

**Alpine Satellite Development Plan
Final Environmental Impact Statement**

Appendix B

ANILCA SECTION 810 ANALYSIS OF SUBSISTENCE IMPACTS

ANILCA Section 810 Analysis of Subsistence Impacts

ConocoPhillips Alaska Incorporated (CPAI) is seeking authorization to develop and produce oil from two of its leases currently held in the Northeast Area of the National Petroleum Reserve-Alaska. To this end, the Bureau of Land Management has prepared an Environmental Impact Statement (EIS) to assess the environmental consequences of the various actions proposed by CPAI on public lands. Sections 3 and 4 of the Alpine Satellite Development Plan (ASDP) EIS provide a detailed description of both the affected environment of the Plan Area and the potential adverse effects of the various alternatives to subsistence use and subsistence resources. This appendix uses the detailed information presented in the ASDP EIS to evaluate the potential impacts to subsistence pursuant to Section 810(a) of the Alaska National Interest Land Conservation Act (ANILCA).

I. 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.” The proposed Alpine Satellite Development Project encompasses lands that are owned or managed by three different entities: the Kuukpik Corporation (private lands); the State of Alaska (state lands), and the Bureau of Land Management (federal or public lands). Because ANILCA requires an evaluation of potential impacts to subsistence on public lands, an ANILCA § 810 evaluation must be completed for the ASDP EIS. The evaluations of the subsistence effects of each alternative only apply to those lands that are administered by the Bureau of Land Management. The impacts of the entire project, together with past, present, and reasonably foreseeable activities in the surrounding region, are evaluated in the cumulative impacts section of this § 810 Analysis.

ANILCA requires that the 810 evaluation include findings on three specific issues:

1. The effect of such use, occupancy, or disposition on subsistence uses and needs;
2. The availability of other lands for the purpose sought to be achieved; and
3. Other alternatives that would reduce or eliminate the use, occupancy, or disposition of public lands needed for subsistence purposes (16 U.S.C. § 3120).

The evaluation and findings required by ANILCA § 810 are set out for the public lands portion of each of the six alternatives (including the No Action Alternative) considered in the ASDP EIS, and for all lands under the cumulative impacts analysis.

A finding that the proposed action may significantly restrict subsistence uses imposes additional requirements, including provisions for notices to the State and appropriate regional and local subsistence committees, a hearing in the vicinity of the area involved, and the making of certain determinations as required by Section 810(a)(3). If the evaluation finds that a significant restriction may occur, BLM must determine whether:

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

To determine if a significant restriction of subsistence uses and needs on public lands may result from any one of the alternatives discussed in the ASDP EIS the following four factors in particular are considered: 1) the reduction in the availability of subsistence resources caused by a decline in the population or amount of harvestable resources; 2) reductions in the availability of resources used for subsistence purposes caused by alteration of their normal locations and distribution patterns; 3) limitations on access to subsistence

resources, including from increased competition for the resources; and 4) limitations on the ability of harvesters to reach and use active subsistence harvesting sites.

A significant restriction to subsistence may occur in at least three instances: 1) when an action substantially may reduce resource populations or their availability to subsistence users, 2) when an action may substantially alter current patterns of subsistence use; and 3) when an action may substantially limit access by subsistence users to resources. The Environmental Consequences section of the ASDP EIS provides much of the data concerning levels of resource reduction and harvest limitations, and was used to determine whether the level of effects of each alternative is extensive enough to cause a possible significant restriction to subsistence uses on public lands. Section 3, Affected Environment, provides information regarding areas and resources important for subsistence use, and the degree of dependence of affected villages on different subsistence populations. The information contained in the ASDP EIS is the primary data used in this analysis.

A subsistence evaluation and findings under ANILCA § 810 must also include a cumulative impacts analysis. Section II, below, begins with an evaluation and finding for each of the six Alternatives, as well as the Full-Field Development scenarios that accompany Alternatives A, B, C-1 and D. Finally, the cumulative case is analyzed by viewing the ASDP as a whole, and including all proposed activities on all lands and by using the most intensive cumulative case as is discussed in Section 4G of the ASDP EIS. This approach follows the law as defined in ANILCA with regard to public lands, and also allows for the evaluation of impacts on subsistence by portions of the ASDP project which are proposed on state or private lands, as well as subsistence restrictions that may be caused by past, present, and future activities that may occur, or have already occurred, in the surrounding area.

In addition to ANILCA, Environmental Justice as defined in Executive Order 12898 also calls for the analysis 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. To this end, the subsistence analyses of all alternatives located in Section 4 of the ASDP EIS have been reviewed, and are found to comply with the Environmental Justice Executive Order.

II. ANILCA 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 F, Full-Field Development scenarios, and the cumulative case. The evaluations and findings focus on potential impacts to the subsistence resources themselves, as well as access, economic, and cultural issues that relate to subsistence use. For each individual alternative, the evaluation and finding applies to public lands—those lands that are under the stewardship of the Bureau of Land Management, and are subject to ANILCA review. The entire proposed action, together with other past, present, and reasonably foreseeable future actions that may restrict subsistence, are evaluated in the cumulative case.

A. Evaluation and Finding for Alternative A—Theme: Applicants Proposed Action

Alternative A of the EIS consists of the applicant's proposed action. Specifically, the alternative would allow for the construction of five new production pads, CD-3 through CD-7, as well as infrastructure such as above ground pipelines, gravel roads, and a gravel airstrip. Only CD-6, CD-7 and infrastructure associated with these two pads are located on BLM lands.

Also included under this alternative are the following parameters:

- All pipelines would be constructed on vertical support members (VSMs) and would be at least five feet in elevation above the tundra.
- Power lines would be supported on cable trays attached to the VSMs, except for between CD-6 and CD-7, where they would be supported from power poles.
- The proposed CD-6 pad, and a portion of the proposed gravel access road and oil pipeline, would be located within the Fish Creek setback area, a three-mile zone along both banks of the creek in which no permanent oil and gas surface facilities are allowed under the current Northeast National Petroleum Reserve-Alaska ROD.

1. Evaluation of the Effect of Such Use, Occupancy, or Disposition on Subsistence Uses and Needs

The analysis of Alternative A presented in Section 4A.4.3.1 considers the effects of construction and operation on subsistence. During the construction period, the analysis concludes that the effect of Alternative A would have negative consequences to access to subsistence resources for the community of Nuiqsut, and possibly Atqasuk and/or Barrow. This issue would result from the temporary displacement of caribou, wolf and wolverine during the construction period, as well as the presence of construction activities near key hunting and fishing areas along Fish Creek. The displacement of resources would mean hunters from Nuiqsut would need to travel farther, and expend a greater amount of time, effort, and financial resources to partake in their traditional hunting and gathering activities. Additionally, subsistence hunters have testified that they commonly avoid construction or development areas (Section 4A.4.3.1; Appendix A). Road construction will occur primarily in winter and is expected to take a minimum of two years. Production pad and pipeline construction would also occur during the winter; however, well drilling on the production pads would occur year-round for CD-6 and CD-7. All construction is estimated to be completed by the winter of 2010-2011.

At issue for subsistence during the operation period are three primary development infrastructures: gravel roads, pipelines, and power lines. Traffic on gravel roads has been shown to disrupt or delay caribou movement, and pipeline(s) could impede the movement of caribou, especially during the winter months when snow is on the ground. Similarly, many hunters are wary to shoot or discharge firearms near pipelines or other development infrastructure for safety or environmental impact reasons (i.e., no one wants to create an oil spill by piercing a pipeline). Therefore, even though animals may become acclimated to infrastructure during the operation period, hunters will still need to travel greater distances and expend greater time, effort, and money to harvest traditional resources. Although local residents would be allowed to use the gravel road that is located on public lands, there are no plans to connect this road to the village of Nuiqsut.

As is stated in Section 4A.4.3.1, the outcome of oil development has resulted in the avoidance of oil and gas infrastructure by Nuiqsut caribou harvesters, with approximately 78 percent of the 1993 and 1994 caribou harvests occurring greater than 16 miles from the development east of the Colville River; 51 percent of the 1999-2000 harvests occurring greater than 16 miles; and 27 percent occurring six to 15 miles from the Alpine facility (Pedersen et al. 2000; Pedersen and Taalak 2001). It follows that constructing production pads and associated infrastructure in and near the Fish Creek area would alter the established pattern of subsistence use at that location, as users will shift their harvest areas away from development.

Analyses presented for individual subsistence species (i.e., fish, land mammals, waterfowl, etc.) finds negligible impacts as a result of both construction and operation under Alternative A, with most impacts being temporary according to the biological scale and insignificant at the population level (see Section

4A.3.3, 4A.3.4, and 4A.3.5). These findings are primarily due to the fact that the majority of the construction will occur during the winter, which serves to limit the effects of potential impacts to many resources, and because ConocoPhillips has been in operation on the North Slope for many years, and has instituted several standard operating procedures that limit the intensity and extent of direct and indirect impacts to most biological resources (i.e., constructing roads away from pipelines, designing pads and roads so there is a minimum footprint, instituting effective predator control designs/plans; conducting ongoing wildlife studies, etc.).

2. Evaluation of the Availability of Other Lands for Oil and Gas Exploration and Development

The Naval Petroleum Reserves Production Act of 1976 (NPRPA), as amended, gives the Secretary of the Interior the authority to conduct oil and gas leasing in the National Petroleum Reserve-Alaska. However, the law prohibited petroleum production from occurring in National Petroleum Reserve-Alaska until authorized by Congress. In 1980, Congress granted that authorization through appropriations legislation and directed the Secretary of the Interior to undertake a program of competitive leasing of potential oil and gas tracts in the Reserve.

The BLM is undertaking the ASDP EIS to fulfill the mandates of the President's energy policy, as well as BLM's responsibilities to manage these lands under the authority of FLPMA, NPRPA, the 1980 appropriation legislation, and other authorities cited elsewhere in this EIS. The President's energy policy directs the Secretary of the Interior to "consider additional environmentally responsible oil and gas development, based on sound science and the best available technology." The ASDP Area under consideration was chosen because of the discovery of recoverable oil reserves on existing leases, as well as the proximity of the oil discoveries to existing oil infrastructure. Other lands managed by the BLM are either too remote for economically viable oil and gas production, or have not had discoveries of sufficient quantities of oil or gas to make oil production feasible and economic. Lands outside of the National Petroleum Reserve-Alaska would not satisfy the congressional direction to explore and develop oil and gas resources within the National Petroleum Reserve-Alaska. State and Native Corporation lands cannot be considered as "other lands" in a BLM plan.

3. Evaluation of Other Alternatives that would Reduce or Eliminate the Use, Occupancy, or Disposition of Public Lands Needed for Subsistence Purposes

Other alternatives that would reduce or eliminate the use of public lands needed for subsistence purposes are described in the main body of the ASDP EIS, many of which became alternatives considered but eliminated from further analysis because of either economic or technological disadvantages, or because they did not meet the purposes of the proposed action to produce the oil discovered on CPAI's leases. Section 2.6 contains a detailed discussion of these alternatives, including rationale regarding each alternative's infeasibility for the proposed project at hand.

4. Finding

The effects of Alternative A fall above the level of significantly restricting subsistence use for the community of Nuiqsut. The potential impacts to subsistence resources by displacement, and impacts to access by subsistence users exceed the non-significant level; therefore, a positive determination pursuant to ANILCA § 810 is required.

According to BLM ANILCA policy, "significant restrictions are differentiated from insignificant restrictions by a process assessing whether the action undertaken shall have no or a slight effect as opposed to large or substantial effects" (BLM Instructional Memorandum No. AK86-350, Policy for Section 810 Compliance with the Alaska National Interest Lands Conservation Act). Further direction states "no significant restriction results when there would be 'no or a slight' reduction in the abundance of harvestable resources and no or only 'occasional' redistribution of these resources; there would be no effect (or slight inconvenience) on the ability of harvesters to reach and use active subsistence harvesting sites; and there would be no substantial increase in competition for harvestable resources" (ibid.).

The positive finding for Alternative A of a significant restriction to subsistence for the village of Nuiqsut is based on the following criteria:

- Displacement of caribou, wolf and wolverine from the Fish Creek traditional hunting area during the winter construction phase is expected to last for two years; two years is considered greater than “occasional redistribution.”
- The presence of oil and gas infrastructure in the Fish Creek traditional hunting area is considered more than a “slight inconvenience” to the subsistence users in Nuiqsut, who have historically altered their traditional hunting patterns to avoid oil and gas development (Section 4A.4.3.1 Operation Period)
- The Fish Creek area is proportionately the area with the highest use for Nuiqsut’s winter harvest of caribou (Figure 3.4.3.2-6), and 25 percent of Nuiqsut’s caribou harvest for 1993, 1994–1995, 2001, and 2002 come from the Fish and Judy Creeks area (Figure 3.4.3.2-7). Fish Creek is also an important Nuiqsut harvest area for geese (more than 45 percent) (Figure 3.4.3.2-15), and more than half of wolves harvested by Nuiqsut hunters come from the Fish and Judy Creek areas (Figure 3.4.3.2-21). Infrastructure, traffic, and industrial effects such as noise and emissions in this area have the potential to reduce the abundance of harvestable resources, alter the distribution of these resources, and result in the non-use of traditional harvest areas.
- The construction of pipelines at 5 ft. has been reported to hinder crossing success by both caribou and subsistence users during the winter months, when snow tends to drift under the pipeline. Altering the ability of hunters or caribou to have clear access to the Fish Creek subsistence use area would cause an alteration of the established harvest pattern in this area.

Depending on the resulting migration patterns for the Teshekpuk Lake Herd, and the areas of relocation for other subsistence species, the communities of Barrow, Atqasuk and Anaktuvuk Pass may also be affected. However, existing data does not warrant a positive finding under ANILCA § 810 for these three communities.

B. Evaluation and Finding for Alternative B—Theme: Conformance with Stipulations

Alternative B of the EIS would also allow for the construction of five new production pads, CD-3 through CD-7, but would require conformance with the existing Northeast National Petroleum Reserve-Alaska ROD. As a result, the location of CD-6 would be moved out of the 3-mile setback along Fish Creek, and gravel roads would only connect CD-6 to CD-7. Access to gravel roads would be restricted to local residents, and a gravel airstrip would be required at CD-6. All pipelines would be constructed on VSMs and would be at least five feet in elevation above the tundra. Power lines would be buried in the roadways, or buried in the tundra next to pipelines where roads do not exist. At stream crossings, power lines would be hung off bridge pipelines, or would be trenched across minor drainages.

1. Evaluation of the Effect of Such Use, Occupancy, or Disposition on Subsistence Uses and Needs

The evaluation for Alternative B is expected to be essentially the same as that presented for Alternative A with regard to the construction and operational periods. Construction of pipelines, gravel roads, and gravel airstrips would occur during the winter, and would occur in hunting and fishing areas near Fish Creek. Access to subsistence harvest areas would be greatly reduced by the presence of infrastructure, as well as by the displacement of key subsistence resources. Aircraft would be used to access CD-6, which would have a greater impact on land mammals (especially caribou), and waterfowl than Alternative A (see Sections 4B.3.3.1, 4B3.4.1, 4B3.5.1, and 4B.4.4.1).

2. Evaluation of the Availability of Other Lands for Oil and Gas Exploration and Development

The Naval Petroleum Reserves Production Act of 1976 (NPRPA), as amended, gives the Secretary of the Interior the authority to conduct oil and gas leasing in the National Petroleum Reserve-Alaska. However, the law prohibited petroleum production from occurring in National Petroleum Reserve-Alaska until authorized by Congress. In 1980, Congress granted that authorization through appropriations legislation

and directed the Secretary of the Interior to undertake a program of competitive leasing of potential oil and gas tracts in the Reserve.

The BLM is undertaking the ASDP EIS to fulfill the mandates of the President's energy policy, as well as BLM's responsibilities to manage these lands under the authority of FLPMA, NPRPA, the 1980 appropriation legislation, and other authorities cited elsewhere in this EIS. The President's energy policy directs the Secretary of the Interior to "consider additional environmentally responsible oil and gas development, based on sound science and the best available technology." The ASDP Area under consideration was chosen because of discovery of recoverable oil reserves on existing leases, as well as the proximity of the reservoirs to existing oil infrastructure. Other lands managed by the BLM are either too remote for economically viable oil and gas production, or have not had discoveries of sufficient quantities of oil or gas to make oil production feasible and economic. Lands outside of the National Petroleum Reserve-Alaska would not satisfy the congressional direction to explore and develop oil and gas resources within the National Petroleum Reserve-Alaska. By policy, State and Native Corporation lands cannot be considered as "other lands" in a BLM plan.

3. Evaluation of Other Alternatives that would Reduce or Eliminate the Use, Occupancy, or Disposition of Public Lands Needed for Subsistence Purposes

Other alternatives that would reduce or eliminate the use of public lands needed for subsistence purposes are described in the main body of the ASDP EIS, many of which became alternatives considered but eliminated from further analysis because of either economic or technological disadvantages, or because they did not meet the purposes of the proposed action to produce the oil discovered on CPAI's leases. Section 2.6 contains a detailed discussion of these alternatives, including rationale regarding each alternative's infeasibility for the proposed project at hand.

4. Finding

The effects of Alternative B fall above the level of significantly restricting subsistence use for the community of Nuiqsut. The potential impacts to subsistence resources and access discussed above exceed the non-significant level; therefore, a positive determination is required pursuant to ANILCA § 810.

The positive finding for Alternative B of a significant restriction to subsistence for the village of Nuiqsut is based on the following criteria:

- Displacement of caribou, wolf and wolverine from the Fish Creek traditional hunting area during the winter construction phase is expected to last for two years; two years is considered greater than "occasional redistribution."
- The construction of pipelines at 5 ft. has been reported to hinder crossing success by both caribou and subsistence users during the winter months, when snow tends to drift under the pipeline. Altering the ability of hunters or caribou to have clear access to the Fish Creek subsistence use area would cause an alteration of the established harvest pattern in this area.

Depending on the resulting migration patterns for the Teshekpuk Lake Herd, and the areas of relocation for other subsistence species, the communities of Barrow, Atqasuk and Anaktuvuk Pass may also be affected. However, existing data does not warrant a positive finding under ANILCA § 810 for these three communities.

C. Evaluation and Finding for Alternative C—Theme: Alternative Access Routes

Alternative C-1 of the EIS is similar to Alternative A, with alternate routes for the gravel road and pipeline between CD-6 and CD-7. Specifically, Alternative C-1 differs from Alternative A by connecting Nuiqsut to the gravel road system, hanging all power lines from power poles, and constructing pipelines at a minimum height of 7 feet. The proposed CD-6 pad would be located within the Fish Creek setback area, a three-mile zone along both banks of the creek in which no permanent oil and gas surface facilities are allowed under the current Northeast National Petroleum Reserve-Alaska ROD.

Alternative C-2 differs from Alternative C-1 in that it incorporates the proposed State of Alaska Colville River Road, a road that would be constructed on state lands and would cross the Colville River on a bridge constructed south of the community. This road would be connected to the community by a proposed Bureau of Indian Affairs Road, and would connect to the proposed CD-6 and CD-7 development pads. An approximate 1-mile long portion of the road proposed to bypass Nuiqsut in Alternative C-2 crosses BLM-managed lands, comprising a small increase in the amount of public lands utilized for the project.

1. Evaluation of the Effect of Such Use, Occupancy, or Disposition on Subsistence Uses and Needs

The effects of Alternatives C-1 and C-2 are expected to be the same as those presented for Alternative A with regard to subsistence resources during road and pipeline construction. The increase of pipeline height from 5 feet to 7 feet would aid in allowing for free movement of caribou or subsistence users on snowmobiles. However, the resulting access afforded to subsistence hunters through the road connection to Nuiqsut would most likely result in a concerted focus of harvesting efforts along the road from vehicles. This could result in increased competition, and a hunter-caused displacement of resources due to the large number of vehicles utilizing the roads (see Sections 4C.3.4.1 and 4C.4.3.1).

2. Evaluation of the Availability of Other Lands for Oil and Gas Exploration and Development

The Naval Petroleum Reserves Production Act of 1976 (NPRPA), as amended, gives the Secretary of the Interior the authority to conduct oil and gas leasing in the National Petroleum Reserve-Alaska. However, the law prohibited petroleum production from occurring in National Petroleum Reserve-Alaska until authorized by Congress. In 1980, Congress granted that authorization through appropriations legislation and directed the Secretary of the Interior to undertake a program of competitive leasing of potential oil and gas tracts in the Reserve.

The BLM is undertaking the ASDP EIS to fulfill the mandates of the President's energy policy, as well as BLM's responsibilities to manage these lands under the authority of FLPMA, NPRPA, the 1980 appropriation legislation, and other authorities cited elsewhere in this EIS. The President's energy policy directs the Secretary of the Interior to "consider additional environmentally responsible oil and gas development, based on sound science and the best available technology." The ASDP Area under consideration was chosen because of the discovery of recoverable oil reserves on existing leases, as well as the proximity of the reservoirs to existing oil infrastructure. Other lands managed by the BLM are either too remote for economically viable oil and gas production, or have not had discoveries of sufficient quantities of oil or gas to make oil production feasible and economic. Lands outside of the National Petroleum Reserve-Alaska would not satisfy the congressional direction to explore and develop oil and gas resources within the National Petroleum Reserve-Alaska. State and Native Corporation lands cannot be considered as "other lands" in a BLM plan.

3. Evaluation of Other Alternatives that would Reduce or Eliminate the Use, Occupancy, or Disposition of Public Lands Needed for Subsistence Purposes

Other alternatives that would reduce or eliminate the use of public lands needed for subsistence purposes are described in the main body of the ASDP EIS, many of which became alternatives considered but eliminated from further analysis because of either economic or technological disadvantages or because they did not meet the purposes of the proposed action to produce the oil discovered on CPAI's leases. Section 2.6 contains a detailed discussion of these alternatives, including rationale regarding each alternative's infeasibility for the proposed project at hand.

4. Finding

The effects of Alternatives C-1 and C-2 fall above the level of significantly restricting subsistence use for the community of Nuiqsut. The potential impacts to subsistence resources by displacement during construction and operation exceed the non-significant level; therefore, a positive determination is required pursuant to ANILCA § 810.

The positive finding for Alternatives C-1 and C-2 of a significant restriction to subsistence for the village of Nuiqsut is based on the following criteria:

- Displacement of caribou, wolf and wolverine from the Fish Creek traditional hunting area during the winter construction phase is expected to last for two years, at a minimum, for both Alternatives; two years is considered greater than “occasional redistribution.”
- The presence of oil and gas infrastructure in the Fish Creek traditional hunting area is considered more than a “slight inconvenience” to the subsistence users in Nuiqsut, who have historically altered their traditional hunting patterns to avoid oil and gas development (Section 4A.4.3.1 Operation Period)

However, it should be noted that some residents of Nuiqsut are very receptive to having road access from the village into the Fish Creek subsistence use area. A road connection would alleviate the access issues that occur under Alternatives A and B, because users would be able to travel directly from the village into the Fish Creek area without having to cross under or around any pipelines.

Depending on the resulting migration patterns for the Teshekpuk Lake Herd, and the areas of relocation for other subsistence species, the communities of Barrow, Atkasuk and Anaktuvuk Pass may also be affected. However, existing data does not warrant a positive finding under ANILCA § 810 for these three communities.

D. Evaluation and Finding for Alternative D—Theme: Roadless Development

Alternative D varies greatly from all other alternatives in that all of the proposed production pads would be roadless under this alternative, with access only by air, ice-road, or low-pressure vehicles allowed for tundra travel. Either airstrips or helipads would be constructed at every production pad to facilitate year-round access by either fixed-wing aircraft or helicopters. Pipelines would connect all production pads, and would be constructed at a minimum height of 7 feet above the tundra, with all powerlines located in cable trays mounted on the VSMs. The CD-6 production pad and the pipeline connecting CD-5 to CD-6 and CD-6 to CD-7 would be located in the 3 mile setback along Fish Creek. All construction activities would be staggered under this alternative, with construction occurring at those pads considered to have the highest production potential first.

1. Evaluation of the Effect of Such Use, Occupancy, or Disposition on Subsistence Uses and Needs

Alternative D has been divided into two subalternatives: D-1, in which access to production pads would be by fixed-wing aircraft; and D-2, in which access would be by helicopter. Both Alternatives D-1 and D-2 are expected to have less direct effects to subsistence during the construction period for pipelines and airstrips/helipads, due to the reduction in construction effort. Displacement of animals, especially wolf, wolverine, and caribou would occur during construction. However, the lack of extensive vehicle traffic needed for the construction of gravel roads, and the predominant use of low pressure vehicles and other winter ice-road construction equipment will reduce the intensity of the effect (see Section 4D.3.4.1).

During the operational phase, the primary effect to subsistence resources will be by aircraft—helicopter or fixed-wing—both of which have been shown to cause displacement of caribou and other resources. The extent of this impact will be dependent on the number and frequency of aircraft trips to the various production pads, and on the type of aircraft utilized. Specifically, airstrip use would disturb and temporarily displace subsistence species from the surrounding area. Additionally, North Slope resident observations, comments from public meetings, and scoping testimonies by subsistence hunters recount numerous incidents of low-altitude flights (helicopter and scientific survey flights) diverting subsistence species from air transport corridors and survey transects (see Sections 4A.3.4 and 4A.4.3.1).

Constructing pipelines at a minimum height of 7 feet will allow for improved access for both caribou and snowmobiles, and will serve to mitigate access issues to the Fish Creek subsistence use area. However, a shift in current subsistence use patterns in the Fish Creek area would still be a likely outcome, due to the presence of oil infrastructure and the documented avoidance of development by Nuiqsut hunters.

2. Evaluation of the Availability of Other Lands for Oil and Gas Exploration and Development

The Naval Petroleum Reserves Production Act of 1976 (NPRPA), as amended, gives the Secretary of the Interior the authority to conduct oil and gas leasing in the National Petroleum Reserve-Alaska. However, the law prohibited petroleum production from occurring in National Petroleum Reserve-Alaska until authorized by Congress. In 1980, Congress granted that authorization through appropriations legislation and directed the Secretary of the Interior to undertake a program of competitive leasing of potential oil and gas tracts in the Reserve.

The BLM is undertaking the ASDP EIS to fulfill the mandates of the President's energy policy, as well as BLM's responsibilities to manage these lands under the authority of FLPMA, NPRPA, the 1980 appropriation legislation, and other authorities cited elsewhere in this EIS. The President's energy policy directs the Secretary of the Interior to "consider additional environmentally responsible oil and gas development, based on sound science and the best available technology." The ASDP Area under consideration was chosen because of the discovery of recoverable oil reserves on existing leases, as well as the proximity of the oil discoveries to existing oil infrastructure. Other lands managed by the BLM are either too remote for economically viable oil and gas production, or have not had discoveries of sufficient quantities of oil or gas to make oil production feasible and economic. Lands outside of the National Petroleum Reserve-Alaska would not satisfy the congressional direction to explore and develop oil and gas resources within the National Petroleum Reserve-Alaska. State and Native Corporation lands cannot be considered as "other lands" in a BLM plan.

3. Evaluation of Other Alternatives that would Reduce or Eliminate the Use, Occupancy, or Disposition of Public Lands Needed for Subsistence Purposes

Other alternatives that would reduce or eliminate the use of public lands needed for subsistence purposes are described in the main body of the ASDP EIS, many of which became alternatives considered but eliminated from further analysis because of either economic or technological disadvantages or because they did not meet the purposes of the proposed action to produce the oil discovered on CPAI's leases. Section 2.6 contains a detailed discussion of these alternatives, including rationale regarding each alternative's infeasibility for the proposed project at hand.

4. Finding

The effects of Alternative D fall above the level of significantly restricting subsistence use for the community of Nuiqsut. While the potential impacts to subsistence resources by displacement during construction are greatly reduced under this alternative, and access to key subsistence harvest areas near Fish Creek is enhanced by 7' tall pipelines, the resultant increase in air or helicopter traffic to the CD-6 and CD-7 pads during operation would result in displacement of subsistence species. If adequate mitigation measures are put in place to reduce the impacts of aircraft traffic to production facilities, then impacts during the production phase will also be greatly reduced.

The positive finding for Alternatives D-1 and D-2 of a significant restriction to subsistence for the village of Nuiqsut is based on the following criteria:

- Displacement of caribou from the Fish Creek traditional hunting area during the operational phase as a result of air traffic, especially helicopter traffic, is expected to last for life of the project within the flight corridor; this amount of displacement is considered greater than "occasional redistribution."
- The presence of oil and gas infrastructure in the Fish Creek traditional hunting area is considered more than a "slight inconvenience" to the subsistence users in Nuiqsut, who have historically altered their traditional hunting patterns to avoid oil and gas development (Section 4A.4.3.1 Operation Period)

Depending on the resulting migration patterns for the Teshekpuk Lake Herd, and the areas of relocation for other subsistence species, the communities of Barrow, Atqasuk and Anaktuvuk Pass may also be affected. However, existing data does not warrant a positive finding under ANILCA § 810 for these three communities.

E. Evaluation and Finding for Alternative E–Theme: No Action Alternative

The No Action Alternative of the ASDP DEIS precludes the currently proposed development in the ASDP Area. No oil in the ASDP Area would be produced, except that which is currently extracted through the existing Alpine Facility. No new roads, airstrips, pipelines or other oil and gas facilities would be constructed, beyond what has been authorized in connection with CPAI's current development at CD-1 and CD-2.

However, activities that are currently allowed as a result of the 1998 Northeast National Petroleum Reserve-Alaska Integrated Activity Plan/Environmental Impact Statement Record of Decision (ROD) would continue. These activities include seismic exploration, exploratory drilling of test wells, and the construction of ice roads and pads to support these operations.

1. Evaluation of the Effect of Such Use, Occupancy, or Disposition on Subsistence Uses and Needs

Effects to subsistence resources of activities that would result under the No-Action Alternative consist primarily of those actions associated with scientific research during the summer, and oil and gas exploration during the winter. Numerous studies are conducted on a year-round basis on the North Slope, and aerial survey by fixed-wing aircraft or helicopter, or ground surveys on foot or by off-highway vehicle (OHV), all have the potential to disturb animals. The most frequent complaints voiced by local subsistence users is the large amount of aerial disturbance to animals that occurs each field season in conjunction with scientific studies (Subsistence Advisory Panel [SAP] Minutes, June 6, 2002 meeting; SAP Minutes, August 22, 2002 meeting). However, the mandatory stipulations contained in the Northeast National Petroleum Reserve-Alaska Record of Decision serve to minimize the potential effects of research by various entities. As a result, the effects of non-oil and gas activities on species utilized by subsistence users is expected to be local and short-term, and to have no regional population effects.

Subsistence activities that occur during the winter season, and therefore could be affected by seismic exploration or exploratory drilling include: furbearer trapping, fishing, and opportune hunting. Recent testimony by community members from Barrow and Nuiqsut has indicated that seismic exploration does interfere with overland travel by snowmobile (SAP Minutes, June 6, 2002 meeting; Harry Brower, personal communication). Specifically, the deep ruts left in the snow by seismic vehicles create difficult terrain to traverse, and result in excessive wear-and-tear on both snowmobiles and the sleds that are pulled behind them. Replacement or repair of these tools that are used for subsistence harvesting is costly. However, despite the hindrance and annoyance, seismic exploration does not create a substantial barrier between communities and subsistence resources.

2. Evaluation of the Availability of Other Lands for Oil and Gas Exploration and Development

The Naval Petroleum Reserves Production Act of 1976 (NPRPA), as amended, gives the Secretary of the Interior the authority to conduct oil and gas leasing in the National Petroleum Reserve-Alaska. However, the law prohibited petroleum production from occurring in National Petroleum Reserve-Alaska until authorized by Congress. In 1980, Congress granted that authorization through appropriations legislation and directed the Secretary of the Interior to undertake a program of competitive leasing of potential oil and gas tracts in the Reserve.

The BLM is undertaking the ASDP EIS to fulfill the mandates of the President's energy policy, as well as BLM's responsibilities to manage these lands under the authority of FLPMA, NPRPA, the 1980 appropriation legislation, and other authorities cited elsewhere in this EIS. The President's energy policy directs the Secretary of the Interior to "consider additional environmentally responsible oil and gas development, based on sound science and the best available technology." The ASDP Area under consideration was chosen because of the discovery of recoverable oil reserves on existing leases, as well as the proximity of the discovered oil to existing oil infrastructure. Other lands managed by the BLM are either too remote for economically viable oil and gas production, or have not had discoveries of sufficient quantities of oil or gas to make oil production feasible and economic. Lands outside of the National

Petroleum Reserve-Alaska would not satisfy the congressional direction to explore and develop oil and gas resources within the National Petroleum Reserve-Alaska. State and Native Corporation lands cannot be considered as “other lands” in a BLM plan.

3. Evaluation of Other Alternatives that would Reduce or Eliminate the Use, Occupancy, or Disposition of Public Lands Needed for Subsistence Purposes

No new oil and gas production or processing facilities would be developed in the ASDP Area under the No Action Alternative, thus no additional public lands would be made unavailable for subsistence uses.

4. Finding

The effects of the No Action Alternative fall below the level of possibly significantly restricting subsistence uses and needs. The impacts to subsistence resources and access discussed above are minimal. This finding applies to the entire Planning Area.

F. Evaluation and Finding for Alternative F—The Preferred Alternative

Alternative F is the agencies preferred alternative, and was developed cooperatively between the State of Alaska, the Environmental Protection Agency, and the Bureau of Land Management. Alternative F differs from Alternative A, the Applicants Proposed Action, in the following ways: the road and pipeline between CD-5, CD-6 and CD-7 has been realigned to avoid as much as is possible of the 3-mile Fish Creek setback; culverts would be utilized where needed on all roads to prevent raising of water levels; pipelines will be elevated to 7 feet above the ground at VSMs; and powerlines between CD-6 and CD-7 will be placed on pipeline VSMs. Alternative F maintains the same construction, start-up and operations schedule for as Alternative A, and all of the production pad locations and design criteria remains the same.

1. Evaluation of the Effect of Such Use, Occupancy, or Disposition on Subsistence Uses and Needs

The evaluation for Alternative F is expected to be the same as that presented for Alternative A with regard to the construction and operational periods. Construction of gravel roads and pipelines would occur during the winter in actively-used hunting and fishing areas near Fish Creek, and will result in the displacement of key subsistence resources at that time. During the operational period, the increase of pipeline height from 5 feet to 7 feet would aid in allowing for free movement of caribou or subsistence users on snowmobiles, however, altered subsistence harvest patterns of use as a result of the presence of infrastructure would still be a detrimental effect.

2. Evaluation of the Availability of Other Lands for Oil and Gas Exploration and Development

The Naval Petroleum Reserves Production Act of 1976 (NPRPA), as amended, gives the Secretary of the Interior the authority to conduct oil and gas leasing in the National Petroleum Reserve-Alaska. However, the law prohibited petroleum production from occurring in National Petroleum Reserve-Alaska until authorized by Congress. In 1980, Congress granted that authorization through appropriations legislation and directed the Secretary of the Interior to undertake a program of competitive leasing of potential oil and gas tracts in the Reserve.

The BLM is undertaking the ASDP EIS to fulfill the mandates of the President’s energy policy, as well as BLM’s responsibilities to manage these lands under the authority of FLPMA, NPRPA, the 1980 appropriation legislation, and other authorities cited elsewhere in this EIS. The President’s energy policy directs the Secretary of the Interior to “consider additional environmentally responsible oil and gas development, based on sound science and the best available technology.” The ASDP Area under consideration was chosen because of the discovery of recoverable oil reserves on existing leases, as well as the proximity of the oil discoveries to existing oil infrastructure. Other lands managed by the BLM are either too remote for economically viable oil and gas production, or have not had discoveries of sufficient quantities of oil or gas to make oil production feasible and economic. Lands outside of the National Petroleum Reserve-Alaska would not satisfy the congressional direction to explore and develop oil and gas

resources within the National Petroleum Reserve-Alaska. State and Native Corporation lands cannot be considered as “other lands” in a BLM plan.

3. Evaluation of Other Alternatives that would Reduce or Eliminate the Use, Occupancy, or Disposition of Public Lands Needed for Subsistence Purposes

Other alternatives that would reduce or eliminate the use of public lands needed for subsistence purposes are described in the main body of the ASDP EIS, many of which became alternatives considered but eliminated from further analysis because of either economic or technological or because they did not meet the purposes of the proposed action to produce the oil discovered on CPAI’s leases. Section 2.6 contains a detailed discussion of these alternatives, including rationale regarding each alternative’s infeasibility for the proposed project at hand.

4. Finding

The effects of Alternative F fall above the level of significantly restricting subsistence use for the community of Nuiqsut. While access to key subsistence harvest areas near Fish Creek is enhanced by 7’ tall pipelines, the potential impacts to subsistence resources by displacement, and impacts to current subsistence patterns of use exceed the non-significant level; therefore, a positive determination pursuant to ANILCA § 810 is required.

The positive finding for Alternative F of a significant restriction to subsistence for the village of Nuiqsut is based on the following criteria:

- Displacement of caribou, wolf and wolverine from the Fish Creek traditional hunting area during the winter construction phase is expected to last for two years; two years is considered greater than “occasional redistribution.”
- The presence of oil and gas infrastructure in the Fish Creek traditional hunting area is considered more than a “slight inconvenience” to the subsistence users in Nuiqsut, who have historically altered their traditional hunting patterns to avoid oil and gas development (Section 4A.4.3.1 Operation Period)
- The Fish Creek area is proportionately the area with the highest use for Nuiqsut’s winter harvest of caribou (Figure 3.4.3.2-6), and 25 percent of Nuiqsut’s caribou harvest for 1993, 1994–1995, 2001, and 2002 come from the Fish and Judy creeks area (Figure 3.4.3.2-7). Fish Creek is also an important Nuiqsut harvest area for geese (more than 45 percent) (Figure 3.4.3.2-15), and more than half of wolves harvested by Nuiqsut hunters come from the Fish and Judy Creek areas (Figure 3.4.3.2-21). Infrastructure, traffic, and industrial effects such as noise and emissions in this area has the potential to reduce the abundance of harvestable resources, alter the distribution of these resources, and result in the non-use of traditional harvest areas.

Depending on the resulting migration patterns for the Teshekpuk Lake Herd, and the areas of relocation for other subsistence species, the communities of Barrow, Atqasuk and Anaktuvuk Pass may also be affected. However, existing data does not warrant a positive finding under ANILCA § 810 for these three communities.

G. Evaluation and Finding for Full-Field Development (Alternatives A-D, and F)

Full-field development scenarios have been created for Alternatives A, B, C-1, and D discussed above. These scenarios are hypothetical estimations of future oil and gas production pads and facilities in the Northeast National Petroleum Reserve-Alaska, and were created to allow analysts to explore a full range of potential environmental issues that could occur. All Full-Field Development scenarios consist of at least 20 additional production pads (10 to 15 of which would occur on public lands), up to 2 additional processing facilities (such as the Alpine CPF), and associated pipelines, roads, and bridges. It should be stressed that none of the Full-Field Development scenarios are being considered as actions that will be approved or occur as part of the ASDP, and that any additional future proposals for development in the National Petroleum Reserve-Alaska will be subject to additional NEPA analysis.

1. Evaluation of the Effect of Such Use, Occupancy, or Disposition on Subsistence Uses and Needs

Because of the large amount of development posited for every Full-Field Development scenario, all Full-Field Development alternatives have the potential to greatly affect subsistence resources and subsistence uses for the community of Nuiqsut, and most likely for the communities of Barrow, Atqasuk and possibly Anaktuvuk Pass.

2. Evaluation of the Availability of Other Lands for Oil and Gas Exploration and Development

The Naval Petroleum Reserves Production Act of 1976 (NPRPA), as amended, gives the Secretary of the Interior the authority to conduct oil and gas leasing in the National Petroleum Reserve-Alaska. However, the law prohibited petroleum production from occurring in National Petroleum Reserve-Alaska until authorized by Congress. In 1980, Congress granted that authorization through appropriations legislation and directed the Secretary of the Interior to undertake a program of competitive leasing of potential oil and gas tracts in the Reserve. The President's energy policy directs the Secretary of the Interior to "consider additional environmentally responsible oil and gas development, based on sound science and the best available technology." The Full-Field Development areas were chosen because of their proximity to existing and future potential oil fields. Other lands within the National Petroleum Reserve-Alaska that are managed by the BLM are either too remote for economically viable oil and gas production, or have a low probability of containing sufficient quantities of oil or gas to make oil production feasible and economic. Lands outside of the National Petroleum Reserve-Alaska would not satisfy the congressional direction to explore and develop oil and gas resources within the National Petroleum Reserve-Alaska. State and Native Corporation Lands cannot be considered alternative lands in a BLM plan.

3. Evaluation of Other Alternatives that would Reduce or Eliminate the Use, Occupancy, or Disposition of Public Lands Needed for Subsistence Purposes

Given the hypothetical nature of the Full-Field Development scenarios, other alternatives that would reduce the use of these public lands for subsistence purposes would be hypothetical other fields on the public lands in the National Petroleum Reserve-Alaska, which would also likely adversely impact subsistence uses. It is not possible to predict where these fields might be developed. The Full-Field Development scenarios for this EIS were intentionally hypothesized near areas of environmental or subsistence concerns, so that authors analyzing the proposed alternatives in the main body of the ASDP DEIS would be able to evaluate other potential issues not raised by the proposed action.

4. Finding

The effects of all Full-Field Development scenarios fall above the level of significantly restricting subsistence use for the community of Nuiqsut, and possibly also for the communities of Barrow and Atqasuk. The potential impacts to subsistence resources by displacement during construction and operation, as well as the decrease in access to key subsistence harvest areas exceed the non-significant level; therefore, a positive determination is required pursuant to ANILCA § 810.

Depending on the resulting migration patterns for the Teshekpuk Lake Herd, and the areas of relocation for other subsistence species, the community Anaktuvuk Pass may also be affected.

H. Evaluation and Finding for the Cumulative Case

The cumulative case as presented in Section 4G takes into consideration all past, present and reasonably foreseeable future activities on the North Slope, in addition to the proposed action alternatives discussed above and Full-Field Development. These activities include major oil spills, both on land and in the sea; development occurring elsewhere on the North Slope, including Prudhoe Bay, Kuparuk, and offshore; and exploration and development in other areas of the National Petroleum Reserve-Alaska. Additionally, for this ANILCA 810 analysis, the cumulative case takes into consideration all activities proposed to take place on State and private lands.

1. Evaluation of the Effect of Such Use, Occupancy, or Disposition on Subsistence Uses and Needs

The cumulative case includes potential adverse effects on subsistence harvest patterns caused by existing and planned development activities, multiple lease sales proposed for the Northwest National Petroleum Reserve-Alaska Planning Area, additional sales in the Northeast National Petroleum Reserve-Alaska following a current planning effort for that area, and other planned and reasonably foreseeable projects on state and private lands on the North Slope. Future activities could include Federal and State offshore lease sales, State and private onshore activities, and transportation of oil and gas by tankers, the construction of additional production pads and facilities, and the completion of the State's proposed Colville River Road. Whether any development actually would occur is not known, but the following discussion assumes that the development and production stage would occur. Section 4G of the ASDP EIS contains a detailed description of the cumulative case, including the possible oil field and infrastructure development that this evaluation uses.

Cumulative effects on caribou-calving distribution are likely to be long term over the life of the oil fields, but probably local within 2 to 3 miles (3 to 4 kilometers) of roads located within the calving areas. This reduction in calving and summer habitat used by cows and calves of the Central Arctic Herd (CAH), the TLH, and the Western Arctic Herd (WAH) caribou from future oil and gas activities, represents a functional loss of habitat that may result in a long-term effect on caribou herd productivity. The ranges of the CAH lead to more subsistence hunting pressure on the TLH; however, this potential effect may not be measurable because of the great natural variability in caribou population productivity. Establishing the existence of a direct link to reduced harvests or access to subsistence resources under the cumulative case currently is difficult, but it is possible that these effects may exist in the future. The additional development pressure envisioned by the cumulative case scenario could exacerbate changes in abundance and productivity of caribou and these changes may, in turn, adversely affect subsistence harvests.

Possible changes in caribou distribution patterns could also negatively affect subsistence hunters. For example, changes in the location of caribou calving areas may affect hunter success if calving caribou were to move to areas that were more difficult for subsistence hunters to access.

Access by subsistence users to the Prudhoe Bay oil fields currently is restricted. Measures are proposed in this EIS that are intended to limit such broad restrictions in the ASDP Area, but some restrictions for reasons of safety in the ASDP Area as well as elsewhere could occur. Such a reduction to access could negatively affect subsistence users.

Any future gravel roads built from the National Petroleum Reserve-Alaska or any other North Slope development to the existing haul road could allow access to sport hunters, particularly if no restriction on hunting from or near the roads applies. If unrestricted access is allowed, any increase in the numbers of hunters in the area would increase competition for caribou, and decrease the caribou available for subsistence.

The cumulative effects on muskoxen, moose, wolves, and wolverines are likely to be local within about 1 or 2 miles of oil exploration and development facilities and resource inventory-survey activities and generally short-term, with no significant adverse effects on their populations.

Although there would be more disturbance of waterfowl (including brant) and, possibly, more small intermittent oil spills in the cumulative case, the overall effects on waterfowl are expected to be minimal under all alternatives. Even a major oil spill would not change this assessment because of the dispersed nesting and feeding patterns of the waterfowl present in the Arctic.

Fish habitat that is protected by setbacks would receive minimal impacts from most activities, although a major oil spill in the Colville River could significantly affect several fish species. While Alternatives B and C protect more fish habitat than Alternative A, the overall cumulative effects on fish would not be noticeably different under the various alternatives.

The offshore development and transport that is possible under a cumulative case could result in oil spills in the marine environment. Any oil spill that taints, or is perceived to taint, whale or other marine mammals of importance to subsistence users would have a significant negative effect on those users. If such a spill affected migration patterns or distributions of any marine mammal used for subsistence, it would also have significant negative effect on subsistence users. There is also the possibility of cumulative effects on marine mammals from disturbance and noise, cause by both development and barging or other transportation necessary to provide support to offshore facilities.

From 1990 to 1997, the North Slope's permanent population grew at an annual rate of 2.7 percent, and Nuiqsut was the fastest growing village. This rate could continue for the foreseeable future with or without the development envisioned in the cumulative case discussed in the ASDP EIS. The effects of such growth on competition for subsistence resources are difficult to predict, but it is possible that over time there will be increased competition among local subsistence users. It is unlikely that the transient workers associated with oil and gas development will add to the competition, because they are ineligible for the subsistence priority under existing Federal regulations.

2. Evaluation of the Availability of Other Lands for Oil and Gas Exploration and Development

The Naval Petroleum Reserves Production Act of 1976 (NPRPA), as amended, gives the Secretary of the Interior the authority to conduct oil and gas leasing in the National Petroleum Reserve-Alaska. However, the law prohibited petroleum production from occurring in National Petroleum Reserve-Alaska until authorized by Congress. In 1980, Congress granted that authorization through appropriations legislation and directed the Secretary of the Interior to undertake a program of competitive leasing of potential oil and gas tracts in the Reserve. The BLM is undertaking this ASDP EIS to fulfill the mandates of the President's energy policy as well as BLMs responsibilities to manage these lands under authority of NPRPA and the 1980 appropriation legislation and other authorities cited elsewhere in this DEIS. The President's energy policy directs the Secretary of the Interior to "consider additional environmentally responsible oil and gas development, based on sound science and the best available technology, through further lease sales in the National Petroleum Reserve-Alaska." The ASDP Area under consideration was chosen because of the discovery of recoverable oil reserves on existing leases on those lands and the proximity of these oil fields to existing producing oil fields. Other lands within the National Petroleum Reserve-Alaska managed by the BLM are either too remote for economically viable oil and gas production, or have a low probability of containing sufficient quantities of oil or gas. Lands outside of the National Petroleum Reserve-Alaska would not satisfy the congressional direction to explore and develop oil and gas resources within the National Petroleum Reserve-Alaska. State and Native Corporation lands cannot be considered alternative lands in a BLM plan.

3. Evaluation of Other Alternatives that would Reduce or Eliminate the Use, Occupancy, or Disposition of Public Lands Needed for Subsistence Purposes

Other alternatives that would reduce or eliminate the use of public lands needed for subsistence purposes are described in the main body of the ASDP EIS, many of which became alternatives considered but eliminated from further analysis because of either economic or technological disadvantages or because they did not meet the purposes of the proposed action to produce the oil discovered on CPAI's leases. Section 2.6 contains a detailed discussion of these alternatives, including rationale regarding each alternative's infeasibility for the proposed project at hand.

4. Finding

The cumulative case may significantly restrict subsistence resources or their use for caribou and requires a positive determination pursuant to ANILCA § 810. The distribution of caribou populations on the North Slope has been affected by Prudhoe Bay development, and access to subsistence resources currently is restricted there. Although procedures will be in place to ensure that future development affects access as little as possible, it is still probable that safety considerations will reduce the total area available for subsistence purposes. If a major oil spill occurs in the future, it could significantly affect both populations and distributions of fish, whales and other marine animals, causing significant restrictions to subsistence

resources. Population growth over the course of the plan results in a greater number of residents relying on local resources to meet their needs. In addition, construction of any road that would allow access to the area will allow for an increase in competition for subsistence resources by sport hunters. These restrictions have the potential to significantly restrict subsistence uses by residents of Barrow, Atqasuk, Nuiqsut, and Anaktuvuk Pass.

III. NOTICE AND HEARINGS

ANILCA § 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 §810(a)(1) and (2). The BLM provided notice in the *Federal Register* that it has made positive findings pursuant to § 810 that all Alternatives in the IAP/EIS meet the “may significantly restrict” threshold. As a result, public hearings were held in the potentially affected communities of Anaktuvuk Pass, Atqasuk, Nuiqsut, and Barrow. Notice of these hearings was provided in the *Federal Register* and by way of the local media, including the *Arctic Sounder* newspaper and KBRW, the local Barrow radio station with coverage to all villages on the North Slope.

IV. SUBSISTENCE DETERMINATIONS UNDER § 810(a)(3)(A), (B), and (C)

ANILCA § 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 §810(a)(1) and (2), and makes the three determinations required by § 810(a)(3)(A), (B), and (C). The three determination 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 upon subsistence uses and resources resulting from such actions [16 U.S.C. § 3120(a)(3)(A), (B), and (C)]. The BLM has found in this subsistence evaluation that all the alternatives considered in this IAP/EIS (including the no-action alternative), when considered together with all the past, present, and reasonably foreseeable future cumulative effects discussed in this EIS, may significantly restrict subsistence uses. Therefore, BLM undertook the notice and hearing procedures required by ANILCA § 810 (a)(1) and (2) in conjunction with release of the Draft EIS in order to solicit public comment from the potentially affected communities and subsistence users.

The determinations below satisfy the requirements of ANILCA § 810(a)(3)(A), (B), and (C).

A. Significant Restriction of Subsistence Use is Necessary, Consistent with Sound Management Principles for the Utilization of Public Lands.

The BLM has prepared this EIS to fulfill the mandates of the President’s energy policy and the responsibility to manage the National Petroleum Reserve-Alaska under the authority of two laws passed in 1976—The Naval Petroleum Reserves Production Act (NPRPA) as amended, and the Federal Land Policy and Management Act (FLPMA). The President’s energy policy directs the Secretary of the Interior to “consider additional environmentally responsible oil and gas development, based on sound science and the best available technology.” The NPRPA authorizes and directs the Secretary of the Interior to “further explore, develop and operate” the National Petroleum Reserve-Alaska (10 U.S.C. § 7421). At the same time, the statute also requires that all oil and gas activities “undertaken pursuant to this section shall include or provide for such conditions, restrictions, and prohibitions as the Secretary deems necessary or appropriate to mitigate reasonably foreseeable and significantly adverse effects on the surface resources” of the National Petroleum Reserve-Alaska (42 U.S.C. § 6508).

It was in furtherance of these objectives, together with other management guidance found in the NPRPA, FLPMA, NEPA, and ANILCA that this EIS was undertaken. After considering a broad range of alternatives, a Preferred Alternative was developed that provides for the applicant's proposed action while minimizing impacts to important subsistence resources and subsistence-use areas. The resulting Preferred Alternative considers the necessity for economically feasible development of the oil discoveries on CPAI's leases while providing effective protections to minimize any impacts on subsistence resources and uses. Under the Preferred Alternative, the stipulations that currently exist in the 1998 Northeast National Petroleum Reserve-Alaska Record of Decision serve as additional mitigation measures to be used to reduce the impact of the proposed activity on subsistence resources.

The BLM has considered and balanced a variety of factors with regard to the proposed activity on public lands, including, most prominently, the limitations to effective oil recovery imposed by the subsurface geology at the CD-6 pad and the comments received from residents and subsistence users of the planning area. The BLM has determined that the significant restriction that may occur under the Preferred Alternative, when considered together with all the possible impacts of the cumulative case, is necessary, consistent with sound management principles for the use of these public lands, and for BLM to fulfill the management goals for the Planning Area as guided by the statutory directives in the NPRPA, FLPMA, and other applicable laws.

B. The Proposed Activity will Involve the Minimal Amount of Public Lands Necessary to Accomplish the Purposes of such Use, Occupancy or Other Disposition.

The BLM has determined that the Preferred Alternative involves the minimal amount of public lands necessary to accomplish the purposes of the ASDP. A total of two oil production pads and approximately 18 miles of road and pipeline will result in surface activity on approximately 130 acres in the 4.6 million acre Northeast Planning Area. Advances in oil field technology over the past two decades have made it possible to reduce the size of drilling pads significantly and rely on directional drilling to reach accumulations of oil throughout the fields.

C. Reasonable Steps will be taken to Minimize Adverse Impacts upon Subsistence Uses and Resources Resulting from such Actions.

When BLM began its NEPA scoping process for this ASDP, it identified subsistence as one of the major issues to be addressed. In order to assure that the best and most up-to-date and reliable information was available, a subsistence specialist (Stephen Braund and Associates) was contracted to conduct interviews with the residents of Nuiqsut, the village with the most potential to be impacted by the proposed development. This information, as well as the results of public scoping meetings in the villages of the North Slope, meetings with the National Petroleum Reserve-Alaska Subsistence Advisory Panel, and through consultation with tribal and local governments, was used to analyze and evaluate the range of impacts to subsistence use as a result of the proposed activity.

When crafting the final preferred alternative, the BLM took into consideration comments from the villages and individuals of the North Slope during the ANILCA Subsistence Hearings conducted in conjunction with the draft EIS public meetings. This information resulted in several modifications to the Applicant's Proposed Action, and resulted in Alternative F, the Agencies Preferred Alternative. Those modifications that apply to public lands under the stewardship of the Bureau of Land Management include:

- Removing substantial infrastructure from the Fish Creek 3-mile setback
- Increasing the elevation of pipelines to 7 feet minimum at Vertical Support Members

Given these steps, as well as the requirement to follow the existing 1998 Northeast ROD stipulations, and others discussed in detail above and in Section II of the EIS that have been or will be taken during the life of the ASDP, BLM has determined that the Preferred Alternative includes all reasonable steps to minimize adverse impacts on subsistence uses and resources. In addition, based on comments during scoping and other community consultations, BLM anticipates that mitigation measures to construct CD-6 outside of the

3-mile Fish Creek setback area and to minimize the portions of the gravel road between CD-5 and CD-6 inside the setback area, will serve to instill confidence in the residents of Nuiqsut that the BLM is aware of their concerns and takes seriously recommendations made to them through the years. Similarly, connecting Nuiqsut to the proposed gravel road may serve to instill in the community a sense that the BLM understands their need for access to traditional harvest areas, and supports their continued usage of this area.