

## **Appendix B**

### **ANILCA Section 810 Analysis of Subsistence Impacts**

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On January 30, 2004, the Bureau of Land Management (BLM) issued a Notice of Intent in the *Federal Register* to prepare a Resource Management Plan (RMP) and associated Environmental Impact Statement (EIS) for public lands administered by the Anchorage Field Office. As defined by the Federal Land Policy and Management Act of 1976 (FLPMA), as amended, "public lands" are those federally-owned lands and interests in lands (such as federally-owned mineral estate) that are administered by the Secretary of the Interior through the BLM. In this case, public lands also include lands selected, but not yet conveyed, to the State of Alaska and Native corporations and villages.

Current management of these lands in part (Goodnews Block) is guided by the Southwest Planning Area Management Framework Plan (MFP) (BLM 1981). Since approval of the MFP in 1981, new regulations and policies have created additional considerations that affect the management of public lands. In addition, new issues and concerns have arisen over the past 25 years. Consequently, some of the decisions in the MFP are no longer valid or have been superseded by requirements that did not exist when the MFP was prepared. Further, the remaining lands in the Bristol Bay portion of the Bay Planning Area are not covered by an existing plan. Through the completion of an RMP/EIS, the BLM proposes to provide a comprehensive land use plan that will guide management of the public lands and interests administered by the Anchorage Field Office.

Chapter III: Affected Environment and Chapter IV: Environmental Consequences of the Bay Draft Resource Management Plan provide a detailed description of both the affected environment of the planning area and the potential adverse effects of the various alternatives to subsistence. This appendix uses the detailed information presented in the Bay Draft RMP/EIS to evaluate the potential impacts to subsistence pursuant to Section 810(a) of the Alaska National Interest Land Conservation Act (ANILCA).

#### A. Subsistence Evaluation Factors

Section 810(a) of ANILCA requires that an evaluation of subsistence uses and needs be completed for any federal determination to "withdraw, reserve, lease, or otherwise permit the use, occupancy or disposition of public lands." As such, an evaluation of potential impacts to subsistence under ANILCA Sec. 810(a) must be completed for the Bay Draft RMP/EIS. ANILCA requires that this evaluation include findings on three specific issues:

- The effect of use, occupancy, or disposition on subsistence uses and needs;
- The availability of other lands for the purpose sought to be achieved; and
- Other alternatives that would reduce or eliminate the use, occupancy, or disposition of public lands needed for subsistence purposes (16 USC Sec. 3120).

The evaluation and findings required by ANILCA Sec. 810 are set out for each of the four alternatives considered in the Bay Draft Resource Management Plan.

A finding that the proposed action may significantly restrict subsistence uses imposes additional requirements, including provisions for notices to the State of Alaska and appropriate regional and local subsistence committees, a hearing in the vicinity of the area involved, and the making of the following determinations, as required by Section 810(a)(3):

- Such a significant restriction of subsistence uses is necessary, and consistent with sound management principles for the utilization of the public lands;
- The proposed activity will involve the minimal amount of public lands necessary to accomplish the purposes of use, occupancy, or other disposition; and
- Reasonable steps will be taken to minimize adverse effects upon subsistence uses and resources resulting from such actions.

To determine if a significant restriction of subsistence uses and needs may result from any one of the alternatives discussed in the Bay Plan, including their cumulative effects, the following three factors in particular are considered:

- The reduction in the availability of subsistence resources caused by a decline in the population or amount of harvestable resources;
- Reductions in the availability of resources used for subsistence purposes caused by alteration of their normal locations and distribution patterns; and
- Limitations on access to subsistence resources, including but not limited to increased competition for the resources.

A significant restriction to subsistence may occur in at least two instances: 1) when an action substantially reduces populations or their availability to subsistence users, and 2) when an action substantially limits access by subsistence users to resources. Chapter III: Affected Environment of Bay Plan provides information on areas and resources important for subsistence use, and the degree of dependence of affected communities on different subsistence resource populations. Chapter IV: Environmental Consequences provides much of the data on levels of reductions and limitations under each alternative, which was used to determine whether the action would cause a significant restriction to subsistence. The information contained in the Bay Draft RMP/EIS is the primary data used in this analysis.

A subsistence evaluation and findings under ANILCA Sec. 810 must also include a Cumulative Impacts analysis. The following section begins with evaluations and findings for each of the four alternatives discussed in Bay Plan. Finally, the cumulative case, as discussed in Chapter IV: Environmental Consequences of the Bay Plan, is evaluated. This approach helps the reader to separate the subsistence restrictions that would potentially be caused by activities proposed under the four alternatives from those that would potentially be caused by past, present, and future activities that could occur, or have already occurred, in the surrounding area.

When analyzing the effects of the four alternatives, particular attention is paid to those communities who have the potential to be most directly impacted by the proposed actions. These communities are located adjacent to or within the Bay planning area. The cumulative case expands the analysis to include lands within and outside the Bay planning area sharing subsistence resource populations' seasonal distributions, migratory patterns and key habitats. This would include indirect effects to communities located in other areas of the state to assess any impacts to subsistence that may result because of negative effects to migratory subsistence species and seasonal distributions thereof.

In addition to ANILCA, Environmental Justice, as defined in Executive Order 12898, also calls for an analysis of the effects of federal actions on minority populations with regard to subsistence. Specifically, Environmental Justice is:

The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic group should bear a disproportionate share of the

negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.

Section 4-4 of Executive Order 12898, regarding the Subsistence Consumption of Fish and Wildlife, requires federal agencies to collect, maintain, and analyze information on the consumption patterns of populations who principally rely on fish and/or wildlife for subsistence, and to communicate to the public any risks associated with the consumption patterns from activities that they are proposing. To this end, the description of subsistence use as presented in Chapter III: Affected Environment, as well as the subsistence analyses of the alternatives located in Chapter IV: Environmental Consequences of the Bay Plan, have been reviewed and found to comply with Environmental Justice requirements.

## **B. ANILCA Sec. 810(a) Evaluations and Findings for All Alternatives and the Cumulative Case**

The following evaluations are based on information relating to the environmental and subsistence consequences of alternatives A through D, and the cumulative impacts analysis as presented in Chapter IV: Environmental Consequences of the Bay Plan. The stipulations discussed in Chapter 2 of the Bay Plan are also considered for the alternatives to which they apply. The evaluations and findings focus on potential impacts to the subsistence resources themselves, as well as access to resources, and economic and cultural issues that relate to subsistence use.

### ***1. Evaluation and Findings for Alternative A***

Selection of Alternative A would result in management of the Bay planning area as specified in this document and in part (Goodnews Block) as per the Southwest Planning Area MFP. Valid decisions contained in the Southwest Planning Area MFP would be implemented if not already completed. Direction contained in existing laws, regulation and policy would also continue to be implemented, sometimes superseding provisions in the Southwest Planning Area MFP. The current levels, methods and mix of multiple use management of public land in the planning area would continue, and resource values would receive attention at present levels. In general, most activities would be analyzed on a case-by-case basis and few uses would be limited or excluded as long as they were consistent with State and Federal laws. Fire would be managed consistent with the Alaska Land Use Plan Amendment for Wildland Fire and Fuels Management (BLM 2004b, 2005c).

#### **a) Evaluation of the Effect of Use, Occupancy, or Disposition on Subsistence Uses and Needs**

Under Alternative A, primary impacts to subsistence would be associated with the exploration, development and production of mineral resources on adjacent lands, support infrastructure that may involve BLM lands directly, commercial fishing and ocean-related factors beyond the scope of BLM management, continuation of the current management of recreation and OHV use and potential grazing use in the planning area as described within this plan and in part (Goodnews Block) within the 1981 Southwest Planning Area MFP.

Extensive mineral exploration and potential development projects (including infrastructure), mostly on adjacent lands but potentially on or traveling over BLM-administered lands via aircraft, and various inventory, monitoring and compliance activities have the potential to affect subsistence fish and wildlife species and use in the planning area. Specifically, the following activities associated with resource development of adjacent lands could displace subsistence resources for the duration of the activity: temporary or long-term camps and associated facilities; the use of aircraft, especially helicopters for personnel and equipment transport; potential chemical and hazardous material spills and air-transported

contaminants; aerial resource surveys and exploration activities; road construction; and the use of boats and/or OHVs. The magnitude, intensity and timing of these activities is unknown and may vary from temporary and localized to regional in scope. Effects to any fish or wildlife at the population(s) level cannot be predicted at this time and is beyond the scope of this analysis.

Inventory and monitoring efforts would provide valuable baseline and longer term monitoring information that would be used to maintain or improve habitat as well as wildlife and fish populations. Every action in the Bay planning area would be evaluated on a case-by-case basis under Alternative A. Each proposed project could have BLM-imposed required operating procedures, stipulations or other mitigation requirements in order to minimize impacts to fish and wildlife subsistence resources and their use. Activities on adjacent lands which could potentially affect BLM subsistence resources and uses are beyond the scope of BLM authority under ANILCA Section 8.

Under Alternative A, impacts to subsistence may result from continuing the current management standard of OHV and recreational use in the Bay planning area. Currently, commercial and non-commercial recreational use occurs in the planning area and use in general has been on the rise. There are a few heavily used areas where these activities compete directly with subsistence use. During scoping, residents expressed concern over the large number of sport hunters and guiding operations that compete with subsistence users for resources, primarily moose and caribou. Subsistence hunters in the Bristol Bay land blocks maintain that air traffic by transporters and guide/outfitters and the presence of sport hunters in the area during the hunting season has resulted in the displacement of migrating caribou away from traditional use areas near Koliganek. The Mulchatna Caribou Herd (MCH) has displayed significant shifts in seasonal ranges and migration routes over the past 20 years. Many areas such as Iliamna, Naknek, Levelock, King Salmon and other communities in the eastern portion of the Bay planning area that enjoyed abundant caribou 10-15 years ago now do not have MCH animals readily available. The Goodnews, Platinum, Aniak and Bethel areas, which had very few or no caribou present 20 years ago, now have abundant caribou seasonally available from the MCH. The bull component of the herd and the herd in general has experienced significant declines approaching 60% since 2000.

Currently, there are no active livestock grazing operations in the Bay planning area. If applications are submitted, they would be considered on a case-by-case basis. Potential negative impacts from grazing include: competition for forage and space; degradation of wetlands; conversion of native habitat vegetative diversity and composition; introduction of noxious weeds and exotic plants; riparian habitat degradation; stream bank and fish habitat degradation; and introduction of exotic diseases and parasites. Competition for habitat and seasonal disruption of subsistence resources would depend on the intensity and extent of grazing.

According to ADF&G, the current subsistence need for moose in Game Management Units (GMUs) in the Bay planning area range between 280-390 moose annually. These amounts are considered relatively low, especially since there has been a significant increase in the distribution and population of moose in GMU 17A, resulting from a hunting moratorium which gave the moose population time to rebound from a previously low population level. These use numbers also seem low considering the declining annual caribou harvest in recent years due to population decline of MCH. Currently, the MCH is experiencing a rapid decline (approaching 60% since 2000) and subsistence hunters' reliance on moose is currently high and is anticipated to increase throughout the Bristol Bay Blocks. However the majority of harvest occurs on non-BLM lands along major rivers with adequate boat access. The Goodnews Bay Block is currently under a moose harvest moratorium to restore viable numbers of moose in that block. Restoration may allow for limited moose hunting at some time during the life of the Bay Plan.

According to ADF&G, the current subsistence need (5 AAC 99.025 or another citation) for caribou for the GMUs in the Bay planning area ranges between 3,600 and 4,800 per year. Reported harvests indicate a relatively low number of caribou harvested, however low harvest reporting is likely. Actual harvest by subsistence users is probably much higher. Unreported harvest has been estimated to lie between 3,200 and 7,200 caribou annually.

According to ADF&G, the current subsistence need for brown bear (5 AAC 99.025) ranges between 45 and 85 annually for Bay planning area GMUs. Actual harvest likely exceeds this number significantly and adequate reporting of harvest by local residents may be lacking.

### **b) Evaluation of the Availability of Other Lands for the Purpose Sought to be Achieved**

Alternative A would continue the current management of BLM-managed lands in the planning area under the 1981 Southwest Planning Area MFP for the Goodnews Block and current management in the remainder of the Bay planning area which is not covered under a management plan. Lands managed by other federal agencies in the planning area are managed under National Park Service or Fish and Wildlife Service planning documents. Other BLM lands in the state either already have land use planning documents in place, or are being addressed by separate planning processes. State and Native corporation lands cannot be considered in a BLM plan, and under BLM policy other BLM lands outside of Alaska are not considered under ANILCA.

### **c) Evaluation of Other Alternatives that Would Reduce or Eliminate the Use, Occupancy, or Disposition of Public Lands Needed for Subsistence Purposes**

Alternatives that would reduce or eliminate the use of public lands needed for subsistence include the three action alternatives that are presented and analyzed in Chapters 2 and 4 of the main body of the Bay Plan. These alternatives were created to represent a wide range of potential activities that could occur on BLM-managed lands, along with management actions that would serve to protect specific resource values following current national guidelines. Additional alternatives that were considered but not analyzed in detail are also discussed in Chapter 2.

### **d) Findings**

Alternative A may significantly restrict subsistence use and needs in the Bristol Bay region of the Bay planning area. The impacts to subsistence users of moose and caribou by increased competition in this heavily-used area and the associated displacement of resources meet the threshold of "may significantly restrict subsistence use." This finding applies primarily to the Bay planning area communities dependent upon MCH and to a lesser degree moose.

## ***2. Evaluation and Findings for Alternative B***

Alternative B lays the groundwork for active management to facilitate resource development on BLM lands in the planning area. In this alternative, constraints to protect resource values and habitat would be implemented in specific geographic areas rather than across the planning area. Nearly all ANCSA 17(d)(1) withdrawals would be revoked on lands retained in long-term federal ownership, increasing the potential for mineral exploration and development. Travel and trail restrictions would be minimized. Recreation management would focus on dispersed recreation and management of permits. Management of State and Native-selected lands would be mostly custodial.

### **a) Evaluation of the Effect of Use, Occupancy, or Disposition on Subsistence Uses and Needs**

Under Alternative B, the primary potential impacts to subsistence would be associated with the proposed management of the Livestock Grazing and Locatable/Saleable/Leasable Minerals programs from mineral exploration and development. Compliance, inventory, and monitoring efforts under a variety of resource

programs (see Evaluation of the Effect of Use, Occupancy, or Disposition on Subsistence Uses and Needs beginning on page D-5) could cause potential impacts. However, unlike Alternative A, inventory and monitoring efforts under Alternative B would be guided by a standard set of Required Operating Procedures that serve to protect habitat and resources from potential impacts as a result of permitted activity within the planning area (see Chapter 2).

Alternative B has potential to impact subsistence resources from grazing. Under this alternative, the entire planning area would be open to livestock and/or reindeer grazing, which could result in: a reduction of grazing habitat; impact to important seasonal ranges; disease and parasite outbreaks; and degradation of wetlands/riparian and fisheries habitats. These potential impacts could affect subsistence fishery resources, migratory birds (subsistence uses managed via USFWS under the Migratory Bird Treaty Act) and the Mulchatna Caribou Herd, which is a primary source of large land-mammal protein for most communities in and adjacent to the planning area. At this time it appears unlikely that livestock or reindeer grazing operations would be established during the life of the plan due to lack of interest and practicality of such operations in the Bay planning area.

Under Alternative B, oil and gas leasing would be allowed on all BLM lands. Oil and gas leasing can result in three associated activities: seismic exploration, exploratory drilling, and development/production.

Year around subsistence resource distribution, abundance, movement and associated seasonal harvest activities could be affected by seismic exploration, exploratory drilling and infrastructure and development/production activities. The following could be impacted by oil and gas leasing activities: caribou, moose, brown bear, furbearer trapping, waterfowl (not managed under ANILCA but subsistence migratory bird use is under the authority of the Migratory Bird Treaty Act), fishing, and hunting.

A number of other activities associated with oil and gas leasing that have the potential to impact subsistence are: helicopter-supported activities, access and facilities (pipelines, production water treatment units, separation ponds, electric lines, buildings, storage facilities etc), construction and OHV use. Although, seismic exploration can be a hindrance and an annoyance, it does not create a substantial barrier between communities and subsistence resources. Seismic exploration and exploratory drilling are expected to have localized and temporary affects on subsistence resources and uses.

Potential impacts from oil and gas development and associated infrastructure are greater than for exploration, given the permanent and year-round nature of operations. If a development were to occur in the calving area of the MCH, or if infrastructure was constructed in such a way as to impede movements of the herd to important seasonal aggregation sites such as calving and post calving aggregations, insect-relief habitat, and breeding or winter ranges, then there would be significant impacts to this important subsistence resource. However, for the purposes of this planning effort, the reasonable foreseeable development scenario indicates 6 exploratory wells and 1 developmental oil and gas well would be constructed in the Bristol Bay portion of the Bay planning area under Alternative B. Other subsistence species that could be affected by oil and gas development include: salmon and fresh water fish, moose, brown bear and migratory birds; however, impacts to these species as a result of Alternative B are considered negligible (See Wildlife, Alternative B. Impacts to wildlife from Leasable Minerals discussion in Chapter 4). Although specific parameters concerning the projected development are not discussed, associated roads, pipelines, production water treatment facilities and docking facilities all serve to potentially displace animals until they may become acclimated to the infrastructure and associated human activity. Additionally, roads, docks, and even remote airstrips constructed to aid production may serve as potential inroads for additional local subsistence user accessibility to resources as well as non-local hunters and fishermen, increasing the amount of competition for resources in the area. Adequate stipulations and ROPs concerning the use of infrastructure by local and non-locals would serve to minimize this type of impact.

Potential impacts to subsistence activities and fish and wildlife resources from other potential industries, such as Locatable Minerals (hard-rock or placer mining), Mineral Materials (gravel pits) may increase with the removal of the ANCSA 17(d)(1) withdrawals in the Goodnews Block, depending on the subsequent market for such minerals and interest in the area. Infrastructure for exploration and development of mineral resources adjacent to BLM managed lands may require location of such infrastructure on BLM

lands. This infrastructure development could potentially impact subsistence uses, as well as increase accessibility. This could cause increased competition for subsistence resources between local and non-local user groups. OHV opportunities may increase with development of access infrastructure. Increased access could compromise local subsistence fish and wildlife resource abundance, distribution, movement, and use levels. Impacts to subsistence activities, fish and wildlife resources, and habitats from management of forest products (timber sales, pre-commercial thinning, access construction, etc.) are anticipated to be minor given the lack of commercial timber in the Bay planning area. Under Alternative B, conflicts between subsistence users, commercial and non-commercial recreation users, and associated OHV uses would be addressed by Limited areas that would designate use of roads and trails, seasonal use and apply gross vehicle weight limitations. Management of transporter, guides and outfitter numbers and distribution would not be applied under this Alternative, but would be evaluated on a case-by-case basis. Alternative B would have fewer impacts on subsistence use than Alternative A in this heavily-utilized area (see discussion under Alternative A).

## **b) Evaluation of the Availability of Other Lands for the Purpose Sought to be Achieved**

Alternative B would manage BLM lands in the planning area in order to optimize resource development, with fewer restraints on commercial activity. Lands managed by other federal agencies in the planning area are managed under National Park Service or Fish and Wildlife Service planning documents, and wide-scale development of these lands is limited or disallowed by the mission and goals of these federal lands as conservation system units. Other BLM lands in the State, such as the National Petroleum Reserve Alaska, are managed primarily to allow for oil and gas development under specific planning documents. Additional BLM lands are managed by current planning documents that allow a mixture of development and conservation following the BLM multiple-use mission, or are currently being evaluated through the planning process. State and Native Corporation lands cannot be considered in a BLM plan, and under BLM policy other BLM lands outside of Alaska are not considered under ANILCA. However activities on adjacent State and Native land may impact subsistence fish and wildlife resources and the access to and use of subsistence resources on BLM managed lands. BLM has little control over such activities except by active participation in input and management of proposed actions that would occur on BLM lands in support of development on non-BLM lands.

## **c) Evaluation of Other Alternatives that would Reduce or Eliminate the Use, Occupancy, or Disposition of Public Lands Needed for Subsistence Purposes**

Alternatives that would reduce or eliminate the use of public lands needed for subsistence include the three action alternatives that are presented and analyzed in Chapters 2 and 4 of the main body of the Resource Management Plan. These alternatives were created to represent a wide range of potential activities that could occur on BLM-managed lands, along with management actions that would serve to protect specific resource values following current national guidelines. Additional alternatives that were considered but not analyzed in detail are also discussed in Chapter 2.

## **d) Findings**

Alternative B would not significantly restrict subsistence use in or near the planning area given the management parameters outlined, including the stipulations and ROPs found in Chapter 2. Should the amount of oil and gas exploration or anticipated area of potential development expand, this finding may need to be revised to resolve and mitigate additional impacts to: salmon and freshwater fisheries; the Mulchatna Caribou Herd; habitat and other localized resources; traditional subsistence use areas; and subsistence use.

### ***3. Evaluation and Findings for Alternative C***

Alternative C emphasizes active measures to protect and enhance resource values. Production of minerals and services would be more constrained than in Alternatives B or D and in some areas, uses would be excluded to protect sensitive resources. Areas of Critical Environmental Concern (ACEC) are identified, and specific measures proposed to protect or enhance values within these areas. Several rivers are recommended suitable for designation under the Wild and Scenic Rivers Act. Limited areas are proposed for Off-Highway Vehicles to protect habitat, soil and vegetation resources. Most ANCSA 17(d)(1) withdrawals would be revoked, but some would be replaced/retained in order to protect or maintain resource values.

#### **a) Evaluation of the Effect of Use, Occupancy, or Disposition on Subsistence Uses and Needs**

Alternative C would have minimal impact on subsistence use as a result of management actions or designations within the planning area. Some of the proposed actions would positively impact subsistence. Those actions would emphasize habitat and resource protection and use patterns. While development activity could occur under this alternative, areas of critical habitat would be protected by special designation, and by the stipulations and ROPs as presented in Chapter 2. Actions such as the creation of new Areas of Critical Environmental Concern and/or the designation of Wild and Scenic Rivers (WSRs) do not limit or impose any restriction on subsistence use as per ANILCA Title VIII.

#### **b) Evaluation of the Availability of Other Lands for the Purpose Sought to be Achieved**

Alternative C would manage BLM lands in the Bay planning area in order to optimize conservation. Lands managed by other federal agencies in the Bay planning area are managed under National Park Service or Fish and Wildlife Service planning documents, and are considered conservation system units. Other BLM lands in the State either already have land use planning documents in place that specify the amounts and types of activities that can or can not occur, or are currently being evaluated by separate planning processes. State and Native Corporation lands cannot be considered in a BLM plan, and under BLM policy other BLM lands outside of Alaska are not considered under ANILCA; however activity and land use on adjacent State or Native lands would potentially impact BLM subsistence activity and resources in terms of resource abundance, distribution, movements and subsistence user access to said resources. BLM lands may provide: support infrastructure for access; mineral materials; water resources transportation systems; or other things needed for development on adjacent non-BLM lands, which may have impacts to fish and wildlife resources, habitat and subsistence uses. Further evaluation of such developments may be necessary if and when proposed. Such development would also potentially increase competition for subsistence resources from other user groups by providing increased accessibility, which may increase harvest on BLM lands and adjacent lands, which share subsistence resource populations.

#### **c) Evaluation of Other Alternatives that would Reduce or Eliminate the Use, Occupancy, or Disposition of Public Lands Needed for Subsistence Purposes**

Alternatives that would reduce or eliminate the use of public lands needed for subsistence include the three action alternatives that are presented and analyzed in Chapters 2 and 4 of the main body of the Resource Management Plan. These alternatives were created to represent a wide range of potential activities that could occur on BLM lands, along with management actions that would serve to protect specific resource values following current national guidelines. Additional alternatives that were considered but not analyzed in detail are also discussed in Chapter II.

## **d) Findings**

Alternative C would not significantly restrict subsistence use of or access to fish and wildlife resources by communities in the Bay planning area. Some impacts to subsistence resources would be beneficial, and any impacts from the limited development allowed under this alternative would be minimized by ROPs and stipulations.

## ***4. Evaluation and Findings for Alternative D***

Alternative D emphasizes a moderate level of protection, use, and enhancement of resources and services. Constraints to protect resources would be implemented, but would be less restrictive than under Alternative C. This alternative would designate one Areas of Critical Environmental. No rivers would be recommended as suitable for designation under the Wild and Scenic Rivers Act. This alternative would revoke most ANCSA (d)(1) withdrawals.

### **a) Evaluation of the Effect of Use, Occupancy, or Disposition on Subsistence Uses and Needs**

Alternative D, much like Alternative C, would have minimal impact on subsistence use, as a result of management actions. All lands within the planning area would be available for oil and gas leasing and impacts similar to those discussed under Alternative B could occur. However, protective measures in the form of stipulations and ROPs (see Appendix A) would help to minimize impacts to subsistence uses. These stipulations and ROPs would include; the seasonal restriction of activity; and the creation of an ACEC to protect fish and wildlife diversity, abundance, distribution movement. This should protect habitat from conversion, degradation, fragmentation, and the loss of habitat used by fish and wildlife, which in turn would protect subsistence uses.

Under Alternative D, the Bay planning area would be managed as semi-primitive motorized Limited OHV area, which would take into consideration current use levels, safety, resource impacts, operator tolerance, and quality of recreational experience. Using a public process, BLM may develop management objectives and strategies for specific areas which may include: limitations on total number of visitor use days; number of commercial operators; instituting additional permitting requirements; instituting seasonal closures or limitations on OHV use and size; and determining the appropriate level of facility development. Outfitters, guides and possibly transporters would be managed on a case-by-case basis. Other public users would have no set limits on use. Under this scenario, increased competition from non-local hunters would continue to impact subsistence users and competition may increase over the life of the Bay Plan.

### **b) Evaluation of the Availability of Other Lands for the Purpose Sought to be Achieved**

Alternative D would manage BLM lands in the planning area following the BLM mission of multiple use, while at the same time protecting critical habitat and enhancing natural resource values. Lands managed by other federal agencies in the planning area are managed under National Park Service or Fish and Wildlife Service planning documents, and are considered conservation system units. Other BLM lands in the State either already have land use planning documents in place that specify the amounts and types of activities that can or can not occur, or are currently being evaluated by separate planning processes. State and Native Corporation lands cannot be considered in a BLM plan, and under BLM policy other BLM lands outside of Alaska are not considered under ANILCA. However activity and land use on adjacent State or Native lands would potentially impact BLM subsistence activity and resources in terms of resource abundance, distribution, movements and subsistence user access. BLM lands may provide support infrastructure for access, materials, water resources transportation systems, or other things needed for development on adjacent non-BLM lands, which may have impacts to fish and wildlife resources, habitat and subsistence uses. Further evaluation of such developments may be necessary if

and when proposed. Such development would also potentially increase competition for subsistence resources from other user groups by providing increased accessibility, which may increase harvest on BLM lands and adjacent lands, which share subsistence resource populations.

### **c) Evaluation of Other Alternatives that would Reduce or Eliminate the Use, Occupancy, or Disposition of Public Lands Needed for Subsistence Purposes**

Alternatives that would reduce or eliminate the use of public lands needed for subsistence include the three action alternatives that are presented and analyzed in Chapters II and IV of the main body of the Resource Management Plan. These alternatives were created to represent a wide-range of potential activities that could occur on BLM Lands, along with management actions that would serve to protect specific resource values following current national guidelines. Additional alternatives that were considered but not analyzed in detail are also discussed in Chapter II of the main document.

### **d) Findings**

Alternative D would not significantly restrict subsistence use in the planning area. Most of the impacts to subsistence resources would be negligible. Any impacts from the limited amount of development allowed to occur under this alternative would be minimized by the stipulations and ROPs discussed in Appendix A. Impacts to subsistence species are expected to be localized and temporary, and are not envisioned to impact resources at the population level. No impacts to access by subsistence users are expected to occur.

Competition for subsistence resources, primarily fish, caribou and moose, occurs due to the large number of non-local users, especially those using the services of transporters and outfitters. Under Alternative D, there would be no set limit on the number of guides, outfitters, transporters, local hunters, non-local hunters not using guides or non-consumptive user groups. According to ADF&G, the demand for fish and wildlife by nonresident and non-local hunters in Game Management Units in the Bay planning area continues to increase. Due to a decline in the MCH, especially the male component, increased hunting restrictions for caribou have occurred since 2002 and are likely to continue for several more years. Currently, moose harvest levels are adequate, given the abundance and accessibility of moose. However, if the MCH is impacted to the extent that subsistence users require more moose to offset the shortage in caribou, then significant impacts to subsistence use could result, and revisions to this finding may be required. Significant regulatory changes to restrict non-subsistence and/or subsistence use of caribou and moose resources through the Federal Subsistence Board and State Board of Game would also become necessary.

## ***5. Evaluation and Findings for the Cumulative Case***

The goal of the cumulative analysis is to evaluate the incremental impact of the current action in conjunction with all past, present, and reasonably foreseeable future actions in or near the Bay planning area. The cumulative analysis considers in greatest detail activities that are more certain to happen, and activities that were identified as being of great concern during scoping. Actions included in the cumulative analysis include, but are not limited to, the following:

**History of Oil and Gas Exploration** - To date, oil and gas exploration has been limited to 26 onshore wells and 2 offshore wells in the Bristol Bay region, an area comprising about 40,000 square miles (Magoon et al. 1996). None of the wells produced oil or gas.

**First Lease Sales** - The State of Alaska first made land available for oil and gas leasing in the Bristol Bay area in the 1960s. Sales #2 and #5 resulted in the leasing of five isolated tracts in Nushagak Bay and on the Alaska Peninsula (State of Alaska 2005). A total of 476,824 acres were leased. In 1961 Pure Oil

Company received a contract from the State of Alaska to drill three wells in the Nushagak Bay area. The project was abandoned when Pure Oil Company failed in an attempt to land a drilling rig in the area due to icing conditions (State of Alaska 1961).

**Historic Wells** - The North Aleutian COST #1 well (1983) and the Amoco Becharof #1 well (1985) were drilled in the Aleutian Islands region. The North Aleutian COST #1 well was drilled offshore by ARCO into the Bear Lake Formation, which exhibited good reservoir properties. Approximately 33 feet of coal was also found (Reifenstuhl and Finzel 2005).

Becharof #1, the nearest well on the Alaska Peninsula to the planning area boundary is located approximately 30 miles south of the boundary. It was drilled in 1985 by the Amoco Petroleum Company. Significant gas shows were encountered in Tertiary rocks (Reifenstuhl and Brizzolara 2004). The strata lying between 6,700 and 8,000 feet are considered mature (hydrocarbon generating) (Haga and others 2005). The exploratory well was abandoned.

**Cook Inlet Basin Oil and Gas** - Alaska's first commercial oil production came from discoveries in Cook Inlet. In 1959, the State of Alaska established a competitive leasing program. Since then over 5.6 million acres of State land have been leased in 40 State oil and gas lease sales in the Cook Inlet region. Prior to Statehood in 1959 the Federal government conducted non-competitive lease sales. About 67,000 acres of the non-competitive Federal leases remain active in the Cook Inlet basin. One competitive Federal lease has been issued to date: a 400-acre parcel. In 1960, annual production rose to 600,000 bbls, and peaked at 83 million bbls in 1970. Industry-related developments include a Unocal ammonia-urea plant in Nikiski, the first oil refinery developed by Tesoro in 1969 near Kenai, and a liquid natural gas (LNG) plant in Nikiski in 1969.

**History of Locatable Mineral Production** - Known mineral deposits within the Bay planning area that have seen historical production include one deposit of placer platinum, placer gold, and one small mercury lode deposit. Placer platinum mining has historically occurred on the Salmon River near the Goodnews Mining Camp and associated side drainages including Dowery Creek, Squirrel Creek, and Clara Creek. Between 1928 through 1982 an estimated 646,312 troy ounces of platinum were mined from these drainages. Early open cut mining was conducted by draglines/sluice-boxes in the side drainages. In 1937 a large bucket-line dredge was brought in to mine the Salmon River which operated through 1982.

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, north of Goodnews Bay; 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. The largest gold placer operation occurred around Wattamuse Creek and associated drainages, where between 1917 through 1947 an estimated 30,041 troy ounces of gold were mined (BLM, 2005 AMS).

Mercury was discovered at the Redtop Mercury Mine, located on Marsh Mountain north of Dillingham. Production occurred from 1952 to 1959 with a total of approximately 100 flasks (Hudson, 2001a OFR 01-192). Several abandoned mine projects have been conducted at the Redtop Mercury Mine during the last decade, including hazardous waste removal of the retort and contaminated soil at the Redtop Millsite along the Wood River. Additionally, dynamite demolition and a closure of the main underground adit have occurred at the associated mine site on top of Marsh Mountain (BLM 2005).

**Omnibus Roads** - Three Omnibus roads were constructed in the Bay planning area.

## C. Present and Reasonably Foreseeable Future Development

**Commercial Fishing** - Commercial fishing in Bristol Bay continues as the key economic driver in the region. Residents in every village in the region participate in the fishery, with members of every community holding set net and drift net limited entry permits.

**The Oil Industry** - Oil provides approximately 85% of the State of Alaska income, Permanent Fund Dividends to residents, and has resulted in infrastructure development in the Bristol Bay Region. **Oil and Gas in Bristol Bay Basin** - Offshore drilling is currently off limits following a 1996 presidential moratorium; however, directional drilling from onshore is authorized (State of Alaska 2004). The moratorium on offshore drilling is in effect until June 30, 2012, but can be revoked by the President prior to that date (Sherwood et al. 2006).

**Alaska Peninsula and Nushagak Peninsula Oil and Gas Leasing Program** - On March 17, 2004, ADNIR, Lake and Peninsula Borough, Bristol Bay Borough, and Aleutians East Borough signed a Memorandum of Understanding (MOU) in support of oil and gas lease sales and licensing of State land in the Bristol Bay and Alaska Peninsula regions. Similar MOUs were already in place between the ADNIR and the Aleut Corporation and the Bristol Bay Native Corporation (State of Alaska 2004). These MOUs also provide collaboration in attempting to persuade the Federal government to lift the offshore exploration moratorium on oil and gas exploration in the Bristol Bay region (Chambers 2003).

**Oil and Gas Exploration Licensing Near Dillingham** - The multi-agency coordination resulted in the State of Alaska initiating an Exploration Licensing area near Dillingham, which originally totaled 329,113 acres, only applicable for lands owned by the State (State of Alaska 2004). Bristol Shores, LLC, the primary interested licensee, was granted a license but let it lapse. In June 2005, Bristol Shores applied for a new license application for a reduced area consisting of 20,154 acres on the east side of Nushagak Bay, south of Dillingham (Petroleum News 2005) with the intent of conducting initial exploration. Currently there is no proposed or pending license in the Bristol Bay license area. Commercial oil finds are unlikely, but the area may contain up to 1 trillion cubic feet (tcf) of natural gas (Loy 2004).

**Oil and Gas Lease Sales** - ADNIR held an oil and gas lease sale October 26, 2005, offering 1,047 tracts of 5.8 million acres within the Alaska and Nushagak peninsulas (Decker 2005). Lands offered within the planning area include the lower Nushagak Peninsula and the southern portion of land extending from south of Ekuk eastward to the Kvichak River delta (State of Alaska 2005). About 510,000 acres lie within the Bay planning area boundary, none of which are BLM administered lands. At that time, 213,120 acres were leased, none of which were within the planning area. Interested was limited to Port Moller and vicinity, on the lower Alaska Peninsula approximately 200 miles south of the planning area. According to ADNIR the next sale for the Alaska Peninsula is scheduled for February 2007 (State of Alaska 2006). **Cook Inlet Basin Leasables** - The Cook Inlet basin is currently the only commercially producing oil and gas region in southern Alaska. Between 1997 and 2001 Cook Inlet natural gas production remained relatively stable at an average of 213 billion cubic feet (bcf) per year.

**Locatable Mineral Exploration in the Bay Planning Area** - During 2005, the last complete year of information, 7 APMAs and AHEAs were submitted for Locatable Mineral projects located within the Bay planning area. Four lode exploration applications and 3 placer mining applications were filed (AK DNR 2005). APMAs are currently being submitted for 2006.

**Lode and Placer Exploration** - Lode exploration projects include the Big Chunk, Kamishak Project, Pebble Copper, and Shotgun/Mose projects located on State land. One placer mining project on the Arolik River is located on Native-selected land and one location at Salmon River Bench is located on Native land. One placer mining operation on State land includes the Syneeva Creek (Northern Bonanza). There are no lode or placer mining activities on BLM unencumbered land at this time.

**Pebble Copper Mine Project** - State lode mining claims are located on the Big Chunk (BC), FUR, GDH, KAK, Pebble Copper, Pebble South, 25 Gold: Sill, 37 Skarn, and 38 Porphyry properties. The Pebble gold-copper-molybdenum-silver deposit is located in the Lake and Peninsula Borough, just north of Frying Pan Lake and 18 miles northwest of Iliamna. The exploration and planning phase of this project is likely to continue for several years, and provides income for lodge and hotel owners in Iliamna as well as jobs for locals.

In 2004, Northern Dynasty Minerals, Ltd. began a program to collect engineering, environmental, and socioeconomic data required for completion of a Bankable Feasibility Study and submission of permit applications for the Pebble Copper Mine. New finds in 2005 have delayed the permit application submission timeline. Production is not expected to begin before 2010 (Northern Dynasty Minerals Ltd. 2005).

In conjunction with the mining project, the Alaska Dept. of Transportation and Public Facilities (ADOT&PF) is examining the feasibility of constructing a 75 mile road from the Pebble Copper mine site to a port site at Iniskin Bay or Williamsport. Draft reconnaissance engineering started in July 2004, and final reconnaissance engineering was to be completed in 2005 (ADOT&PF 2004).

**Big Chunk Project** - Liberty Star conducted a comprehensive exploration project to evaluate copper-gold deposits on state mining claims adjacent to the Pebble Copper Mine deposit (Alaska Minerals Commission 2005).

**Locatable Mineral Claim Staking** - Mining claims have been staked throughout the Bay planning area for both lode and placer deposits. Extensive claim staking has historically occurred in the Bonanza Hills, Kemuk, Kvichak, Pebble Copper, Shotgun Hills, Sleitat Mountains, Snow Gulch, and Red Top areas. As of January 2005 there were a total of 257 Federal claims covering approximately 10,280 acres and as of December 2005 there were a total of 5,824 State claims and no State prospecting sites covering a total of approximately 232,960 acres (BLM, 2005).

**Bonanza Creek Area** - State placer mining claims are located on Bonanza Creek and Syneeva Creek. State lode mining claims are located on the Bonanza Hill and Bonanza property.

**Goodnews Bay/Snow Gulch Area** - State placer mining claims are located on the Arolik River.

**Iliamna/Kvichak Area** - Federal and State lode mining claims are located on the Iliamna Project, H Block property. State lode mining claims are located on the Iliamna Project, D Block and LSS properties.

**Kemuk Mountain Area** - State lode mining claims are located on the Kemuk and NAP properties.

**Platinum Area** - Federal placer mining claims are located on the Salmon River Bench property.

**Shotgun Hills Area** - State lode mining claims are located on the Shot, Shotgun/Mose, and Win properties.

**Exploration and Development Activities Bonanza Creek Area** - There are no identified exploration projects reported in the Bonanza Creek area as of 2004 (Szumigala and Hughes, 2005). One APMA placer mining project was submitted for Syneeva Creek for 2005 (AK DNR, 2005).

**Exploration and Development Activities Goodnews Bay/Snow Gulch area** - There are no identified exploration projects reported in the Goodnews Bay/Snow Gulch area as of 2004 (Szumigala and Hughes, 2005). One APMA placer mining project was submitted for the Arolik River for 2005 (AK DNR, 2005).

**Exploration and Development Activities Iliamna/Fog Area** - There are no identified exploration projects reported in the Iliamna/Fog area as of 2004 (Szumigala and Hughes, 2005). No APMA or AHEA exploration projects were submitted for 2005 (AK DNR, 2005).

**Exploration and Development Activities Iliamna/Kvichak Area** - Detailed geophysical survey and core drilling was completed in 2004 on the Iliamna Project H Block by Geocom Resources Inc. Over 3,303 feet

of core drilling was completed at four locations outlining a 2,296 by 4,921 foot gold, copper, and molybdenite mineralized zone. At their Iliamna Project, D Block additional geophysical studies were conducted to delineate drill targets (Szumigala and Hughes, 2005). No APMA or AHEA exploration projects were submitted for 2005 (AK DNR, 2005).

**Exploration and Development Activities Kasma Creek Area** - There are no identified exploration projects reported in the Kasma Creek area as of 2004 (Szumigala and Hughes, 2005). No APMA or AHEA exploration projects were submitted for 2005 (AK DNR, 2005).

**Exploration and Development Activities Kemuk Mountain Area** - There are no identified exploration projects reported in the Kemuk Mountain area as of 2004 (Szumigala and Hughes, 2005). No APMA or AHEA exploration projects were submitted for 2005 (AK DNR, 2005).

**Exploration and Development Activities Kijik Lake Area** - There are no identified exploration projects reported in the Kijik Lake area as of 2004 (Szumigala and Hughes, 2005). No APMA or AHEA exploration projects were submitted for 2005 (AK DNR, 2005).

**Recent Exploration and Development Activities Pebble Copper Area** - Three properties had extensive exploration activities conducted during 2004; Pebble Copper, Big Chunk (BC), and Pebble South. Northern Dynasty Minerals, LTD. conducted comprehensive drilling, base-line environmental and socioeconomic studies to support Federal and State project permit applications. Also, Northern Dynasty conducted site testing and engineering studies for a bankable feasibility study which will be started in 2005. In-fill drilling to upgrade resources to measured and indicated status and to finalize pit design as conducted. During 2004, more than 157,614 feet of core drilling in 227 holes was completed, in-fill drilling totaled 101,539 feet in 122 holes, metallurgical and process drilling totaled 21,335 feet in 26 holes, geotechnical drilling totaled 32,502 feet in 70 holes, and exploration drilling totaled 13,815 feet in 9 holes. A new higher-grade, laterally extensive gold, copper, and molybdenite "East Zone" was discovered on the east side of the "Central Zone" of Pebble Copper. Mineralization has been discovered to a depth of 2,379 feet, and extends beyond to an unknown depth. More extensive drilling will be conducted during 2005. This deposit would be mined by underground methods and is richer than the Central Zone (Szumigala and Hughes, 2005).

Liberty Star Gold Corp. conducted exploration activities on the Big Chunk (BC) property, abutting the northwest corner of the Pebble Copper claims. Airborne magnetic survey, geologic, geochemical, space imagery, and aeromagnetic studies identified 21 anomalous areas. Geological sampling, mapping, and diamond drilling activities were conducted during 2004 (Szumigala and Hughes, 2005).

Full Metal Minerals, Ltd. conducted exploration activities on the Pebble South property, abutting the south side of the Pebble Copper claims. A geological sampling program, geophysics and ground magnetic studies were completed in 2004. Eleven anomalous areas were identified with two high priority targets identified; the Boo and TYP properties (Szumigala and Hughes, 2005).

Two AHEA exploration projects were submitted for the Big Chunk (BC) and Pebble Copper projects for 2005 (AK DNR, 2005).

**Exploration and Development Activities Platinum Area** - There are no identified exploration projects reported in the Platinum area as of 2004 (Szumigala and Hughes, 2005). One APMA placer mining project was submitted for the Salmon River for 2005 (AK DNR, 2005).

**Exploration and Development Activities Shotgun Hills Area** - TNR Gold Corp. conducted geological and geochemical exploration programs during 2004. This resulted in acquiring 14,080 acres of new State mining claims. The claims follow a north-south trend from the Main Shotgun Zone and are called the Shot, King, and Winchester areas. New drill targets for 2005 were identified along this zone as well as more extensive drilling of the Main Zone. One AHEA exploration projects were submitted for the Shotgun/Mose project for 2005 (AK DNR, 2005).

**Sleitat Mountain Area** - There are no identified exploration projects reported in the Sleitat Mountain area as of 2004 (Szumigala and Hughes, 2005). No APMA or AHEA exploration projects were submitted for 2005 (AK DNR, 2005).

**Construction of the Wood River Bridge** - The ADOT&PF, with the Federal Highway Administration, have made an Environmental Assessment and Finding of No Significant Impact for the proposed construction of the Wood River Bridge in Alaknagik. The bridge is currently in the design phase, with construction to begin in late 2007 or in 2008 (ADOT&PF 2005).

**Iliamna Airport Improvements** - The ADOT&PF began study of ways to improve the Iliamna airport in 2005, including identifying improvement options, preparing engineering and environmental reports, and completing a master plan that outlines short-term (5 years), intermediate (10 years), and long-term (20 year) airport improvements (ADOT&PF 2005).

**Manokotak Airport Improvements** - The ADOT&PF with the Federal Aviation Administration is proposing improvements to Manokotak Airport in Manokotak. Improvements include expanding the runway, surfacing the entire facility, providing adequate area for snow storage, constructing an apron and taxiway system, installing an airport lighting system and precision approach path indicators and runway end identification lighting, adding two snow removal equipment storage building bays, and extending overhead electrical lines to the new facility. A draft Environmental Assessment was published in July 2005 (ADOT&PF 2005; FAA 2005).

**Proposed Naknek River Bridge and Aviation Operations Improvements** - The proposed ADOT&PF project would entail a bridge spanning the Naknek River and connecting the three communities of the Bristol Bay Borough, South Naknek, Naknek, and King Salmon. The bridge would tie into the existing Omnibus road that connects Naknek and King Salmon. A bridge would influence aviation use patterns and the priority of aviation operations and improvements at the individual airport facilities, some of which had been identified by 2005 and were awaiting funding (ADOT&PF 2005).

**Near-Term Recommendations for Community Linkages** - In its Transportation Plan, the ADOT&PF recommends five community linkage projects, three of which are in or immediately adjacent to the Bay planning area: Williamsport-Pile Bay roadway improvements; Iliamna-Nondalton road improvements and bridge construction connection; and Dillingham-Aleknagik road improvements and bridge construction connection (ADOT&PF 2005).

**ADOT&PF Recommendations for Port and Harbor Improvements** - One recommended set of port improvements is Williamsport navigation improvements and dock facility and Pile Bay dock and boat launch facility. While this is outside the Bay planning area, it is seen as providing an intermodal complement to key transportation infrastructure, some of which would probably be within the planning area (ADOT&PF 2005).

**ADOT&PF Marked Winter Trail System** - Provides a system of trail markers that permits safe travel by snowmachine between Bristol Bay communities during the winter months (ADOT&PF 2005).

## **D. Speculative Development**

**ADOT&PF Corridor Delineation** - The purpose of corridor delineation is to recognize the patterns of existing travel and desired travel in the region and to establish and protect the surface transportation "highways" that would best serve the region's long term social and economic infrastructure needs. The Transportation Plan identifies four primary corridors, three of which are in or immediately adjacent to the Bay planning area: Cook Inlet to Bristol Bay corridor; Alaska Peninsula corridor and Dillingham/Bristol Bay corridor (ADOT&PF 2005). It is possible that all or segments of these projects may be completed during the life of this plan.

**ADOT&PF "Triggers" for Planning** – ADOT&PF's Transportation Plan recommends a series of triggers for re-evaluation of lower-priority projects that could lead to their development within the 20-year period considered by the plan (ADOT&PF 2005). This is dependent on such factors as a dramatic increase in population and increased demand from the economic sector.

### **a) Evaluation of the Effect of Such Use, Occupancy, or Disposition on Subsistence Uses and Needs**

According to the fish and wildlife analyses in Chapter 4 of the main document, the combination of ongoing oil and gas development occurring in or adjacent to the planning area, and possible solid mineral exploration and development in the same region, would have cumulative impacts on caribou from the MCH. In addition, the privatization or mineral exploration and development of State or Native Corporation lands could lead to additional development. Depending on the location, extent, intensity, and duration of development, these impacts could include: short or long-term disturbance to: caribou calving habitat; post calving aggregations; winter ranges; insect relief habitat; migratory routes; disruption of caribou movements; stress and disturbance impacts to caribou during all seasons of the year; and possible reductions in herd productivity. If significant activity occurred within the calving grounds or other seasonal aggregation habitats or insect relief habitat, impacts could be significant to subsistence.

The potential list of cumulative activities would, depending on timing, magnitude, duration, intensity, and type of activity would impact the full spectrum of local and regional subsistence species fish and wildlife relative to abundance, distribution, seasonal habitat use, movement patterns, habitat integrity (relative to fragmentation, degradation, conversion). The activities and impacts of such actions would be dealt with on a case-by-case basis as at this time it cannot be predicted how such activities will present themselves or if they will occur for sure.

Development of regional roads and trails infrastructure within the Bay planning area would have the potential to negatively affect fish, wildlife and their habitats and thus affect subsistence. These impacts would include; habitat fragmentation and degradation; increased access into wildlife habitats; proliferation of unauthorized or uncontrolled OHV use; increased disturbance impacts; increased potential for mortality (road kills); and possible alteration of behavior or movement patterns of wildlife. Small roads that connect communities within the planning area may aid subsistence users in accessing their traditional harvest areas. However, they may also concentrate hunting efforts along the road/trail corridors, thus depleting resources from the area, and potentially altering harvest from current traditional harvest areas. Increased competition for subsistence resources would likely result if smaller communities were linked to the existing road system within the State, as non-resident and non-local hunters would be able to access the area with little effort. This may also result in an increase in tourist traffic and recreational use of the area, resulting in additional impacts to wildlife. However, the construction of major road projects within the life of the plan would be dependant upon social and economical conditions and it is not clear which, if any, of these projects would be completed during the life of the plan. Because regional road construction in the planning area is so uncertain and the level of development projected through this plan so minimal, no cumulative impacts to subsistence species are anticipated

### **b) Evaluation of the Availability of Other Lands for the Purpose Sought to be Achieved**

The Cumulative Case, as presented in the planning document, contains information on reasonably foreseeable activities that could have an effect on the management decisions being analyzed as part of the RMP. The purpose of the Cumulative Case is to present known ongoing activity by all entities on all lands near or within the planning area, as well as those activities that have been proposed for the future and are likely to occur. The Cumulative Case is not an implementable alternative that specifies land uses and management, and is instead a discussion of impacts that could affect the management decisions contained within Alternatives A through D. As such, no other lands are evaluated under the Cumulative Case.

### **c) Evaluation of Other Alternatives that would Reduce or Eliminate the Use, Occupancy, or Disposition of Public Lands Needed for Subsistence Purposes**

Alternatives that would reduce or eliminate the use of public lands needed for subsistence include the three action alternatives that are presented and analyzed in Chapters II and IV of the main body of the Resource Management Plan, as well as Alternative A. These alternatives were created to represent a wide range of potential activities that could occur on BLM-managed lands, along with management actions that would serve to protect specific resource values following current national guidelines. Additional alternatives that were considered but not analyzed in detail are also discussed in Chapter II.

### **d) Findings**

The cumulative case, as presented in this analysis, may result in a reasonably foreseeable and significant restriction of subsistence use for most communities within the planning area, if significant activity occurred within the calving grounds or crucial insect relief habitat of the MCH. Currently, the MCH is a primary subsistence source for communities in the Bristol Bay and Goodnews Bay regions of Alaska, as well as a significant number of communities adjacent to and well beyond the Bay Plan boundaries, with between 4,700 to 11,700 animals harvested annually. Moose provide a similar source of food and include a harvest of approximately 425-745 per year. Fish resources, primarily salmon, are the major subsistence resource use in the Bay Plan area. The cumulative case may result in a reasonably foreseeable and significant restriction of subsistence use for most communities within the Bay Plan area if significant activities occur with commercial fishing, impacts to stream spawning and migration and rearing habitats, or unforeseen events in the ocean or climate influences (global warming) that impact fisheries abundance, run timing, availability, and access to fish resources.

## **E. Notice and Hearings**

ANILCA Sec. 810(a) provides that no "withdrawal, reservation, lease, permit, or other use, occupancy or disposition of the public lands which would significantly restrict subsistence uses shall be effected" until the Federal agency gives the required notice and holds a hearing in accordance with ANILCA Sec. 810(a)(1) and (2). The BLM will provide notice in the Federal Register that it has made positive findings pursuant to ANILCA Sec. 810 that Alternative A and the cumulative case presented in the Resource Management Plan/EIS meets the "may significantly restrict" threshold. As a result, public hearings will be held in the potentially affected communities. Notice of these hearings will be provided in the Federal Register and by way of the local media.

## **F. Subsistence Determinations Under the ANILCA Sec. 810(a)(3)(A), (B), and (C)**

ANILCA Sec. 810(a) provides that no "withdrawal, reservation, lease, permit, or other use, occupancy or disposition of the public lands which would significantly restrict subsistence uses shall be effected" until the federal agency gives the required notice and holds a hearing in accordance with ANILCA Sec. 810(a)(1) and (2), and makes the three determinations required by the ANILCA Sec. 810(a)(3)(A), (B), and (C). The three determinations that must be made are: 1) that such a significant restriction of subsistence use is necessary, consistent with sound management principles for the utilization of the public lands; 2) that the proposed activity will involve the minimal amount of public lands necessary to accomplish the purposes of such use, occupancy, or other such disposition; and 3) that reasonable steps will be taken to minimize adverse impacts to subsistence uses and resources resulting from such actions [16 U.S.C. Sec. 3120(a)(3)(A), (B), and (C)].

The BLM has found in this subsistence evaluation that Alternative A considered in this Resource Management Plan might significantly restrict subsistence uses. Therefore, the BLM will undertake the notice and hearing procedures required by ANILCA Sec. 810 (a)(1) and (2) in conjunction with release of the Draft RMP/EIS in order to solicit public comment from the potentially affected communities and subsistence users.

The determination that the requirements of ANILCA Sec. 810(a)(3)(A), (B), and (C) have been met will be analyzed in the Final ANILCA Sec. 810 Evaluation, using input from the communities in which subsistence hearings will be held.

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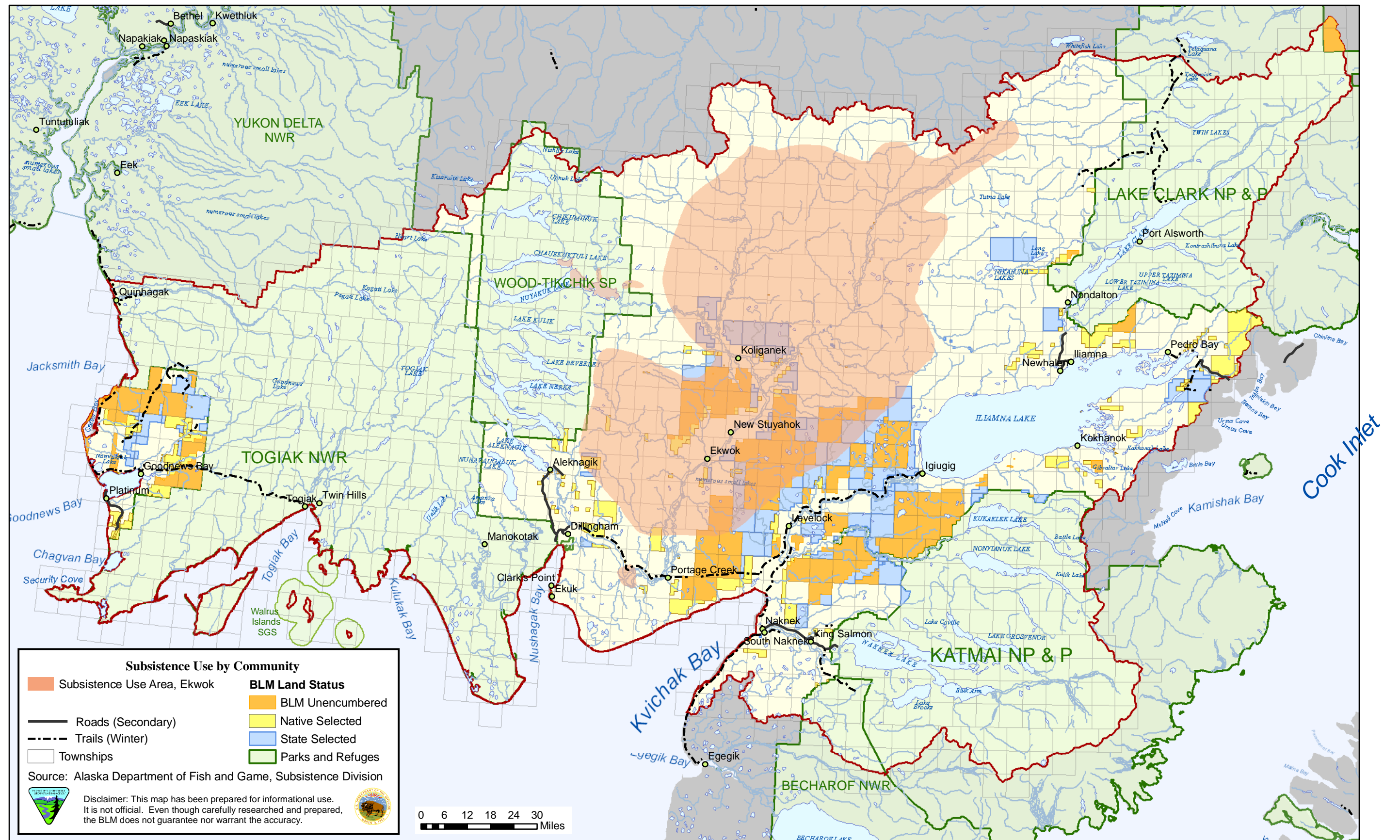


Figure B.3 Subsistence Use Area, Ekwok

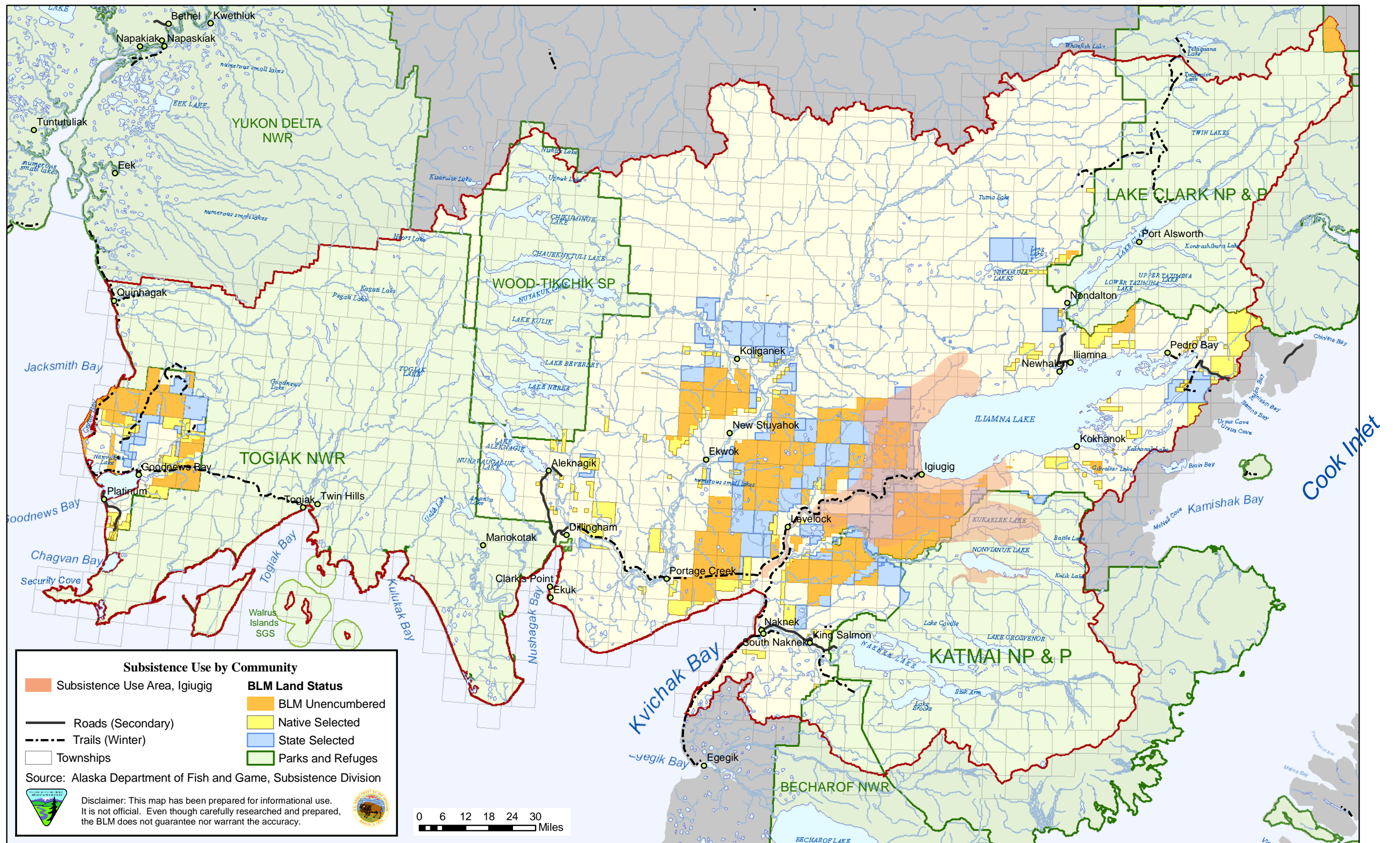


Figure B.4 Subsistence Use Area, Igiugig



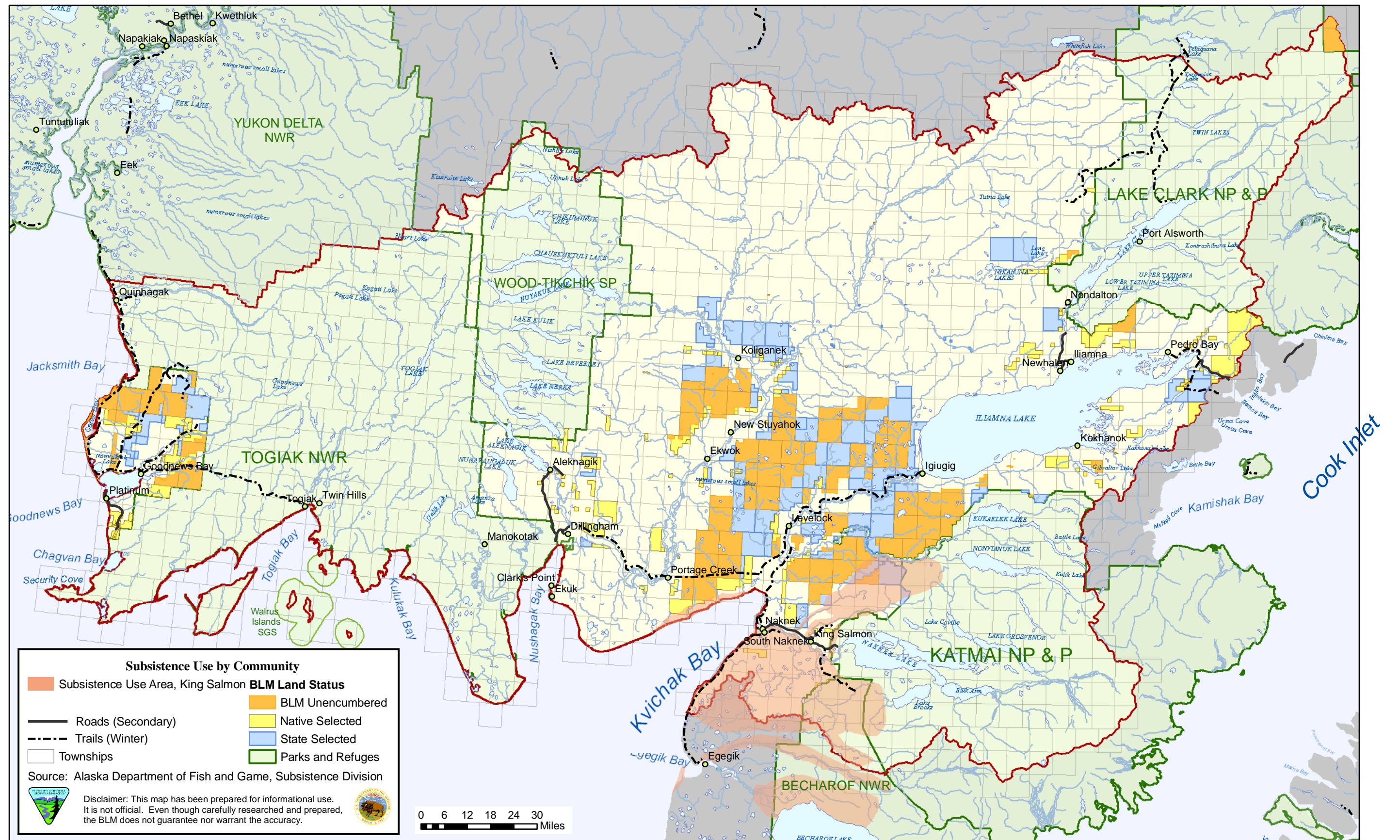


Figure B.6 Subsistence Use Area, King Salmon





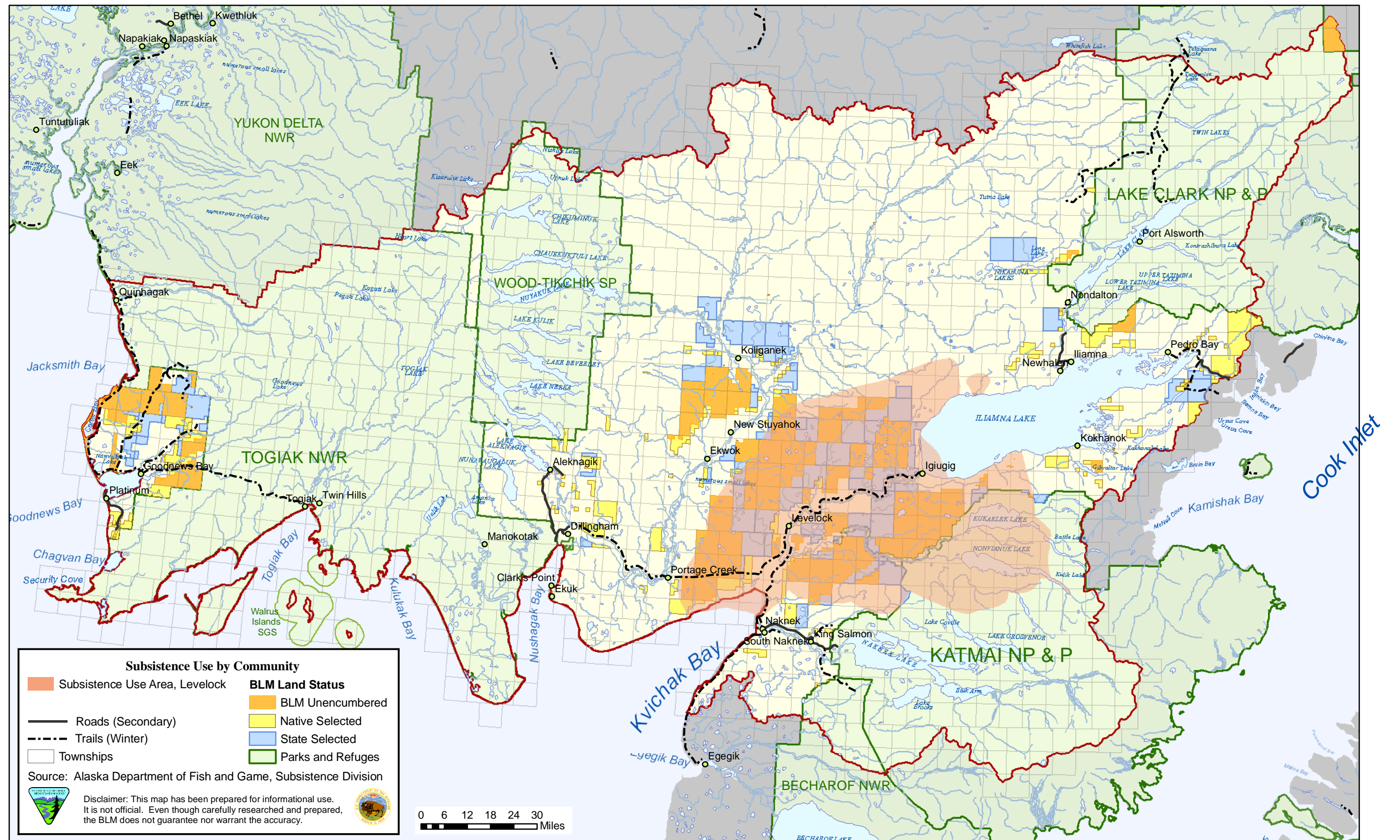


Figure B.9 Subsistence Use Area, Levelock



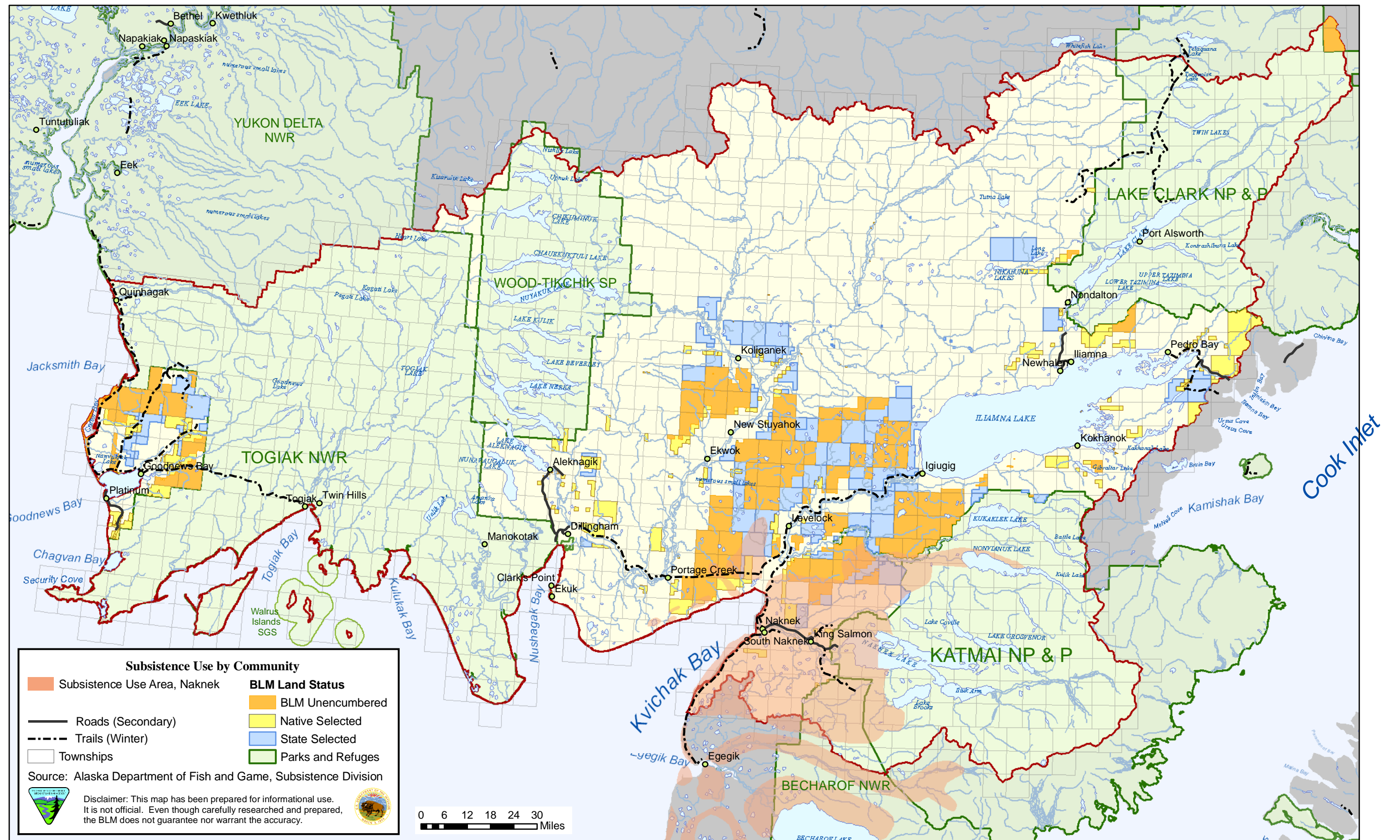


Figure B.11 Subsistence Use Area, Naknek

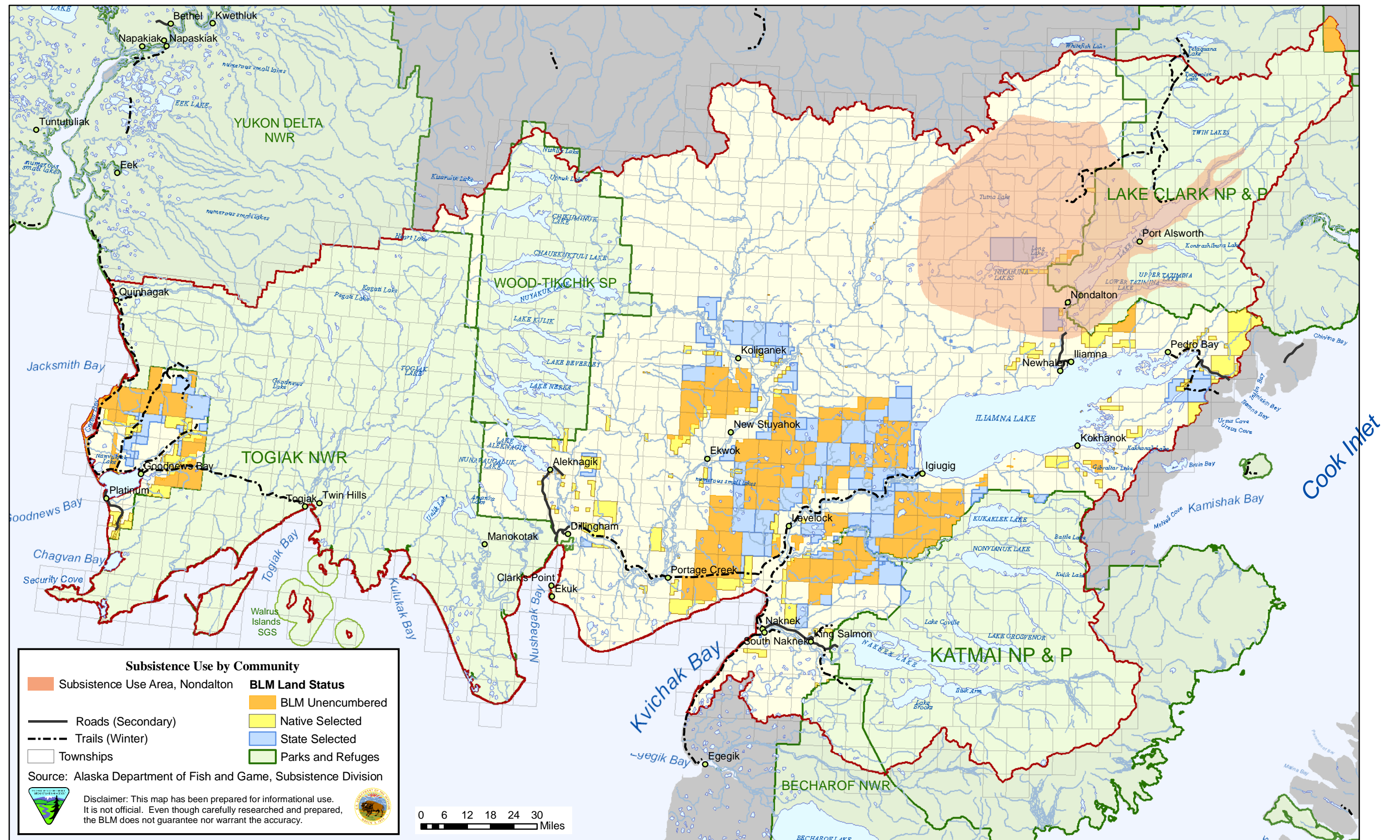
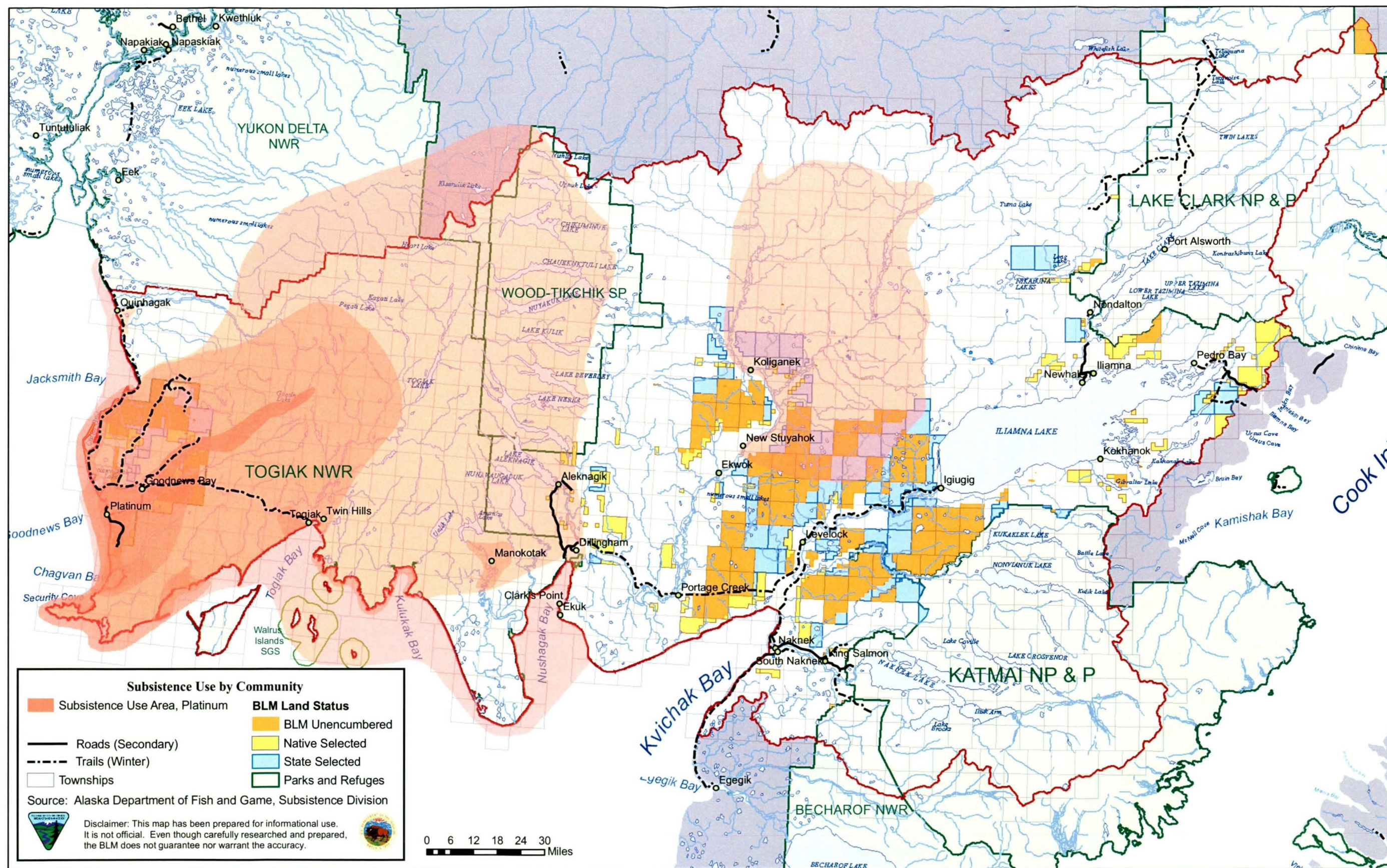


Figure B.12 Subsistence Use Area, Nondalton





**Figure B.14 Subsistence Use Area, Platinum**

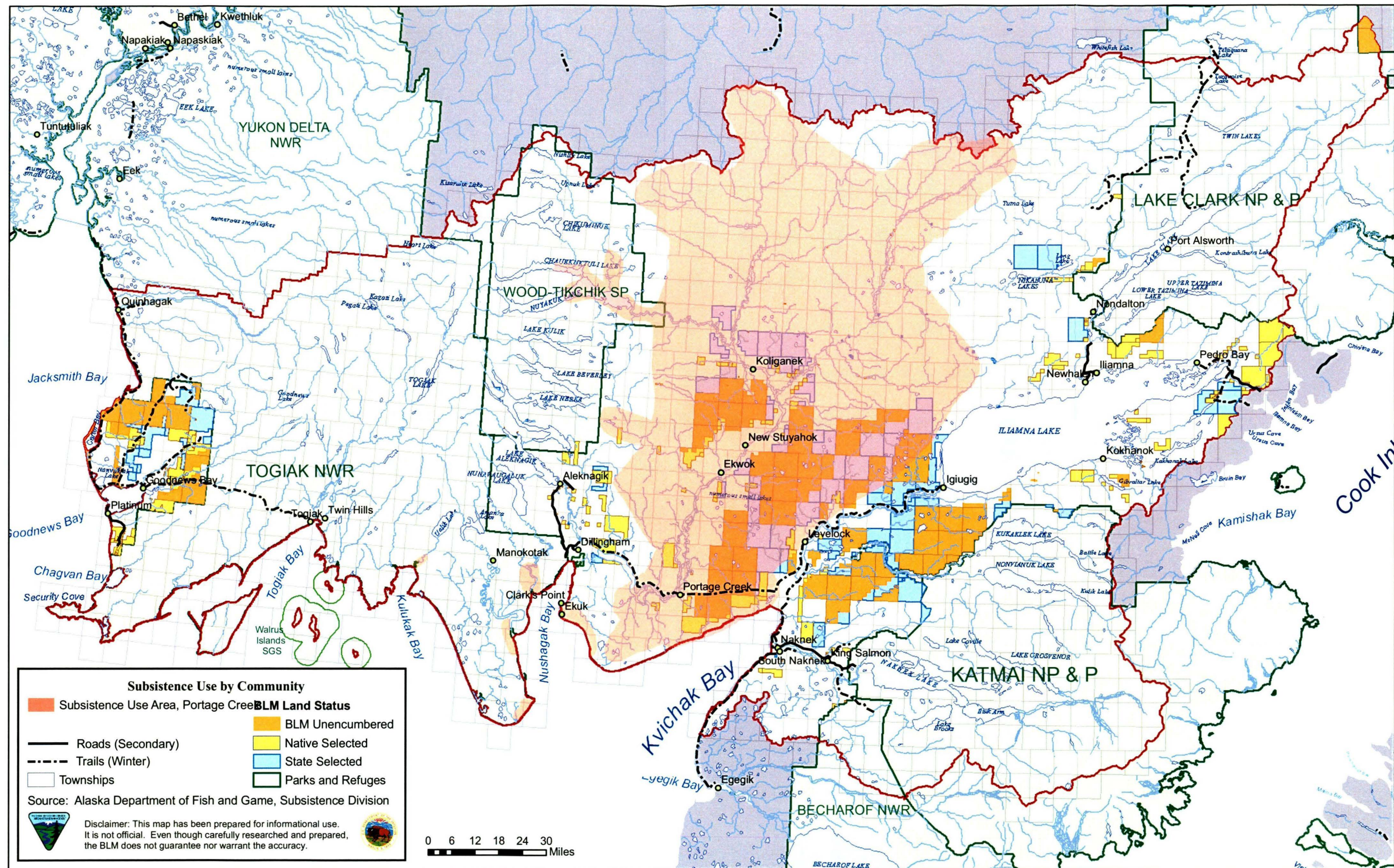


Figure B.15 Subsistence Use Area, Portage Creek

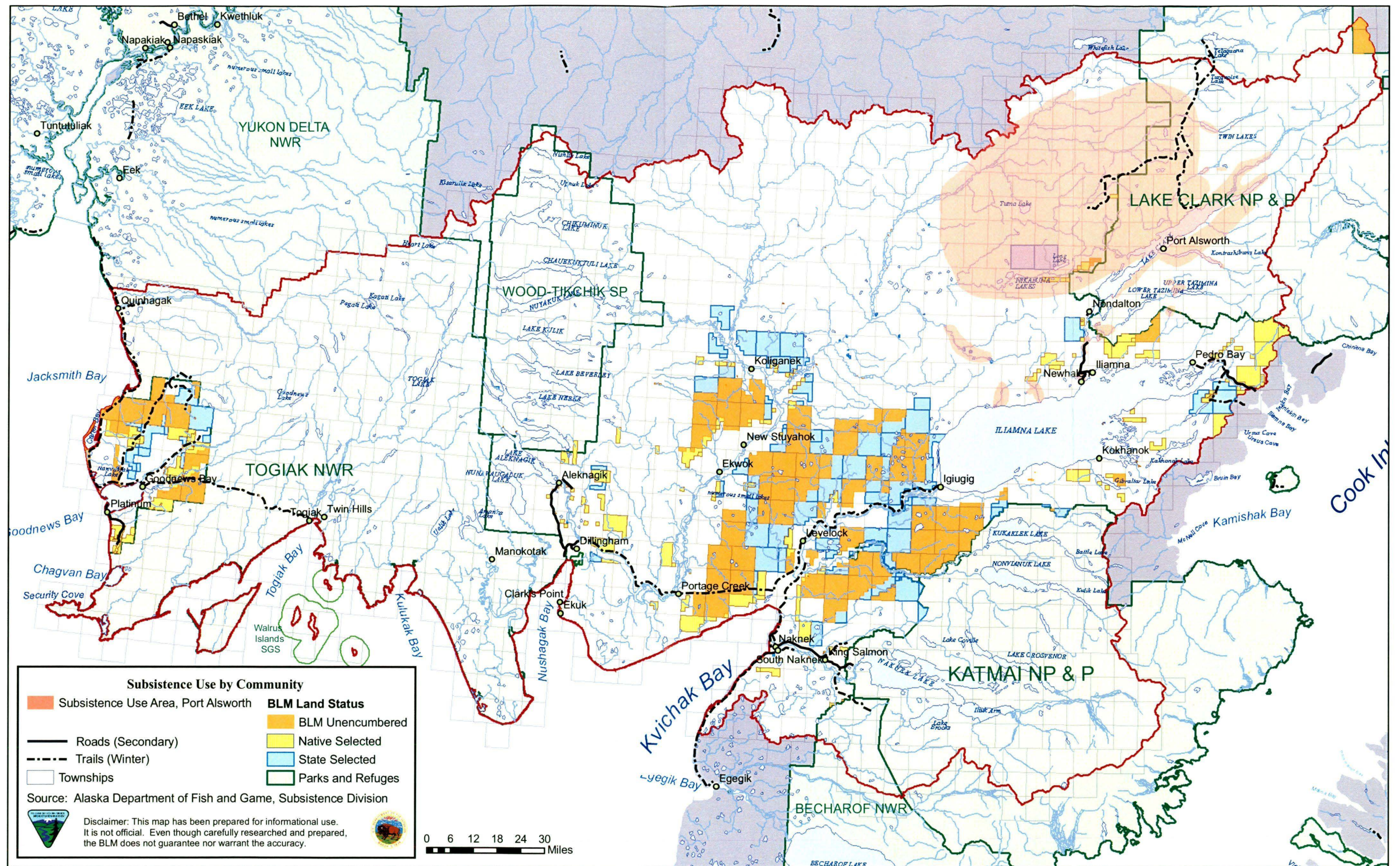


Figure B.16 Subsistence Use Area, Port Alsworth

