
Anchorage	\$322,352,907	0	\$19,681,861	\$342,034,768	273,565	\$1,250
Fairbanks North Star Borough	\$71,382,439	0	\$1,375,192	\$72,757,631	82,131	\$886
Matanuska-Susitna Borough	\$55,571,134	0	\$716,992	\$56,288,126	67,526	\$834
Fairbanks, City <sup>2</sup>	\$8,685,154	0	\$3,748,522	\$12,433,676	29,002	\$429
Aleknagik	0	\$93,429	\$618	\$2,484,947	235	\$400
Dillingham	\$1,339,892	\$2,014,814	\$328,551	\$3,683,257	2,390	\$1,754
Quinhagak	0	\$77,506	0	\$77,506	578	\$134
Togiak	0	\$76,097	\$32,680	\$108,777	820	\$133
Manokotak	0	\$1,185	0	\$1,185	405	\$3
All other towns	0	0	0	0	0	0
Average statewide per capita revenue (excluding the North Slope Borough)						1,224
Average statewide per capita revenue (including North Slope Borough)						1,518

Source: ADCCED 2005c

<sup>1</sup> Only those municipalities that levy sales, severance, property, or other type of local tax are included in this table.

<sup>2</sup> Both the city of Fairbanks and the borough in which it is located levy taxes.

<sup>3</sup> Per capita revenue encompasses both city and borough taxes.

## **F. Subsistence**

### ***1. Definition of Subsistence***

The Federal Subsistence Board assures a subsistence priority among consumptive uses on Federal public lands under ANILCA Title VIII. This means that rural residents have priority for the use of fish and wildlife resources on Federal lands for wildlife and on Federal reserved waters for fisheries. There are no Federal reserved waters on BLM lands in the planning area that fall under the BLM subsistence management responsibility. State- and Native-selected lands are not within the jurisdiction of the Federal subsistence management program, except within Federal CSUs, such as national parks, preserves, and wildlife refuges. Title VIII of ANILCA defines subsistence uses as:

The customary and traditional uses by rural Alaska residents of wild, renewable resources for direct personal or family consumption as food, shelter, fuel, clothing, tools, or transportation; for the making and selling of handicraft articles out of inedible byproducts of fish and wildlife resources taken for personal or family consumption; for barter or sharing for personal or family consumption; and for customary trade (16 U.S.C. § 3113).

Under state law, subsistence use means:

The noncommercial, customary and traditional uses of wild, renewable resources by a resident domiciled in a rural area of the state for direct personal or family consumption, such as food, shelter, fuel, clothing, tools, or transportation; for the making and selling of handicraft articles out of nonedible by-products of the fish and wildlife resources taken for personal or family consumption; and for customary trade, barter, or sharing for personal or family consumption (AS 16.05.940[32]).

The state does recognize preferential allocation of resource harvest opportunities for rural or non-rural user groups where uses are allowed.

### ***2. The Federal Subsistence Program***

The Federal Subsistence Program, unique to Alaska, and without precedent in Federal law, implements ANILCA Title VIII through the Federal Subsistence Board (FSB), Secretary of Interior-appointed Subsistence Regional Advisory Councils (SRACs), and interagency staff specialists. The FSB consists of the Regional or State Directors of the U.S. Fish and Wildlife Service, BLM, U.S. Forest Service, National Park Service and Bureau of Indian Affairs. The FSB is chaired by a subsistence user representative appointed by the Secretary of the Interior. The FSB is tasked with management of subsistence resources relative to customary and traditional use determinations, animal population health and maintenance, bag limit determinations, seasons of harvest, methods and means of taking determinations, and regulatory and public processes.

The planning area lies within Regions 4 and 5 of the ten Federal Subsistence Program's regions in Alaska. Each region is represented by a Federal Subsistence Regional Advisory Council. These councils provide an opportunity for rural Alaskans to contribute in a meaningful way to management and use of subsistence wildlife, fish and shellfish resources.

The planning area encompasses, wholly or in part, Game Management Units 9(B), 9(C), 17(A), 17(B), 17(C) and 18 of the State's 25 Game Management Units, Management Areas 6 and 7 of the State's 14 Fishery Management Areas and the Bering Sea Management Area of the eight Alaska Shellfish Management Areas.

The program provides for customary and traditional uses by rural Alaska residents of wild, renewable resources for direct personal or family consumption as food, shelter, fuel, clothing, tools or transportation; for making and selling of handicraft articles out of non-edible byproducts of fish and wildlife resources taken. A person must be a qualified rural Alaska resident to harvest fish and wildlife under Federal Subsistence Regulations on Federal public land in and Federal reserved waters in Alaska. All communities within the planning area are rural, as it is defined in the current rural determination. While the majority of planning area inhabitants are Alaska Native and have established the patterns for subsistence use in Alaska, the Federal subsistence regulations apply to all rural residents who have a customary and traditional use of fish and wildlife in the area, irrespective of their race or ethnicity.

Subsistence resources are highly valued and are central to the economies, customs and traditions of many families and communities in Alaska. Customs and traditions include sharing and distribution networks, cooperative hunting, fishing, gathering, and ceremonial activities. Subsistence fishing, hunting, and gathering are important sources of nutrition and livelihood in all of the rural communities in the planning area. ADF&G (2000) estimated that approximately 43.7 million pounds of useable weight of wild foods are harvested annually by residents of rural areas of the state. That would be about 375 pounds per person per year for rural residents. ADF&G (2000) suggests that in Southwest Alaska 65% of rural households harvest game, 86% harvest fish, and 90–94% use fish and game. Because there may be little cash available for store-bought groceries, this region's residents participate in a mixed subsistence – cash economy. A 2005 survey comparing living expenses across Alaska indicates that groceries for a family of four for one week in Dillingham cost \$227, compared with \$122 for the same groceries in Anchorage (University of Alaska Fairbanks 2005).

A person must have his or her primary, permanent residence in a rural area to qualify to hunt and fish under Federal subsistence regulations. Seasonal residence in a rural area does not qualify a person as a rural resident. The FSB determines which communities have customarily and traditionally taken specific fish and wildlife populations in which areas. These customary and traditional use determinations are listed along with seasons and harvest limits for each management unit in the Federal regulations. The Federal program publishes separate hunting/trapping and fishing regulation booklets annually. If there is a positive customary and traditional use determination for specific communities or areas, only those communities and areas have a Federal subsistence priority for that specific species in that management unit. If no customary or traditional use determination for a wildlife/fish population in a management unit has been determined by the FSB, then all rural residents of Alaska may harvest fish or wildlife from that population. The FSB may determine that there is no customary and traditional use of a specific fish or wildlife population.

The planning area has within its borders over 6,400 people in 25 Federally-qualified subsistence communities ranging in population from less than 50 to over 2400 people and the additional rural residents not associated with a community. The following rural communities lie within the planning area.



**Table 3.38. Bay Planning Area Communities and their Locations With Relation to the Subsistence Game Management Units**

<b>Game Management Unit(s)</b>	<b>9(B)</b>	<b>9(C)</b>	<b>17(A)</b>	<b>17(B)</b>	<b>17(C)</b>	<b>18</b>	<b>Other</b>
Aleknagik					√		
Clarks Point					√		
Dillingham					√		
Ekuk					√		
Ekwok					√		
Goodnews Bay						√	
Igiugig	√						
Iliamna	√						
King Salmon		√					
Kokhanok	√						
Koliganek				√			
Levelock	√						
Manokotak					√		
Naknek		√					
Newhalen	√						
New Stuyahok					√		
Nondalton							
Pedro Bay							
Platinum						√	
Portage Creek					√		
Port Alsworth							√
Quinhagak						√	
South Naknek		√					
Togiak			√				
Twin Hills			√				

Depending upon subsistence determinations, other rural residents of Alaska residing outside the planning area are also qualified subsistence users on Federal Public land in the planning area

### ***3. Historic Subsistence Use Patterns, Social Organization and Sharing Patterns***

The following brief overviews of social organization and sharing patterns describe those encountered at the time of European contact. While these traditions may continue into the present day, a number of influences brought changes to traditional ways of life. Several epidemics (smallpox, influenza, tuberculosis and measles) decimated local populations and interrupted the transmission of culture. The introduction of European and Euroamerican economic, religious and political practices also brought changes.

Historically, these groups practiced a central based settlement pattern. This typically included an established winter village from which families or small groups would venture to seasonally based camps for fishing, hunting, trapping, and gathering activities such as gathering eggs, berries, basketry materials or pottery supplies.

### **a) Central Yup'ik**

Historically a winter village would contain at least one men's house (*quasig*) and individual houses inhabited primarily by women and younger children. This was an egalitarian society where leaders are chosen by ability, knowledge and articulate speaking. A winter ceremonial season enhanced visiting and hospitality between villages (Fienup-Riordan 1994; Oswalt 1990).

Sharing was highly valued in the society in the past, and continues to be important today. Men might distribute meat after a kill to hunting partners but when the meat was brought home, the women became responsible for sharing it with family and friends. The first kills by young hunters were often completely given away especially to Elders (Fienup-Riordan 1990).

### **b) Alutiiq**

Historically the Alutiit were a ranked society. Wealth and leadership were concentrated among high-ranking lineages and each village was run by a chief who inherited power from his family. The chiefs directed hunting and trading expeditions. Ordinary families made up a class of free, common people and a lower class of slaves was composed of orphans and people captured in raids or taken in trade from other groups. Within the group were also specialists such as whalers, shamans, weather forecasters, healers and midwives (Crowell and Leer 2001).

The cultural emphasis upon sharing was reflected in large ceremonials noted for their lavish hospitality and gift-giving. Like other groups of the region, a boy's first kill was given away.

### **c) Dena'ina Athabascan**

Historically the Dena'ina were a ranked society with a redistributive economic system. High ranking individuals or "rich men" took the role as leaders and functioned as a center for redistribution of goods. They were responsible for caring for their kin group and were responsible for widows, orphans, and the infirm. Their trading partnerships linked their group with other groups in the region (Ellanna and Balluta 1992).

In the Dena'ina area leaders selected for their generosity, willingness to help others, hunting ability, bravery and ability in warfare. An aspiring leader rose through the system by trading to acquire prestige symbols and gathering supporters (Ellanna and Balluta 1992; Townsend 1981).

Sharing of meat was typical between hunting partners. Potlatches were given for several reasons. Large potlatches were given to honor the deceased and smaller ones were given to honor marriages, and to help the poor. A small potlatch would be given by a father when his son killed his first big game (Osgood 1976; Townsend 1981).

## **4. Sociocultural, Socioeconomic and Cosmological Aspects of Subsistence Lifeways**

For Alaska Natives today, subsistence is more than the harvesting, processing, sharing, and trading of land and sea mammals, fish, and plants. Subsistence subsumes holistically the cultural, social, and spiritual values that are the essence of Alaska Native cultures. The Alaska Federation of Natives (2002) described subsistence as

The hunting, fishing, and gathering activities which traditionally constituted the economic base of life for Alaska's Native peoples and which continue to flourish in many areas of the state today...Subsistence is a way of life in rural Alaska that is vital to the preservation of communities,

tribal cultures, and economies. Subsistence resources have great nutritional, economical, cultural, and spiritual importance in the lives of rural Alaskans...Subsistence, being integral to our worldview and among the strongest remaining ties to our ancient cultures, is as much spiritual and cultural as it is physical.

There are several significant differences between traditional approaches to subsistence and the western notion of hunting. Traditional groups often adhere to recognition of an individual's or a family's customary ownership through long-term use of a hunting locality that may be passed on generation after generation. For example, Dena'ina hunting grounds are passed on from father to son. If anyone else kills game there the owner usually is paid a quarter of the meat from the hunt (Ellanna and Balluta 1992).

A common belief is that animal souls return after death to be born into new animals. The hunter's respectful treatment of animals is reflected in his future success and often the success of the entire group. If respect is not shown, an animal will not continue to give itself to people. Animals may abandon an area if not respectfully treated or they may hide themselves from hunters. Since hunting was a survival situation for groups, behavior was regulated and social sanctions were often enforced (Crowell and Leer 2001; Fienup-Riordan 1994).

Some behavior seen as ethical in western hunting and fishing practices, such as catch-and-release fishing, is seen as disrespectful in traditional Native society (Fienup-Riordan 1990). In the traditional view this type of behavior may threaten future fish runs.

## ***5. Historic and Contemporary Subsistence Use Patterns***

Archaeological evidence indicates that the Bristol Bay region has been continuously inhabited by humans for at least the past 8,000 years or more (Dumond 1981). Among the three linguistic groups present at European contact, all of them had subsistence economies and all participated in widespread formal trade which was well-established in the region and beyond prior to the arrival of the Europeans (Fitzhugh and Crowell 1988). However, the Russian trappers and traders who explored the region in the 18<sup>th</sup> and early 19<sup>th</sup> Centuries were the first to develop an export market economy of large scale (Wright et al. 1985; Fitzhugh and Crowell 1988). The Russians established trading posts and churches in parts of the region in the early 1800s. In 1867 the Russians sold Alaska to the United States and subsequently the fur trade declined (Wright et al. 1985). Commercial salmon fishing began in the late 1800s, and became the dominant industry (Wright et al. 1985).

Many of the communities in the Bay planning area remain predominantly Alaska Native (Table 3.39) and in many of these communities traditional patterns of subsistence hunting, fishing and gathering activities have been retained flexibly, accommodating a part-time cash economy that includes the commercial fishery, trapping for a commercial market as well as for personal use, hunting and fishing guiding activities, and other cash-generating activities (Wright et al. 1985; McClenahan 2004). Having a cash income has proven beneficial in that it provides for the purchase of modern equipment and gasoline that make subsistence activities more efficient and productive. However, it has also required some changes in the duration and timing of some subsistence activities to accommodate wage employment.

A detailed discussion of the subsistence use of salmon and freshwater fish, caribou, and moose was presented in the wildlife portion of Chapter III. In addition to these three leading subsistence resources, upland game, grizzly and black bears, furbearers and waterfowl are all important local subsistence resources but are of lesser importance in terms of biomass harvested for food and fiber than fish, caribou and moose (ADF&G 2005c).

**Table 3.39. Bay Planning Area Communities and their Alaska Native Population Composition (U.S. Census Bureau 2004)**

Community	Population	Percent Alaska Native
Aleknagik	221	85
Clarks Point	75	92
Dillingham	2466	56
Ekuk	2	0
Ekwok	130	94
Goodnews Bay	230	94
Igiugig	53	83
Iliamna	102	58
King Salmon	442	30
Kokhanok	174	91
Koliganek	187	87
Levelock	57	95
Manokotak	437	95
Naknek	601	47
Newhalen	183	91
New Stuyahok	477	96
Nondalton	205	90
Pedro Bay	47	64
Platinum	39	93
Portage Creek	49	86
Port Alsworth	113	22
Quinhagak	612	97
South Naknek	88	84
Togiak	805	93
Twin Hills	67	94

## 6. Resources Harvested

Residents of regional centers like Dillingham participate in a mixed subsistence and cash economy. Residents earn cash through commercial fishing and employment in government, service, and trades, but they also harvest substantial quantities of wild foods and share those foods with other households and other communities. Dillingham residents share in non-commercial distribution of fish and game with other communities. This balance of commercial and subsistence activities makes Dillingham, Naknek, and King Salmon distinctive among communities in Southwest Alaska. At the same time, Dillingham residents participate in the overall pattern of resource harvesting activities that are part of the economic system of the Bristol Bay region (Fall et al. 1986).

The cash economy of Dillingham, like the rest of the Bristol Bay region, is inextricably linked to the commercial salmon fishing industry, which is a seasonal industry. About 44% of the sampled households in 1984 were involved in commercial fishing, with a smaller percent employed in fish processing or in businesses that provide services to commercial fishermen (Fall et al. 1986).

### a) Harvest Estimates

Table 3.40 provides the rates of participation and harvest levels for those Bay area communities for which data are available, for one study year. These data are not current. The discussion by BLM block in the wildlife section of this chapter provides more recent harvest information including locations by Game Management Unit of harvest for caribou, moose, and brown bear in the planning area.

**Table 3.40. Bay Planning Area Communities' Subsistence Take for One Study Year  
(Alaska Department of Fish and Game Community Profile Database 2005)**

Community	Study Year	Study Year Population	All Resources	Salmon	Non-Salmon Fish	Large Land Mammals	Small Land Mammals	Marine Mammals	Birds and Eggs	Marine Invertebrates	Vegetation
Aleknagik	1989	143	54,079.00	13,556.00	8,749.00	21,619.00	1,669.00	2,171.00	2,007.00	450.00	3,859.00
Dillingham	1984	2041	494,486.00	288,651.00	35,649.00	117,878.00	16,612.00	6,067.00	10,807.00	2,488.00	16,328.00
Ekwok	1987	107	85,260.00	48,827.00	7,340.00	20,524.00	6,155.00	0.00	390.00	0.00	2,025.00
Goodnews Bay	*										
Igiugig	1983	47	43,028.00	30,961.00	5,439.00	3,447.00	884.00	183.00	485.00	0.00	1,628.00
Iliamna	1991	98	82,915.00	42,204.00	7,492.00	24,702.00	980.00	4,063.00	1,516.00	321.00	1,637.00
King Salmon	1983	369	81,261.00	37,854.00	5,873.00	36,429.00	1,104.00	0.00	0.00	0.00	
Kokhanok	1992	173	175,639.00	97,626.00	18,325.00	45,658.00	4,931.00	728.00	3,942.00	573.00	3,855.00
Koliganek	1987	186	154,705.00	67,520.00	17,743.00	54,699.00	8,550.00	0.00	2,148.00	240.00	3,878.00
Levelock	1992	111	97,677.00	51,710.00	7,279.00	27,742.00	2,466.00	5,548.00	1,311.00	71.00	1,551.00
Manokotak	1985	308	118,337.00	41,847.00	26,229.00	18,610.00	10,661.00	10,052.00	5,197.00	1,391.00	4,349.00
Naknek	1983	383	72,110.00	39,259.00	7,134.00	24,766.00	554.00	397.00	0.00	0.00	
New Stuyahok	1987	353	247,494.00	144,394.00	12,718.00	67,096.00	16,717.00	207.00	1,382.00	139.00	4,840.00
Newhalen	1991	158	117,716.00	66,192.00	5,925.00	32,229.00	3,863.00	1,310.00	3,276.00	513.00	4,409.00
Nondalton	1983	280	329,274.00	215,447.00	48,946.00	50,323.00	5,498.00	0.00	2,442.00	0.00	6,619.00
Pedro Bay	1996	63	24,931.00	18,269.00	1,626.00	4,560.00	0.00	0.00	135.00	132.00	210.00
Platinum	*										
Port Alsworth	1983	76	27,416.00	18,209.00	881.00	7,205.00	142.00	0.00	332.00	84.00	564.00
Quinhagak	1982	474	363,740.00	162,125.00	70,815.00	49,000.00	6,850.00	58,964.00	13,863.00		2,124.00
South Naknek	1992	134	39,893.00	19,451.00	2,703.00	14,832.00	48.00	269.00	277.00	272.00	2,042.00
Togiak	*		Supplemental data for these communities can be accessed at: <a href="http://www.subsistence.adfg.state.ak.us/CSIS/index.cfm/FA/commInfo.summary/CommID/345/Year/1992-">http://www.subsistence.adfg.state.ak.us/CSIS/index.cfm/FA/commInfo.summary/CommID/345/Year/1992-</a>								
Twin Hills	*										

\*Data currently are not available.



## **b) Annual Round of Seasonal Subsistence Activities**

Because salmon and freshwater fish are the primary resource for subsistence users in the planning area, and because a substantial number of planning area residents also commercial fish, the spring – summer – fall portion of the annual round of seasonal subsistence activities is focused largely on their timing and availability, particularly those of salmon. To a much lesser extent this is also true for migratory waterfowl. Most other resources sought by subsistence harvesters are available year round. In addition to seasonal availability of the resource and periodic fluctuations in resource abundance, the seasonal round is affected by the subsistence user's available time, availability of competing subsistence resources, ability to afford fuel for transportation, and regulatory restrictions.

## **c) Federal Subsistence Use Areas**

Residents of the planning area use all of the blocks of unencumbered BLM land as well as most of the planning area for subsistence purposes. The discussion by block in the wildlife section provides the details of use.

Maps 3.51 – 3.70 are historic subsistence use area maps, recorded by ADF&G in the 1980s and early 1990s (Wolfe et al. 1984; Wright et al. 1985; Morris 1983, 1985, 1986; Endter-Wada and Levine 1992; Fall et al. 1986; Schichnes and Chythlook 1985, 1989, and 1991).

Regulations implementing amendments to the Migratory Bird Act written in 2000 relate to subsistence taking of migratory birds, primarily ducks and geese, but also all water birds and other migratory fowl. These regulations are currently being finalized and implemented.

## **d) Condition of the Resource**

The topic of subsistence has not been addressed previously in any BLM land use planning effort for the planning area. All lands in the planning area that meet the ANILCA section 102(3) definition of Federal public land in Alaska have been managed since 1991 under the Federal Subsistence Program.

Fish and wildlife populations and the habitats upon which they rely in the planning area are in good condition overall, with the exception of the Northern Alaska Peninsula Caribou Herd. Some areas of caribou habitat in the Iliamna blocks of BLM land may be degraded due to overgrazing by caribou (ADF&G 2002c; Valkenburg and Keech 2002). However, no habitat condition surveys have been carried out.

Regional environmental change may alter the quantity and distribution of subsistence resources in the planning area. The potential for extensive and/or intensive mineral resource exploration, extraction, and development as well as development of infrastructure in the region could significantly alter availability, access to, abundance of, distribution of and movement patterns of subsistence resources. Using data from a sample of 98 communities in Alaska, Wolfe and Walker (1987) identified that certain types of economic development can create conditions which diminish subsistence productivity. Construction of roads and settlement entry into roaded areas produce changes associated with lower subsistence harvests, including increased competition for wild resources, increased habitat alteration, and changing community economic orientations away from mixed, subsistence-market adaptations.

As demonstrated by their meaningful participation in the initial scoping process for the Bay RMP/EIS and as reflected in the many substantive subsistence-related comments received, local communities will be in the forefront in addressing potential conflicts, land use actions and issues that may affect the quality, quantity, distribution, access to, and uses of renewable natural resources.

