Colville River Special Area Management Plan Environmental Assessment

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Colville River Special Area Management Plan Environmental Assessment

1. Introduction

This Environmental Assessment (EA) is associated, and has been prepared concurrently with the Colville River Special Area Management Plan (CRSAMP), which outlines and consolidates measures to protect the arctic peregrine falcon in the Colville River Special Area (CRSA).

1.1 Background

The BLM-Alaska, Arctic Field Office (FO), Fairbanks, Alaska, has developed this EA (EA-AK-023-08-01) to analyze impacts of applying protection measures for the arctic peregrine falcon within the CRSA. Concurrent with this EA, the FO is developing a Colville River Special Area Management Plan (CRSAMP) to outline the protection measures determined through this EA, and apply additional recommendations for geospatial data acquisition, research and monitoring, and educational outreach. The CRSA EA and associated CRSAMP address aspects of management within the 2.44-million-acre CRSA, which lies entirely within the National Petroleum Reserve-Alaska (NPR-A). (See Map 1).

The CRSA, originally 2.3 million acres, was designated in 1977 to protect nesting and foraging habitat of the then endangered arctic peregrine falcon (*Falco peregrinus tundrius*). The designation was made for lands of particular environmental sensitivity within the NPR-A pursuant to the direction of Congress for such designations in the Naval Petroleum Reserves Production Act. In 1999, much of the Kikiakrorak and Kogosukruk Rivers—which are tributaries to the Colville River—and lands two miles either side of each river were added to the Special Area (64 FR 16747 [April 6, 1999]). As a result of these additions the CRSA increased from about 2.3 million to approximately 2.44 million acres. The Colville River is a navigable waterway with State of Alaska interests.

Similar to the other peregrine falcon subspecies, use of the pesticide DDT was blamed for the population decline that led to the arctic peregrine falcon being listed in 1970 as endangered under the Endangered Species Conservation Act of 1969. After the use of DDT was banned in the U.S., the populations of arctic peregrines rebounded, and in 1984 the listing of this subspecies was reclassified to threatened status. By 1994 populations had increased sufficiently to be removed from the threatened and endangered species list (USFWS 2006). Nevertheless, due to its delisted status, the arctic peregrine falcon remains on the BLM Sensitive Species List (BLM 2004).

The entire 2.44-million-acre CRSA lies north of the Brooks Range. The Colville River is the largest river north of Alaska's Brooks Range, and its flow through the CRSA covers approximately 391 miles. The CRSA does not include the uppermost or lowermost portions of the river. Instead the river enters into the CRSA at the western edge of Sec. 34, T. 4 S., R. 30

W., U.M., and flows out of the CRSA between Ts. 8-9 N, R. 4 E., U.M. The Colville River is bounded by the NPR-A on both sides upstream from the confluence with the Etivluk River. Downstream of the confluence of the Colville and Etivluk Rivers, the boundary of NPR-A and the CRSA is adjacent to lands owned and managed by the Arctic Slope Regional Corporation (ASRC) and the State of Alaska. This boundary was defined in the Federal Register (42 FR 28724, [June 3, 1977]), and in a subsequent court case (State of Alaska, ASRC and Sohio Alaska Petroleum Company v. USA, Case No. A78-069, 1985). The eastern boundary and a portion of the southern boundary of the CRSA and NPR-A are defined by the highest high water mark on the western and northern bank of the Colville River. Accordingly, neither the Colville River nor its ordinary high water banks are located within the CRSA along its eastern boundary.

Arctic peregrine falcons have been protected within the CRSA for 30 years. For example, the original 2.3-million-acre CRSA designation restricted low level aircraft flight during the nesting season (42 FR 28723, [June 3, 1977]). Subsequent planning efforts have expanded upon the protections within the CRSA. In 1983, an Environmental Impact Statement (EIS) was prepared for oil and gas leasing throughout NPR-A (BLM 1983). The Record of Decision (ROD) restricted oil and gas activities within the areas of arctic peregrine falcon nesting sites.

The Northeast NPR-A ROD (BLM 1998) issued following completion of the Northeast NPR-A IAP/EIS (BLM and MMS 1998) included measures that provided protection for arctic peregrine falcons within the CRSA. It also stated that, "The BLM will develop a Colville River Management Plan for the Special Area in cooperation with adjacent landowners and other affected parties to address subsistence, wildlife, recreation, paleontological, and other issues."

Similarly, the Northwest NPR-A ROD (BLM 2004) issued following completion of the Northwest NPR-A IAP/EIS (BLM and MMS 2003) included measures that provided protection for arctic peregrine falcons within the CRSA. Furthermore, it stated that oil and gas leasing in the CRSA would be deferred "until the combined Southern NPR-A IAP/EIS and Colville River Management Plan is completed." At the time of the Northwest NPR-A ROD, BLM anticipated undertaking a South NPR-A IAP/EIS. The BLM initiated the South NPR-A IAP/EIS in 2005. Based upon scoping, however, the BLM suspended the plan (72 FR 52907 [September 17, 2007]). Consequently, the BLM has determined to undertake the current plan for the Colville River Special Area independent of the South NPR-A IAP/EIS.

Finally, the ROD for the Northeast NPR-A Supplemental IAP/EIS (BLM 2008b) includes various measures that provide protection for the arctic peregrine falcon within the CRSA. These measures are similar to those adopted in the Northwest NPR-A ROD (BLM 2004) although the wording is not identical. The 2008 measures supersede measures developed in the 1998 Northeast NPR-A ROD. In addition, the Supplemental ROD clarified the scope of the CRSAMP required in the 1998 ROD to focus on management decisions that provide protection for arctic peregrine falcons, stating that protection of such raptors was the purpose of the creation of the CRSA.

1.2 Purpose and Need for Action

The purpose and need for action include:

1. Facilitate and enhance management within the CRSA to protect arctic peregrine falcons in a manner consistent with decisions of the Northeast NPR-A Supplemental ROD (BLM 2008b) and the Northwest NPR-A ROD (BLM 2004),
2. Consider protections for arctic peregrine falcons that, while consistent with the requirements of the first purpose listed above, also have consistent language and are applicable across all portions of the CRSA, including portions of the CRSA outside of the Northeast and Northwest NPR-A,
3. Consider additional protections and management actions, such as educational programs and research and monitoring, that could benefit the arctic peregrine falcon,
4. Allow oil and gas leasing in the Northwest NPR-A within the CRSA and,
5. Fulfill the mandate of the Northeast NPR-A Supplemental ROD to develop a management plan for the CRSA.

1.3 Public Involvement and Issues

The BLM has discussed management regarding the Colville River Special Area with a broad spectrum of interested agencies, organizations, and individuals since the development of the 1998 Northeast NPR-A IAP/EIS as well as through preparation and public commentary from the 2003 Northwest NPR-A IAP/EIS and the subsequent Amended (BLM 2005) and Final Supplemental (BLM 2008a) Northeast NPR-A IAP/EISs. The comments received on these plans have consistently emphasized the importance of the CRSA for arctic peregrine falcon habitat.

In addition, during the development of this management plan and EA, the BLM has coordinated with the U.S. Fish and Wildlife Service, Alaska Department of Fish and Game (ADF&G), Alaska Department of Natural Resources (ADNR), the Arctic Slope Regional Corporation (ASRC), the North Slope Borough (NSB), federally-recognized tribes, several non-governmental organizations, industry, the BLM-Alaska Resource Advisory Council as well as interested individuals.

Through internal (within BLM) and external (other agencies, governments, and organizations) communication these concerns and issues were identified and are analyzed in this EA:

- What are the impacts of applying arctic peregrine falcon protections on recreation users, hunting, and subsistence activities; and are there any impacts to environmental justice populations?
- What types of human disturbance cause the greatest impacts to the arctic peregrine falcon?
- What are the impacts of applying arctic peregrine falcon protections on other birds, moose, or fisheries?
- What are the impacts of applying the protections on wildlife and fisheries research and monitoring?
- What are the impacts of applying arctic peregrine falcon protections on paleontology and cultural resources studies in the CRSA?

Additional issues discussed in the CRSAMP include:

- What research is needed to evaluate impacts to arctic peregrine falcons, their habitat, their prey, and activities (e.g., foraging areas, disturbance, falconry)?
- What geospatial data would be needed to provide information to improve arctic peregrine falcon management in the CRSA?
- What is the best way to provide information about arctic peregrine falcon protections to resource users in the CRSA?

The three issues described above are not analyzed in this EA because they are covered by BLM Categorical Exclusions (CXs) (BLM Departmental Manual 516 Subpart 11.9).

2. Proposed Action and Alternatives

The alternatives and analysis in this EA are consistent with the Northwest NPR-A IAP/EIS (BLM and MMS 2003) and the Northeast NPR-A Supplemental IAP/EIS (BLM 2008a) and their respective RODs (BLM 2004; BLM 2008b). The decisions that will be developed as part of the CRSAMP EA will be consistent with those of the above RODs. The decisions in the CRSAMP EA Decision Record (DR) will not make any changes in the land allocation decisions in the NPR-A IAP/EIS documents, i.e., they will not change what lands are made available to oil and gas leasing.

Completion of the CRSAMP will fulfill the requirement imposed by the Northwest NPR-A ROD and Northeast NPR-A Supplemental ROD to complete a management plan for the CRSA. The CRSAMP EA DR may provide added protections for arctic peregrine falcons, but in doing so it will not establish requirements that constitute a "taking" of oil and gas lease value.

Six alternatives were identified through internal (within BLM) and external (other agencies, governments, and organizations) discussions. Four of these alternatives were not analyzed in detail because they did not meet the purpose and need or were not feasible for other reasons as described. These alternatives were: Consider Making Decisions in the CRSA for Purposes Other than Protection of Arctic Peregrine Falcon; Establish a Bird Conservation Area; Consider Wild and Scenic River Designation for the Colville River; Extend Setback along Colville River and Tributaries from One to Two miles (see Section 2.3). Two alternatives were fully analyzed – the Proposed Action and No Action alternatives. The two alternatives vary on the resource protection measures that are included in the CRSAMP. Table 2-1 contrasts the resource protection measures that would be applied for both alternatives.

2.1 Description of the Proposed Action

The Proposed Action builds upon the protections for arctic peregrine falcons provided in the Northeast NPR-A Supplemental ROD and the Northwest NPR-A ROD. Where the decisions of the two RODs provided slightly different language, the Proposed Action provides uniform requirement/standards language consistent with the objectives of the performance-based measures for the two planning areas (BLM and MMS 2004; BLM 2008b). This standardized

language will promote administrative management effectiveness for applying resource protection measures in the entire CRSA. In cases in which the requirement/standard in one planning area offers more protection than that in the other, the Proposed Action would apply the more protective language throughout the CRSA.

The Proposed Action also includes additional management actions to protect arctic peregrine falcons that were not covered in the two NPR-A IAP/EISs. New protections are associated with requirements for permittees and other authorized users and were developed from the NPR-A Raptor Workshop (Yokel 1999).

The Proposed Action applies protections for arctic peregrine falcons for the CRSA lands within the South NPR-A. No integrated activity plan addresses the South NPR-A and no arctic peregrine falcon protection measures exist for the South NPR-A area. The spatial extent of the 1 mile setback and 15 mile foraging area are shown in Map 2.

For the Proposed Action, a CRSAMP would be developed and adopted. In addition to applying the arctic peregrine falcon protections, the CRSAMP will address geospatial data compilation, research, monitoring, and education to improve management of the arctic peregrine falcon and thereby reduce impacts to the species.

The CRSAMP EA does not analyze the impacts of geospatial data compilation, research, monitoring, and education. Applying these measures may lead to improved management and protection of peregrine falcons, but analysis is not necessary in this EA because the actions are covered by Department of Interior and BLM Categorical Exclusions (CXs) (DOI and BLM 2008).

2.2 Description of the No Action Alternative

The other alternative analyzed in detail is the No Action Alternative. The No Action Alternative does not modify the text of any of the decisions made in the Northeast Supplemental and Northwest NPR-A RODs; the peregrine falcon-related protection measures would remain somewhat inconsistent among the two RODs. The No Action Alternative does not apply any additional protections to either of these planning areas nor does it extend any protections to the South NPR-A. The spatial distribution of the 1 mile setback and 15 mile foraging area is shown in Map 3. It does minimally fulfill the purpose and need by bringing together in one place (Table 2-1) the decisions relevant to arctic peregrine falcon from both of the NRP-A RODs. For the No Action Alternative, no CRSA Management Plan would be developed. Monitoring would continue periodically to provide information on the occupancy and productivity of arctic peregrine falcons within the CRSA.

Table 2-1. Proposed Action and No Action Alternative

Proposed Action[1]	No Action Alternative	
	Northeast NPR-A 2008 ROD	Northwest NPR-A 2004 ROD
Protection 1 Objective: Minimize the loss of arctic peregrine falcon nesting habitat in the CRSA Requirement/Standard: To minimize the direct loss of arctic peregrine falcon nesting habitat and to protect nest sites in the CRSA the following protective measures apply: Permanent oil and gas facilities, including gravel pads, roads, airstrips, and pipelines, are prohibited in the stream bed and adjacent to the rivers listed below at the distances identified. On a case-by-case basis, and in consultation with Federal, State, and North Slope Borough regulatory and resource agencies (as appropriate - based on agency legal authority and jurisdictional responsibility), essential pipeline and road crossings perpendicular to the main channel will be permitted through setback areas. a. **Colville River:** downstream of the Etivluk River a continuous1-mile setback measured from the highest high water mark on the left bank (facing downstream); upstream of the Etivluk River a 1-mile setback measured from the ordinary high water mark of the bank on both sides of the river. Development of road crossings intended to support oil and gas activities shall be consolidated with other similar projects and uses to the maximum extent possible. This provision does not apply to intercommunity or other permanent roads constructed with public funds for general transportation purposes.	**K-1 Lease Stipulation - Rivers** Objective: Minimize the…the loss of raptor habitat... Requirement/Standard: Permanent oil and gas facilities, including gravel pads, roads, airstrips, and pipelines, are prohibited in the streambed and adjacent to the rivers listed below at the distances identified…Along the Colville River and a portion of the Ikpikpuk a 1-mile (from the bank's highest high water mark) setback is required to protect important raptor habitat (for locations along rivers where setback distances change). On a case-by case basis, and in consultation with Federal, state, and NSB regulatory and resource agencies (as appropriate, based on agency legal authority and jurisdictional responsibility), essential pipeline and road crossings to the main channel will be permitted through setback areas... a. **Colville River**: a 1-mile setback from the boundary of NPR-A along the Colville River as determined by cadastral survey to be the highest high watermark on the left (western or northern) bank extending the length of that portion of the river located within the Planning Area. Note: The Planning Area excludes conveyed Native lands along the lower reaches of the Colville River. Development of road crossings intended to support oil and gas activities shall be consolidated with other similar projects and uses to the maximum extent possible. Note: This provision does not apply to	**K-1 Lease Stipulation–Rivers** Objective: Minimize…the loss of raptor habitat… Requirement/ Standard: Permanent oil and gas facilities, including gravel pads, roads, airstrips, and pipelines, are prohibited in the stream bed and adjacent to the rivers listed below at the distances identified.…Along the Colville River and a portion of the Ikpikpuk a 1-mile setback is required to protect important raptor habitat. (For locations along rivers where setback distances change, see Map 20 in the Final Northwest National Petroleum Reserve- Alaska Integrated Activity Plan/Environmental Impact Statement). On a case-by case basis, and in consultation with Federal, State, and North Slope Borough regulatory and resource agencies (as appropriate, based on agency legal authority and jurisdictional responsibility), essential pipeline and road crossings perpendicular to the main channel will be permitted (unless noted otherwise) through setback areas. .. a) **Colville River**: a 1-mile setback from the northern bluff (or bank if there is no bluff) of the Colville River extending the length of that portion of the river within the Planning Area. Road crossings intended to solely support oil

Proposed Action[1]	No Action Alternative	
	Northeast NPR-A 2008 ROD	Northwest NPR-A 2004 ROD
b. **Kikiarorak River:** downstream from T. 2 N., R. 4 W., U.M., a continuous 1-mile setback as measured from the top of the bluff (or bank if there is no bluff) of both sides of the river. c. **Kogosukruk River:** downstream from T. 2 N., R. 3 W., U.M., a continuous1-mile setback as measured from the top of the bluff (or bank if there is no bluff) of both sides of the river and several of its tributaries.	intercommunity or other permanent roads constructed with public funds for general transportation purposes. This preserves the opportunity to plan, design, and construct public transportation systems to meet the economic, transportation, and public health and safety needs of the State of Alaska and/or communities within National Petroleum Reserve - Alaska. d. **Kikiakrorak and Kogosukruk Rivers**: Note: The following discussion refers only to portions of the Kikiakrorak River downstream from T. 2 N., R. 4 W., U.M. and the Kogosukruk River (including the four tributaries off the southern bank) downstream from T. 2 N., R. 3 W., U.M.. No permanent oil and gas surface facilities, except essential transportation crossings, would be allowed within 1 mile of the top of the bluff (or bank if there is no bluff) on either side of the rivers and several of the Kogosukruk tributaries.	and gas activities are prohibited. Note: This provision does not apply to intercommunity or other permanent roads constructed with public funds for general transportation purposes. This preserves the opportunity to plan, design, and construct public transportation systems to meet the economic, transportation, and public health and safety needs of the State of Alaska and/or communities within NPR-A.
Protection 2 Objective: Prevent or minimize loss of arctic peregrine falcon foraging habitat in the CRSA Requirement/Standard: To minimize the direct loss of arctic peregrine falcon foraging habitat in the CRSA the following measures apply: If necessary to construct permanent facilities within the CRSA, all reasonable and practicable efforts shall be made to locate permanent facilities as far from arctic peregrine falcon nests as feasible. Within 15 miles of arctic peregrine falcon nest sites, significant alteration of high quality foraging habitat shall be prohibited unless the lessee can demonstrate on a site-specific basis that	**K-7 Lease Stipulation–Colville River Special Area** Objective: Prevent or minimize loss of raptor foraging habitat. (also see Lease Stipulation K-1; Rivers Area) Requirement/Standard for Facilities: If necessary to construct permanent facilities within the Colville River Special Area, all reasonable and practicable efforts shall be made to locate permanent facilities as far from raptor nests as feasible. Within 15 miles of raptor nest sites, significant alteration of high quality foraging habitat shall be prohibited unless the lessee can demonstrate on a site-specific basis that impacts would be minimal or it is determined that there is no	**K-7 Required Operating Procedure–Colville River Special Area** Objective: Prevent or minimize loss of raptor foraging habitat. Requirement/Standard: If necessary to construct permanent facilities within the Colville River Special Area, all reasonable and practicable efforts shall be made to locate permanent facilities as far from raptor nests as feasible. Within 15 mile of raptor nest sites, significant alteration of high quality foraging habitat shall be prohibited unless the lessee can demonstrate

Proposed Action[1]	No Action Alternative	
	Northeast NPR-A 2008 ROD	Northwest NPR-A 2004 ROD
impacts would be minimal or it is determined that there is no feasible or prudent alternative. Of particular concern are ponds, lakes, wetlands, and riparian habitats. Note: On a case-by case basis, and in consultation with appropriate federal and state regulatory and resource agencies, essential pipeline and road crossings will be permitted through these areas where no other feasible or prudent options are available.	feasible or prudent alternative. Of particular concern are ponds, lakes, wetlands, and riparian habitats. Note: On a case-by case basis, and in consultation with appropriate Federal and state regulatory and resource agencies, essential pipeline and road crossings will be permitted through these areas where no other feasible or prudent options are available.	on a site-specific basis that impacts would be minimal or it is determined that there is no feasible or prudent alternative. Of particular concern are ponds, lakes, wetlands, and riparian habitats. Note: On a case-by case basis, and in consultation with appropriate Federal and State regulatory and resource agencies, essential pipeline and road crossings will be permitted through these areas where no other options are available.
Protection 3 Objective: Minimize the effects of low-flying aircraft on arctic peregrine falcons in the CRSA Requirement/Standard: To minimize disturbance to nesting arctic peregrine falcons, aircraft authorized by BLM are required to maintain an altitude of at least 1,500 feet above ground level (AGL) when within ½ mile of cliffs identified as arctic peregrine falcon nesting sites from April 15 through August 15. This protection is not intended to restrict flights necessary to conduct wildlife surveys to obtain information necessary to satisfy wildlife data collection requirements. However, flights necessary to gain this information will be restricted to the minimum necessary to collect such data.	**F-1 Required Operating Procedure** Objective: Minimize the effects of low-flying aircraft on wildlife, traditional subsistence activities, and local communities. Requirement/Standard: The lessee shall ensure that aircraft used for permitted activities maintain altitudes according to the following guidelines (Note: This ROP is not intended to restrict flights necessary to survey wildlife to gain information necessary to meet the stated objectives of the stipulations and ROPs. However, flights necessary to gain this information will be restricted to the minimum necessary to collect such data.): a. Aircraft shall maintain an altitude of at least 1,500 feet above ground level (AGL) when within ½ mile of cliffs identified as raptor nesting sites from April 15 through August 15 and within ½ mile of known gyrfalcon nest sites from March 15 to August 15, unless doing so would endanger human life or violate safe flying practices. Permitees shall obtain information from the BLM necessary to plan flight routes when routes may go near falcon nests…	**F-1 Required Operating Procedure** Objective: Minimize the effects of low-flying aircraft on wildlife.... Requirement/Standard: The lessee shall ensure that aircraft used for permitted activities maintain altitudes according to the following guidelines: a) Aircraft shall maintain an altitude of at least 1,500 ft above ground level (AGL) when within ½ mile of cliffs identified as raptor nesting sites from April 15 through August 15 and within ½ mile of known gyrfalcon nest sites from March 15 to August 15, unless doing so would endanger human life or violate safe flying practices. Permittees shall obtain information from BLM necessary to plan flight routes when routes may go near falcon nests.
Protection 4	**None**	**None**

Proposed Action[1]	No Action Alternative	
	Northeast NPR-A 2008 ROD	Northwest NPR-A 2004 ROD
This protection has been adapted from the memorandum, Implementation of Recommendations from NPR-A Raptor Workshop (BLM 2000). Objective: Minimize disturbance impacts on nesting arctic peregrine falcons in the CRSA by reducing effects of campsite activity. Requirement/Standard: To reduce disturbance from campsite activity to nesting arctic peregrine falcons campsites authorized by BLM, including short and long-term camps and agency work camps, shall be located at least 500 meters from any known arctic peregrine falcon nest site. Exceptions may be granted by the authorized officer on a case-by-case basis.		
Protection 5 This protection has been adapted from the memorandum, Implementation of Recommendations from NPR-A Raptor Workshop (BLM 2000) Objective: Minimize disturbance impacts to nesting arctic peregrine falcons from authorized activities at cliff sites. Requirement/Standard: All users authorized by BLM, including BLM and other agency personnel, shall submit for approval an operational plan that includes dates, locations, and schedule of visits to cliff sites, when dates are between April 15 and August 15. The cumulative number of authorized visits (defined as each day in which work is done within 500 meters of a nest site) to any cliff per nesting season (April 15 through August 15) by all authorized users shall be	**None**	**None**

Proposed Action[1]	No Action Alternative	
	Northeast NPR-A 2008 ROD	Northwest NPR-A 2004 ROD
limited to three. Exceptions may be granted if the detailed operations plan documents why the necessary work could be done no other way. Raptor biologists must coordinate their activities with the BLM, U.S. Fish and Wildlife Service (USFWS), Alaska Department of Fish and Game (ADF&G) and the North Slope Borough (NSB); follow the guidelines for conduct activities near arctic peregrine falcon nests; and follow Protection 4 regarding campsite placement. Exceptions to this requirement may be granted when necessary to conduct certain studies.		
Protection 6 This protection has been adapted from the memorandum, Implementation of Recommendations from NPR-A Raptor Workshop (BLM 2000) <u>Objective</u>: Minimize disturbance impacts to arctic peregrine falcons in the CRSA from construction and non-emergency clean up. <u>Requirement/Standard</u>: To reduce disturbance impacts to arctic peregrine falcons in the CRSA, off-road foot traffic construction or non-emergency hazardous materials or solid waste clean-up efforts within 1 mile of known arctic peregrine falcon nests shall be prohibited during the period April 15 through August 15. Construction refers to building permanent facilities, not those used in winter only. Non-emergency clean-up refers to remediation of old sites, such as removal of drums, buildings with asbestos, or soil that has been contaminated longer than one season. Off-road foot-traffic refers to human activity (walking) associated with construction or clean-up,	**None**	**None**

Proposed Action[1]	No Action Alternative	
	Northeast NPR-A 2008 ROD	Northwest NPR-A 2004 ROD
occurring off the gravel road or pad, or off the immediate site clean-up.		
Protection 7 This protection has been adapted from C-2 ROP from the Record of Decision for the Northeast NPR-A Supplemental IAP/EIS (BLM 2008b). Objective: Minimize disturbance impacts to nesting arctic peregrine falcons in the CRSA from motorized ground-vehicle use. Requirement/Standard Motorized ground-vehicle use within the CRSA authorized by BLM shall be minimized within one mile of any known arctic peregrine falcon nest from April 15 through August 15. Such use shall be prohibited within ½ mile of nests during the same period unless an exception is granted by BLM.	**C-2 Required Operating Procedure** Objective*:* Protect stream banks, minimize compaction of soils, and minimize the breakage, abrasion, compaction, or displacement of vegetation. Requirement/Standard: f. Motorized ground-vehicle use within the CRSA associated with overland moves, seismic work, and any similar use of heavy equipment shall be minimized within the Colville River Raptor, Passerine, and Moose Area from April 15 through August 5, with the exception that use will be minimized in the vicinity of gyrfalcon nests beginning March 15. Such use will remain ½ mile away from known raptor nesting sites, unless authorized by the AO.	**None**
Protection 8 This protection has been adapted from E-16 ROP from the Record of Decision for the Northeast NPR-A Supplemental IAP/EIS (BLM 2008b). Objective: Minimize impacts to arctic peregrine falcon in the CRSA from power lines. Requirement/Standard: To minimize impacts to arctic peregrine falcons in the CRSA from the power lines, construction projects will comply with the most up to date suggested practices for arctic peregrine falcon protection on power lines. All power lines and poles shall be designed and constructed in a manner which reflects safe configurations to prevent death of arctic peregrine falcons by electrocution (BLM 2008b).	**E-16 Required Operating Procedure** Objective: Prevent or minimize the loss of raptors due to electrocution by power lines. Requirement/Standard: Comply with the most up to date suggested practices for raptor protection on power lines.	**None**

Proposed Action[1]	No Action Alternative	
	Northeast NPR-A 2008 ROD	Northwest NPR-A 2004 ROD
Protection 9 This protection has been adapted from E-15 ROP from the Record of Decision for the Northeast NPR-A Supplemental IAP/EIS (BLM 2008b). Objective: Minimize impacts from sand and/or gravel extraction to arctic peregrine falcons in the CRSA. Requirement/Standard: To reduce impacts to arctic peregrine falcons in the CRSA from sand or gravel extraction the following measures apply: a. Removal of greater than 100 cubic yards of sand and/or gravel from cliffs shall be prohibited. b. Any extraction of sand and/or gravel from an active river or stream channel shall be prohibited unless preceded by a hydrological study that indicates no potential impact by the action to the integrity of the river bluffs (BLM 2008b).	**E-15 Required Operating Procedure** Objective: Prevent or minimize the loss of nesting habitat for cliff nesting raptors. Requirement/Standard: a. Removal of greater than 100 cubic yards of sand and/or gravel from cliffs shall be prohibited. b. Any extraction of sand and/or gravel from an active river or stream channel shall be prohibited unless preceded by a hydrological study that indicates no potential impact by the action to the integrity of the river bluffs.	**None**

[1] Note: This table does not provide a comprehensive list of all stipulations and required operating procedures that may be adopted. It includes stipulations and ROPs from those RODs designed to protect arctic peregrine falcons or the habitat important to those birds within the CRSA. Also, while the protections listed under the Proposed Action apply to all areas of the CRSA, including the South NPR-A, those for the No Action Alternative apply only to the NE or NW NPR-A.

2.3 Alternatives Considered but Not Analyzed in Detail

2.3.1 Consider Making Decisions in the CRSA for Purposes Other than Protection of Arctic Peregrine Falcon

The BLM considered making decisions in this plan for purposes other than protecting arctic peregrine falcons, the species for which the CRSA was designated. The agency, however, determined not to do so for two reasons. First, after discussion with internal staff and consideration of public comments, the BLM determined that there were no decisions ripe for making at this time except those related to arctic peregrine falcons. The CRSA is important for its paleontological, cultural, moose, and recreation resources and for its use by subsistence hunters. The protections for areas within the CRSA offered by the IAP/EISs for the Northeast NPR-A and Northwest NPR-A, and extended under the Proposed Action to the South NPR-A, are considered sufficient for all of these resources. The area currently receives low use by recreationists, researchers, and other visitors. The area is used regularly by subsistence hunters. Until substantially larger numbers of these users frequent the area and potential conflicts become more evident, a more detailed management approach would be premature. A second reason for limiting the scope of this plan to decisions to protect the arctic peregrine falcon follows the mandate provided in the Northeast NPR-A Supplemental ROD. While the impact of decisions relevant to protecting arctic peregrine falcons on other resources are analyzed in this EA, to analyze a broader range of decisions to protect other resources or change BLM's management of these lands to protect other resources is neither timely nor in conformance with the Northeast NPR-A Supplemental ROD or the purpose and need of the CRSAMP.

2.3.2 Establish a Bird Conservation Area

Establishing a Bird Conservation Area would not be within the scope of this EA. In addition, the 1998 Record of Decision for the Northeast NPR-A IAP/EIS stated that creation of a Bird Conservation Area in the CRSA would be explored with other landowners as part of the CRSAMP. The BLM explored this option, but did not find support among other land managers and owners. In discussions with BLM during the course of the development of the CRSAMP, adjacent landowners confirmed that they remain uninterested in development of a bird conservation area. Consequently, consideration of such a designation in the CRSAMP as contemplated in the 1998 Northeast NPR-A ROD is not supported by other landowners or current planning mandates for the NPR-A and will not be analyzed further in this document.

2.3.3 Consider Wild and Scenic River Designation for the Colville River

Detailed analysis of an alternative considering Wild and Scenic River recommendations is not included in CRSAMP because that would be outside the scope of the EA. No new information that suggests that the prior conclusions should be reconsidered or modified with respect to consideration of Wild and Scenic River designation has emerged.

In 1980 the Alaska National Interest Lands Conservation Act (ANILCA) amended the Wild and Scenic Rivers Act to designate the Colville River for potential addition to the National Wild and Scenic Rivers System. As amended, the Wild and Scenic Rivers Act required the Secretary of the Interior to submit to the President a study of the suitability or nonsuitability of the Colville River for addition to the National Wild and Scenic Rivers System, and stated that the studies prepared

and transmitted to Congress pursuant to section 105(c) of the Naval Petroleum Reserves Production Act of 1976 would satisfy the requirement. In 1980, the 105(c) Study was transmitted to Congress, recommending most of the length of the Colville River for inclusion in the National Wild and Scenic River System and triggering a three-year review period during which Congress could add the Colville River to the System pursuant to the Wild and Scenic Rivers Act. Congress did not take action to designate the Colville River as a Wild and Scenic River during the three-year review period.

Subsequently, specific segments of the river within the CRSA received reconsideration for Wild and Scenic River designation, but were found to be unsuitable due to changed land ownership patterns along the Colville. The Northeast NPR-A IAP/EIS (BLM and MMS 1998) and Record of Decision found that Colville River segment within the Northeast NPR-A planning area was not suitable for designation because "other landowners within the potential WSR corridor do not support this action, and without their cooperation, management as a WSR would be ineffective." Likewise, the Northwest NPR-A IAP/EIS (BLM and MMS 2003) and its 2004 Record of Decision did not find the Colville River segment in the planning unit to be suitable for designation in the Wild and Scenic River system. Recommendation and designation of the Upper Colville River (through South NPR-A) is beyond the scope of this EA. Any proposed protections to be implemented in the Proposed Action and No Action Alternative would not preclude future consideration of the upper portion of the Colville River for National Wild and Scenic River system designation in future land allocation plans. The BLM would manage the area to protect the outstanding values of the segment of the Colville River that passes through South NPR-A so as not to preclude possible future designation for inclusion in the National Wild and Scenic Rivers system.

2.3.4 Extend Setback along Colville River and Tributaries from One to Two miles

This restriction could provide additional protection for peregrine falcon foraging habitat along the river. The BLM eliminated this alternative because knowledge of foraging habitat use by arctic peregrine falcons is not adequate to determine whether the extra protection is necessary. Although a two mile setback has been recommended because it is more conservative, the BLM considers that a two mile setback may be unnecessary to protect arctic peregrine falcons, and may unnecessarily restrict oil and gas development (BLM 2000). Instead, BLM will evaluate arctic peregrine foraging habitat and behavior in the CRSA to determine the extent and distribution of high quality habitat. Meanwhile, if development proposals within the second mile do occur, the BLM will evaluate the impacts on a site specific basis. A similar, or more stringent, project level restriction could be imposed if analyses indicate the need for additional habitat protection beyond the one mile setback. Moreover, this alternative was not analyzed further because Protection 2 (minimize loss of peregrine falcon foraging habitat in the CRSA, including prohibition of significant alteration of high quality foraging habitat within 15 miles of arctic peregrine falcon nest sites) is included with the Proposed Action and this protection will sufficiently conserve foraging habitat in the CRSA.

3. Affected Environment

3.1 Introduction

The entire 2.44 million acre CRSA lies north of Alaska's Brooks Range and its landscape is dominated by the Colville River. Stretching nearly 430 miles, with a watershed of 24,000 square miles, and an average annual flow of 12,000 cubic feet per second, the Colville River is Alaska's largest river north of the Brooks Range, and it is the fourth largest Arctic River in the world (Heritage Recreation Service 1979; Audubon Society 2008). Approximately 320 miles of the Colville River flows through the CRSA. The CRSA was expanded in 1999 to include much of the Kikiakrorak and Kogosukruk Rivers and an area approximately two miles on either side of these rivers.

Arctic peregrine falcon habitat along the Colville River and its tributaries in the CRSA has been created by erosion of geologic folds (Ritchie et al. 2003). Important habitat types include shale banks, soil banks, rock cliffs, rock outcrops, scree and talus slopes, and cliff faces (Ritchie 1979; Ritchie et al. 2003). The most frequently used nesting habitats for falcons in the CRSA are along the lower Colville River, especially along shale banks and rock cliffs.

Currently, the CRSA does not have consistent protections for falcons. For example, the portion of CRSA through South NPR-A has no protections for the arctic peregrine falcon. Northwest and Northeast NPR-A do have Lease Stipulations and/or ROPs that apply to lands and waterways through the CRSA in those planning areas (e.g., K-1, K-7, and F-1). The Northeast NPR-A has additional ROPs that have not been implemented in Northwest NPR-A.

The effects of climate change resulting from greenhouse gas emissions have received increased scientific research and public interest in recent decades. The presence of greenhouse gases in the atmosphere helps to moderate the temperatures on earth. However, the increase in anthropogenic emissions of greenhouse gases have coincided with increased temperatures throughout the world, including the Arctic. The environmental impacts of climate change are still not well understood. Nevertheless, the warming temperatures will likely affect aquatic and terrestrial ecosystems, and in the Arctic subterranean systems such as permafrost. The result would likely be changes in species ranges, with northward expansion of southern species, and possible extirpation or alteration in populations of Arctic species.

3.2 Potentially Affected Resources (Environmental Elements)

The BLM, through internal and external discussions, considered a broad range of resources in determining potential impacts from the proposed action.

Within the context of the issues described in section 1.3, the following resources and resource-related actions were identified to be potentially impacted by the proposed action protections and are further analyzed:

- Arctic Peregrine Falcon
- Other Birds, Bird Surveys, and Bird Hunting
- Moose, Moose Surveys, and Moose Hunting

- Fish, Fish Habitat and Fish Surveys
- Subsistence Use and Subsistence Activities
- Environmental Justice
- Paleontological and Cultural Resources Activities
- Recreation Activities

Oil and gas development was considered among the resource values potentially impacted. However, the CRSAMP is consistent with current IAP/EISs for Northeast and Northwest NPR-A (BLM 2008 and BLM 2003) and the protections do not affect access to or leasing of oil and gas resources beyond the Lease Stipulations or Required Operating Procedures (ROPs) discussed in those planning documents.

3.2.1 Arctic Peregrine Falcon

The arctic peregrine falcon (*Falco peregrinus tundrius*) is one of three subspecies of peregrine falcons that occur in Alaska. Arctic peregrine falcons migrate into Alaska each year and breed north of the Brooks Range and on the Seward Peninsula (White 1968). Arctic peregrine falcons are highly migratory and winter from the southern United States south to Argentina (Cade et al. 1971). Approximately 250 pairs of arctic peregrine falcons nest in Alaska each year (Swem 2007).

Declines in falcon populations resulted in the subspecies being listed in 1970 as endangered under the Endangered Species Conservation Act of 1969. Upon passage of the Endangered Species Act (ESA) of 1973, peregrine falcons (including arctic peregrine falcons) were listed as endangered throughout their range. The population declines in the 1960s were correlated with DDE (dichlorodiphenyldichloroethylene; parent compound DDT dichlorodiphenyltrichloroethane) concentrations in eggs, resulting in eggshell thinning and hatching failure (Cade et al. 1971).

Peregrine falcon populations rebounded after the chemical was banned in the U.S. and these birds were removed from the ESA listing in 1994; monitoring of the population was conducted as required until 1999 (59 FR 50796 [October 5, 1994]). The U.S. Fish and Wildlife Service will consider relisting the arctic peregrine falcon if a reversal of the recovery becomes apparent. For example, if declines in numbers of pairs occupying territories or average productivity fall below specified thresholds (59 FR 50796 [October 5, 1994]), if average contaminant residues in eggs or blood exceed specified values, or if the number of migrating arctic peregrine falcons declines below a threshold value. Meanwhile, the arctic peregrine falcon is on the BLM Sensitive Species List for Alaska and is afforded special management attention by the BLM's Special Status Species Policy (BLM 2004).

3.2.1.1 Population Trends and Monitoring

The CRSA provides the North Slope’s single most important raptor nesting habitat area with high proportions of the region’s populations of arctic peregrine falcon, as well as other raptors such as gyrfalcon (*Falco rusticolus*) and rough-legged hawk (*Buteo lagopus*). The birds occupy bluffs and cliffs within its boundaries.

The arctic peregrine falcon population in the Colville River drainage has been monitored since the early 1950s and the initial surveys documented the widespread distribution and abundance of these birds (Kessel and Cade 1958) (Appendix B). Subsequent monitoring efforts were sporadic until 1978, after which surveys were conducted yearly through 2003 and then again in 2005. This valuable dataset has documented the decline and recovery of this species along the Colville River, from a low of 14 pairs detected in 1973 and a high of 62 pairs in 1998 (White et al. 2002). Population trends, in terms of occupancy (number of pairs attempting to breed each year), for arctic peregrine falcons along the Colville River have been increasing or stable since 1980 (T. Swem personal communication).

Aerial surveys conducted in 1977 and 1999 were designed to assess the abundance and distribution of the arctic peregrine falcon and other raptor species within large areas of NPR-A (including areas within the CRSA) that were not covered by the on-the-ground surveys (Ritchie et al. 2003). These surveys compared cliff-nesting raptor population levels between the two periods and assessed the present distribution, abundance, and degree of recovery of the peregrine falcon population in regions of NPR-A which are outside that of the ground surveys (Ritchie et al. 2003).

The 1999 aerial survey documented that arctic peregrine falcons occupied 67 sites in NPR-A (composing a minimum of 51 pairs and 16 single adults). In comparison, in 1977 only four of 61 potential sites in the area surveyed were occupied. Eighty-four percent of all pairs observed in 1999 produced at least one young and for the entire study area productivity averaged 2.3 young per successful pair and 2.0 young per pair for all pairs.

Of the 67 sites found to be occupied in the 1999 aerial survey, 17 were located within the CRSA in areas that are not covered by the on-the-ground surveys. Of those 17 sites 11 successfully produced young, the fate of three are unknown and three were single adult birds without nests. Nine sites were located on the main stem of the Colville River between the Etivluk River mouth and the southern border of the CRSA. At these sites, seven pairs of falcons produced 18 young, one pair did not produce young, and one nest site was occupied by a single bird. Two sites were located on the Etivluk River, both containing pairs, one of which was successful at producing two young. The Ipnavik River contained pairs at two sites of which one pair successfully produced one young. Three sites were found on the Kiligwa River containing one single bird and two pairs, of which both were successful and produced a total of six young.

Monitoring within the CRSA has been mostly conducted by on-the-ground observers, from a cooperative project of agencies, universities, and private research organizations (Ritchie et al. 2003), who complete two surveys per year, initially to determine the number of birds that occupy nesting sites and later to ascertain productivity (number of young produced). From 1952 – 2005, a mean of 41 pairs per year were detected within the survey area. The boundary of the survey area has changed slightly over the years of the survey but the core area begins in the south on the Colville River at the mouth of the Etivluk River, continues north to Ocean Point on the Colville River and includes the lower five kilometers of the Kogosukruk and Kikiakrorak Rivers. The occupancy data from 1980 through 2005 document an increased population (Appendix B), with high of 62 pairs in 1998 and low of 21 pairs in 1980. The surveys of nesting success indicate similar trends to occupancy. The average percent of pairs during the entire study period

successful at producing at least one young to fledging is 53% with a high of 72% in 1990 and a low of 29% in 1973. Total productivity rates through the study period averaged 52 young per year (high of 100 in 1990 and low of 9 in 1973). The average number of young produced for each pair is 1.3 when all available years of data are considered, 1.4 for 1980 – 2005, and 1.1 for 1995 – 2005.

Based on a 2006 analysis of upward population trends, BLM made the decision to monitor the population of arctic peregrine falcons in the CRSA by conducting ground-level occupancy and productivity surveys once every three years, instead of yearly (Steidl 2006).

3.2.1.2 Habitat Use and Ecology

Peregrine falcons in the CRSA are typically found on cliffs adjacent to rivers where they use ledges and platforms on rocky outcroppings, brinks of cliffs, or on the nose of a steep earth bluff, and occasionally in old nests built by rough-legged hawks (White and Cade 1971). Map 4 shows the distribution of nest sites within the CRSA; additional information on falcon distribution and abundance in Alaska's North Slope can be found in Ritchie et al (2003). Data from 80 arctic peregrine falcon nests in the CRSA from 1967 – 1969, indicated the birds selected nest sites that averaged 116 feet above the river (range 30 – 400 feet), 33 feet (range 0 – 150 feet) below the cliff brink, and 54 feet (range 0 – 300 feet) above the cliff base. Since White and Cade's (1971) study, the number of arctic peregrine falcons nesting in the area has increased significantly and it is unknown if those habitat use values are still valid.

Arctic peregrine falcons nesting in the CRSA are extremely versatile in their choice of prey (White and Cade 1971). Most of the falcons' diet consisted of shorebirds and passerines; with up to 15% of the passerines being "willow-inhabiting" birds such as the gray jay, thrushes, warblers and three species of finches (White and Cade 1971). Mammals were found to be infrequent in the diet of arctic peregrine falcons, with one to four percent of all prey consisting of mammals (White and Cade 1971). A minimum of 47 species of birds have been found to be prey items of arctic peregrine falcons and the frequency of any given prey species may change annually (White et al. 2002). Cade (1960) considered rivers to be important for providing habitat conditions required by some prey species frequently used by peregrine falcons.

In many parts of the world, peregrine falcons frequently use manmade structures for nesting (e.g., cut for roadbeds, electric-transmission towers, oil pipelines, and a variety of buildings, churches and bridges in metropolitan centers) (White et al. 2002; Yokel 1999). On the Arctic coastal plain, in areas of current oil and gas development, some raptors including falcons, nest on buildings and pipelines. These new nesting substrates increase risks of collisions with vehicles or power lines, and incineration in flare pits (Yokel 1999). Ritchie (in Yokel 1999) states that perhaps the most serious impact to raptors from oil and gas exploration and development may be disturbance of nesting birds and potential subsequent loss of productivity.

3.2.1.3 Management and Conservation

The population of arctic peregrine falcons in the CRSA has stabilized for the past 15 to 20 years, and it is BLM's objective to maintain that population into the future (Yokel 1999). BLM issues permits to a variety of agencies, universities, and private research organizations to conduct scientific studies in the CRSA, including on cliffs occupied by arctic peregrine falcons. In

addition, BLM Lease Stipulations or ROPs often require the clean up or remediation of activity sites, which could potentially be within close range of falcon nest sites. These types of activities could affect the behavior and nesting success of arctic peregrine falcons in the CRSA.

The arctic peregrine falcon can be susceptible to disturbance by humans on foot (Ritchie 1987; Palmer et al. 2001). A study conducted in 1985 and 1986 demonstrated that response of nesting peregrine falcons to humans varied with distance between the human and the falcon (Ritchie 1987). The most severe reactions occurred when activities were near or above the nest, such as could be expected from recreational activities, subsistence hunting, falconry, geological, paleontological, archeological, and fish and wildlife fieldwork (Ritchie 1987). In addition, Palmer et al. (2001) conducted a study of peregrine falcons on the Tanana River which documented that nesting success during incubation and chick brooding could be disproportionately affected by factors like disturbance. The authors also showed that disturbance may shift activities away for thermoregulation of eggs and young chicks and towards territorial defense. These two studies clearly show that human presence in the vicinity of a peregrine nest site elicits severe reactions from the birds and may lead to decreased nest success.

3.2.2 Birds (Excluding Peregrine Falcon)

In addition to the arctic peregrine falcon, the CRSA provides habitat for other raptors, including rough-legged hawk and gyrfalcon, as well as several unique trans-Beringian migrant passerines and many species of shorebirds. These factors contribute to the area's inclusion as an Important Bird Area (Audubon Society 2008). The CRSA and surrounding NPR-A provides habitat for a wide variety of other types of birds, including shorebirds, loons, waterfowl, and inland dwelling sea birds (BLM 2008a). Two eider ducks, the threatened spectacled eider (*Somateri fischeri*) and Steller's eider (*Polysticta stelleri*), use habitats in NPR-A and potentially in the CRSA. Neither species of eiders listed under Section 7 of the Endangered Species Act appear to nest in the CRSA (Swem 2008) so these species are not addressed further. Summaries that describe the distribution, abundance, and ecology of birds in NPR-A can be found in BLM (2008a: 350 to 366) and BLM and MMS (2003: III-60 to III-70). Additional information can also be found in ADF&G (2006) and Johnson and Herter (1989).

The vast majority of birds which breed in the CRSA are migratory and are only present in the area during the breeding season (May – September). There are a number of Federal laws that protect bird populations and habitats including the Lacey Act, Weeks-McLean Law, Migratory Bird Treaty Act, Endangered Species Act, the Migratory Bird Conservation Act, and the Migratory Bird Treaty Act.

3.2.2.1 Bird Surveys

Currently no systematic or large scale survey or management actions are being undertaken on birds in the CRSA by state, Federal or private organizations, but future research or management may occur. Some small-scale studies have been conducted on passerines in the CRSA in recent years, including two separate boat trips on short sections of the Colville River to inventory species, and two years of mist-netting of passerines to test for Avian Influenza in the Umiat area.

3.2.2.2 Bird Hunting

Game birds are managed and harvest regulations are set and enforced by the State of Alaska. Two species of game birds, rock (*Lagopus muta*) and willow (*Lagopus lagopus*) ptarmigan, are found in the CRSA. Current regulations for ptarmigan in Unit 26A allow for a take of 50 birds per day with 100 in possession. The sport hunting season is August 10 – June 15 which allows for a cessation of sport harvest during the period when most peregrines are feeding their young. Federal subsistence regulations allow for the take of 20 ptarmigan per day with a 40 bird possession limit. The Federal subsistence hunting season for ptarmigan is currently August 10 – April 30 which is effectively a cessation of harvest during the majority of the period when most peregrines are present in the area. No Federal or state agency currently lists either the rock or willow ptarmigan as a species of conservation concern. Given the liberal bag limits imposed on sport hunters in Unit 26 (except for Unit 26B; 50 ptarmigan/day with 100 in possession; 2008-2009 ADF&G sport hunting regulations) it seems reasonable to assume that ADF&G expects little impact to ptarmigan populations from sport hunting.

3.2.3 Moose, Moose Surveys, and Moose Hunting

Moose have been present on Alaska's North Slope, either sporadically or at low densities, for many years (Carroll 2004), and have been established in the western half of the North Slope including the CRSA since about 1940. During winter, moose rely heavily on riparian willows for forage, and primarily on the tallest willows which are most concentrated along the lower half of the CRSA from the Killik River to Ocean Point (BLM 2002). Moose are also concentrated during winter along this river corridor with its tall willows, whereas in summer they may disperse into smaller tributaries, uplands, or across the coastal plain.

Since 1970, this moose population has been surveyed by ADF&G in late winter when moose are still concentrated along rivers and there is ample daylight (Carroll 2004). Trend counts along the Colville, Anaktuvuk and Chandler rivers indicated a stable population from 1970 to 1991, ranging from 544 to 866 (excluding a count of 315 in 1983 during sub-standard survey conditions). Some combination of malnourishment, disease, mineral deficiency, hunting, wolf and bear predation, weather, and competition from snowshoe hares caused a marked population decline between 1991 and 1996, when trend counts showed a precipitous decline of 77% from 647 to 152 moose (Carroll 1998). The population has been increasing since 1996 to 610 moose in 2007 (Carroll 2007).

The trend count data, with additional counts in 2006 and 2007, suggest that the population may be stabilizing at a lower level than it reached in the 1980's. This possibility is corroborated by counts of yearling moose only, which display a flat trend since 1997 (Carroll 2007).

3.2.3.1 Moose Surveys

Moose population surveys in the CRSA are conducted by ADF&G. Survey activities normally include annual trend counts in the spring (usually early April) involving one aircraft for about eight hours on each of two days. Surveys may involve flying altitudes of less than 500' AGL. Approximately every 5 years, the trend count is expanded and requires one aircraft for about eight hours on each of four days. Sex/age composition counts are conducted annually using one

aircraft for about eight hours on each of two days. These surveys also document moose calf survival and distribution.

Calf production is estimated with a survey in the first week of June, involving one aircraft for about six hours on one day. In addition to these regular surveys, adult moose are sometimes radio-collared in April. In years when this occurs, it requires one aircraft for about eight hours on each of two days. With the exception of operations to place radio-collars on moose, which employ a small helicopter, all aerial surveys are conducted by small fixed-wing aircraft. All surveys, by necessity and design, require some low-level flying, and some of this low-level flight may occur near occupied arctic peregrine falcon nests or territories.

3.2.3.2 Moose Hunting

Because the Colville River provides the primary access to moose hunting, most moose hunting likely occurs along the river just outside the boundary of the CRSA. The moose management reports published by ADF&G (Carroll 2004) do not distinguish the CRSA from other portions of the Colville River watershed, so the amount of moose hunting actually within the CRSA is unknown. Some hunting has occurred in the CRSA every year, but the amount and timing have varied with the moose population and subsequent changes in hunting regulations.

The moose decline between 1991 and 1996 led to a significant reduction in hunting opportunity, reflected by State of Alaska and Federal Subsistence harvest regulations, which remained in effect until July, 2002. Harvest was limited to one bull per hunter in the Colville River drainage downstream from the mouth of the Anaktuvuk River, and Federal lands in this area were closed to moose hunting by all but residents of the eight North Slope villages. The intent of these restrictions was to limit moose hunting primarily to the residents of Nuiqsut, who could access the lower Colville River by boat from their home village. The restrictions were partially lifted in July, 2002 due to the apparent upward trend in moose numbers. By July, 2006, the trend in moose population had continued upward and the restrictions were further eased by adding a permit hunt (≤40 permits) and a late winter hunt (February 15 – April 15) on the Colville River drainage above the Anaktuvuk River. The late winter hunt provides increased opportunity for North Slope residents.

The total number of successful and unsuccessful hunters varied from 68-105 during the period 1985 to 1993, and then dropped as moose numbers declined. From 1997 through 2002 (the last year for which ADF&G has reported harvest), there were from 14 to 20 hunters per year.

3.2.4 Fish and Fish Habitat, and Fish Surveys

3.2.4.1 Fish and Fish Habitat

There are twenty-one fish species present in the Colville River watershed. No fish species are threatened or endangered, nor are any listed by the BLM as Species of Concern. Additionally, no populations are currently considered to be in decline. Pacific salmon are the only fish with a specific habitat designation in the Colville River, as the river is listed in the State of Alaska anadromous waters catalog (ADF&G 2007; Johnson et al. 2004). Fish habitat and populations in the CRSA have been relatively unaffected by humans (BLM 2008a).

ADF&G manages for the sustainability of fish stocks in the Colville River watershed. Fish harvest limits are set by the Board of Fisheries and are based on the best available information, including harvest data.

3.2.4.2 Fish Surveys

Most of the fish survey work in the Colville River occurred over 25 years ago, so to update the database BLM began conducting some new inventory work in 2007 in cooperation with ADNR. This work will be completed in 2008 and no future work is currently scheduled. The 2007-08 inventory entails using a helicopter to establish a remote camp on the river from which boats are used for a two to three week period in August. Any future surveys and monitoring in the Colville River or its tributaries would follow similar operating procedures.

A variety of methods are often utilized for fish surveys related to fish management or research in order to target different species or age classes. These may be done by state or federal agencies, the North Slope Borough, universities, or private research organizations. Although active fishing is sometimes conducted using seines or gill nets, the most common methods currently utilized in Arctic freshwaters are passive trapping techniques. This includes setting out nets or traps (e.g. fyke nets, anchored gill nets, minnow traps) in the water for a time period before returning to a location to process captured fish. Nets and traps often remain at the same location for up to several days. Utilizing this type of method typically requires boating upstream and downstream daily in a small motorboat in order to access the sampling sites. These surveys are conducted from May through September, depending on the species or survey objectives.

3.2.5 Subsistence

Subsistence is a way of life for many rural residents of Alaska. State and Federal law define subsistence as the “customary and traditional uses” of wild resources for food, clothing, fuel, transportation, construction, art, crafts, sharing, and customary trade (AS 16.05.094; 16 USC 3113). While many view subsistence as simply the taking of fish and game resources for nutrition, in actuality it is about the harvest, processing, distribution, and consumption in a traditional way that cannot be separated from other aspects of Alaska Native culture. Subsistence resources are highly valued and central to the customs and traditions of many cultural groups in Alaska, including the Iñupiat residents of North Slope. These customs and traditions encompass sharing and distribution networks, cooperative hunting, fishing, gathering and ceremonial activities.

Title VIII of ANILCA establishes both a conservation mandate (conserve healthy populations), and an allocation mandate (priority for non-wasteful subsistence uses by rural residents) for subsistence on public lands in Alaska. These mandates are implemented through the Federal Subsistence Program, which is comprised of the Federal Subsistence Board, ten Regional Advisory Councils (RACs), and interagency staff specialists.

3.2.5.1 Subsistence Use

The CRSA overlaps with the subsistence harvest areas for three communities: Barrow, Wainwright, and Nuiqsut (Map 5). For Wainwright and Barrow, the CRSA comprises the farthest extent that people will travel from their communities during the winter, when overland

travel is possible, primarily for the purposes of caribou hunting or furbearer hunting and trapping. The residents of Nuiqsut are the primary subsistence users of the CRSA. Subsistence activities are important components of the Nuiqsut economy and of local Iñupiat culture and identity (IAI 1990). A 1993 ADF&G subsistence study showed that nearly two-thirds of all Nuiqsut households received more than half of their meat, fish, and birds from local subsistence activity (Pedersen 1995).

Nuiqsut's total annual subsistence harvests ranged from 160,035 pounds in 1985 to 267,818 pounds in 1993 (ADF&G 2001). The 1993 harvest of 742 pounds per capita of wild resources represents approximately 2 pounds per day per person in the community. In 1985, fish and land mammals accounted for 86 percent of Nuiqsut's total subsistence harvest, and marine mammals contributed 8 percent. In 1993, fish, land mammals, and marine mammals accounted for approximately one-third each. The importance of subsistence to Nuiqsut residents is further reflected in the high participation rates from 1993 by households that harvest (90 percent), try to harvest (94 percent), share (98 percent), and use (100 percent) subsistence resources (ADF&G 2001).

3.2.5.2 Subsistence Resource Activities

The residents of Nuiqsut use the CRSA year-round for a variety of subsistence activities including moose, caribou and bird hunting; fishing; gathering (berries); and furbearer hunting and trapping. The most predominant subsistence activity that takes place in or immediately adjacent to the planning area is moose hunting, due to the high concentration of moose within river corridors (see section 3.4.2, *Moose*). The moose hunting season is open from August 1 to September 14, and the majority of the moose are harvested from the area between Ocean Point and Umiat (Eli Nukapigak, personal communication, December 07, 2007). Additional hunting openings occur during the winter depending on the number of moose harvested in the fall opening. For example, during 2008, there was an additional opening for local residents only from February 15 to April 15. During moose hunting, it is customary for hunters to utilize the cliffs within the planning area as lookouts, as the cliffs offer unique vantage points above the thick willow along the river where the moose are usually located (Jimmy Nukapigak, personal communication, December 07, 2007).

It is also common to combine other activities, such as grayling fishing or cranberry picking, with hunting. Residents from Nuiqsut utilize the numerous small lakes located on the western shore of the river from Nuiqsut south to Sentinel Hill. Fishing from these lakes occurs from June until September (basically, during ice-free conditions), and the lakes are accessed by boaters along the river, who tie off, and then climb the bank or cliffs to the lakes (Jimmy Nukapigak, personal communication, December 07, 2007). Berries usually ripen in the late summer/fall time, and they are intensively harvested from areas along both sides of the Colville River during August (Brower and Opie 1997). Berries that are especially prevalent in the planning area are cranberry, salmonberry (cloudberry), and blueberry.

Caribou, which can be harvested year-round, are frequently taken within the planning area. In the winter caribou are harvested by snow machine, as are wolf and wolverine, and trips are made within the planning area targeting these species (Jimmy Nukapigak, personal communication,

December 07, 2007). In the ice-free months, caribou may be taken in conjunction with other subsistence activities along the river, such as fishing, berry picking, or moose hunting.

Other subsistence activities that occur in the CRSA include fishing, furbearer harvest, and bird hunting. Furbearer hunting occurs through the winter, when lands are accessible by snowmachine, usually through the end of May. Moose may also be harvested, should an additional winter opening be granted. Migratory waterfowl hunting in the early spring also occurs opportunistically by residents traveling by snowmachine within the CRSA. Residents of Nuiqsut travel to the CRSA both overland and by boat in pursuit of caribou during this period, with the largest amount of caribou harvested in June and July using boats as the primary source of transportation (Sverre Pederson, personal communication 2008).

The majority of subsistence fishing activities in the Colville River occur downstream of Nuiqsut, outside of the boundary for the CRSA. The summer fishery generally begins in July and extends until freeze-up, which typically occurs in early September, and targets broad whitefish (Nelson et al. 1987; MJM Research 2007). The fall under-ice gill net fishery begins in late September-early October and typically lasts through late November (Craig 1989; Moulton 1997; Moulton 1999). The fall fishery targets Arctic cisco, which can account for 50 percent or more of the total harvest (MJM Research 2003, 2004). Other species are taken incidentally and may include humpback whitefish, Bering cisco, Arctic grayling, rainbow smelt, round whitefish, Dolly Varden, burbot, chum salmon, pink salmon, Chinook salmon, sockeye salmon, Arctic flounder, and fourhorn sculpin. Although subsistence fishing efforts are largely concentrated downstream of Nuiqsut, there is also some fishing that occurs upstream of the village, particularly in the portion of the river below Umiat. This includes an important local burbot fishery that occurs in late winter/early spring in the Tiragruaaq area (MJM Research 2007).

3.2.6 Environmental Justice

Environmental justice is an initiative that culminated with President Clinton's February 11, 1994, EO 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," and an accompanying Presidential memorandum. The EO requires that each Federal agency consider environmental justice to be part of its mission. Its intent is to promote fair treatment of people of all races, so no person or group of people bears a disproportionate share of the negative effects from the country's domestic and foreign programs.

Specific to the NEPA process, the EO requires that proposed projects be evaluated for "disproportionately high adverse human health and environmental effects on minority populations and low income populations." U.S. Environmental Protection Agency guidelines for evaluating the potential environmental effects of projects require specific identification of minority populations when either: 1) a minority population exceeds 50 percent of the population of the affected area; or 2) a minority population represents a meaningfully greater increment of the affected population than of the population of some other appropriate geographic unit, as a whole.

According to the 2000 Census 89.1% of the population of Nuiqsut is Alaska Native or American Indian (specifically Iñupiat), an identified minority group. Based on the census data, the minority population in Nuiqsut is well above the 50% threshold specified in the USEPA

guidelines, so it is appropriate to consider potential environmental justice issues in evaluating the effects of the planning area alternatives.

For centuries, survival in the Arctic has centered on the pursuit of subsistence foods and materials and the knowledge needed to find, harvest, process, store, and distribute the harvest. The development of Iñupiat culture depended on passing on traditional knowledge and beliefs about subsistence resources. This knowledge included observations of game behavior, how to use those observations to successfully locate and harvest game, and how hunters and their families should behave to ensure successful harvests in the future. Other skills and knowledge handed down through the generations included a suite of tools, techniques, and strategies necessary to survive and even thrive in the harsh Arctic environment (Spencer 1976). For the Iñupiat, subsistence and culture continue to be inextricably intertwined. The process of obtaining, refining, and passing on subsistence skill is inextricably linked to the Iñupiat culture, which is based on interdependent family groups, and a tradition of sharing harvested resources.

Although there have been substantial social, economic, and technological changes in Iñupiat lifestyle, subsistence continues to be the central organizing value of Iñupiat sociocultural systems. The Iñupiat remain socially, economically, and ideologically loyal to their subsistence heritage. Task groups are still organized to hunt, gather, and process subsistence foods. Cooperation in hunting and fishing activities also remains an integral part of Iñupiat life, and a major component of significant kin ties is the identity of those with whom one cooperates (Heinrich 1963). Large amounts of subsistence foods are shared within and between the communities and the people one gives to and receives from are major components of what comprises significant kin ties (Heinrich 1963; ACI et al. 1984). The sharing of subsistence foods is essential to the maintenance of family ties, kinship networks, and community well-being. Disruption of subsistence harvest patterns could alter these cultural values and affect community social structure. For the system of sharing to operate properly, some households must consistently produce a surplus of subsistence goods.

EO12898 promotes effective public participation strategies and meaningful community representation in the NEPA process. To this end, the BLM gave an overview of the CRSA Management Plan at the December 6, 2007 NPR-A Subsistence Advisory Panel (SAP) Meeting in Nuiqsut. In addition, BLM employees and SAP members met with local citizens at the Native Village of Nuiqsut office on December 7, 2007. The purpose of this meeting was to discuss the parameters of the plan in more detail, and to obtain updated information on subsistence use within the planning area.

3.2.7 Paleontological and Cultural Resource Activities

The CRSA provides unique opportunities for paleontological and Cultural Resources research activities. The area is underlain by sedimentary rocks, typical of petroleum producing formations. As a result, these bedrock formations contain a wide array of plant and animal fossils. The area also includes numerous sites from prehistoric and historic era human activity. For example, the CRSA includes 257 prehistoric sites and 97 historic sites, with about two-thirds of each type within 300 meters of the Colville River (Appendix D).

3.2.7.1 Paleontological and Cultural Resources Excavations

Paleontological excavations on or near the Colville River bluffs are important activities in the CRSA. Such work can only be carried out during the summer months when the weather is moderate and the active zone soil is thawed. Most excavation is accomplished through the use of hand tools although pneumatic tools which require a compressor may sometimes be employed. There have been one or two excavations per year on the Colville River between the Kogosukruk River and Ocean Point since the 1980s. The crews typically consist of 6 to 14 people, depending on the excavation. At present there are two permitted paleontological teams that work in the CRSA.

Cultural resources excavations are conducted on an as needed basis, for salvage if a site is exposed, as mitigation, or for research. The activity level for cultural excavations was higher in the 1970s and 1980s than in recent years. Currently, there are no excavations in the CRSA, and in recent years only short term (less than one day) projects have occurred.

Because of the remoteness of the area, in many cases tent camps housing as many as a dozen researchers must be established. Such camps may be of ten days to six weeks duration and require regular supply by both fixed-wing and rotor-wing aircraft. Flights in and out of the camps are not frequent, and can vary from zero to five per week. The camps are usually established within walking distance of the excavation site. Under normal circumstances at least one generator is required for camp operation.

3.2.8 Recreation Activities

All BLM lands are categorized and managed in a particular Recreation Opportunity Spectrum (ROS) class based on the setting, activities available, and the type of experience afforded (BLM Manual Handbook 8320). The public lands within the CRSA fall within the Semi-Primitive Motorized management class.

3.2.8.1 Setting

The CRSA encompasses a vast Arctic region with outstanding recreation opportunities such as backpacking, float boating, camping, fishing, hunting, and winter sports. Other areas offer excellent bird watching.

No people live within the CRSA boundary, and relatively few people visit each year because access is difficult and costly and there is no infrastructure. Despite its size (2.44 million acres), recreational use of the CRSA is rather small compared to total statewide recreation. Nevertheless, considering its size and the relatively few recreational users, the CRSA has the capacity to support additional primitive recreation.

Due to the lack of roads, summer access is almost exclusively by charter aircraft. Aircraft are available for charter at various locations, all outside of the CRSA. Guide services are an additional cost and vary with the type of guided activity. Outside of the CRSA, the Arctic Slope Regional Corporation has applied restrictions to visitors; people must remain on the Colville River easements and hunting is not allowed (Map 6). No restrictions limit recreational opportunities within the CRSA. The CRSA's principal outdoor recreational activities are described in the following sections.

3.2.8.2 Recreational Activities

Relatively little hiking and backpacking occurs in the CRSA. The hiking that does occur usually coincides with other recreation pursuits such as hunting, bird watching, and sightseeing. Floating the Colville and its tributaries is the most popular recreational use of the CRSA. There are currently three bird watching, hiking and sightseeing guides permitted to use the CRSA equating to approximately 46 people and constituting 95 visitor use days per year. Most of these activities occur from mid June to mid August. People come to the Colville River area to view the many types of birds that come to nest along the Colville River bluffs and riparian areas. Most of the bird watching and wildlife viewing occurs below the Etivluk confluence and is on private lands. An established recreational easement along the Colville River allows the public to use this area. These visits are relatively short term at any one location.

There have been some requests to ADF&G to permit falconry in the CRSA. As of April 2008, no falcon collection permits are allowed in the CRSA, but no final decision on permitting allocation in the Colville River drainage has been issued by ADF&G. Falconers would likely visit several nests, either on the ground or by low flights, before selecting a bird (Ted Swem USFWS, Personal Communication 2008).

Most of the recreational hunting occurs on the western end of the CRSA. Hunting in this area is generally for caribou, but occasionally wolf, bear or moose are harvested. Most of the hunting along the Colville and tributaries occurs from mid August to mid September, generally after the nesting season for falcons and the young have fledged. Below the confluence of the Etivluk and Colville rivers, as elsewhere in the State, individuals must obtain permission to hunt on private land when access is restricted by the landowner.

4. Environmental Consequences

4.1 Introduction

This chapter describes the direct, indirect, and cumulative impacts of the Proposed Action and the No Action Alternative. Elements of the Proposed Action that do not require impact analysis are not addressed (see discussion in section 2.1).

The following analysis of impacts differentiates between:

a. direct and indirect impacts, which result from the implementation of the protections described in the Proposed Action and No Action, and,
b. cumulative impacts, which would occur regardless of applying the protections and are not affected by the decisions contemplated in the CRSAMP.

Cumulative impacts include those impacts from actions that would take place on private, State, and other Federal lands in and near the CRSA, actions authorized in relevant portions of NPR-A that were analyzed in the current IAP/EISs and are not affected by the alternatives put forward in the CRSAMP, and other actions that could impact resources and uses that may be affected by the Proposed Action and/or the No Action Alternative. The geographic scope of the cumulative analysis varies for each resource and is defined in the cumulative impact analysis for each resource or use.

4.2 Direct and Indirect Effects

The alternatives could have direct and indirect effects on arctic peregrine falcons, other birds and bird management activity, moose and moose management activity, fish and fish management activity, subsistence activity, paleontological and cultural resources activities, environmental justice, and recreation. These impacts are described below.

4.2.1 Arctic Peregrine Falcon

This section discusses the impacts from the Proposed Action and No Action Alternative to arctic peregrine falcons in the CRSA.

4.2.1.1 Proposed Action

Arctic peregrine falcons using the CRSA would directly benefit from the proposed action's existing and additional protections that directly reduce impacts from human disturbance (Table 2-1). The entire Proposed Action is aimed at reducing impacts and promoting healthy populations of the arctic peregrine falcon in the CRSA and therefore, the impacts of the Proposed Action are entirely and directly beneficial to arctic peregrine falcon.

The most benefits would be realized within the South NPR-A area of the CRSA, which has no current protections. Applying Protections 1 through 9 would reduce disturbance to the arctic peregrine falcon. Specifically these Protections include: 1 (1 mile setback prohibiting construction of permanent facilities), 2 (considerations for 15 mile foraging area), 3 (aircraft

flight restrictions), 4 (minimize campsite disturbance), 5 (minimize authorized cliff site visits), 6 (minimize construction and clean up impacts near nest sites), 7 (minimize impacts from motorized ground-vehicles), 8 (minimize impacts from power lines), and 9 (minimize effects from sand/gravel extraction). These measures would lessen potential impacts from human disturbance to arctic peregrine falcons in the CRSA within South NPR-A. The types of disturbances minimized would include habitat loss, impacts from vehicles (including aircraft) or humans on foot, infrastructure development, and human presence on or near cliff sites where nests could be located.

In the Northwest NPR-A area of the CRSA, new protections (Protections 4, 5, 6, 7, 8, and 9) would provide additional benefits to the arctic peregrine falcon beyond what is currently afforded through the Northwest NPR-A ROD (BLM and MMS 2004).

For Northeast NPR-A, Protections 4, 5, and 6 would add to the existing measures to minimize impacts to the arctic peregrine falcon and would therefore provide additional protections to the arctic peregrine falcon.

For all of the areas, applying Protections 1, 2, 6, 7, and 9 are aimed to improve arctic peregrine falcon reproductive success. Protections 3, 4, and 5 provide high levels of protection from human disturbance which would not force arctic peregrine falcon behavioral changes to accommodate human intrusions. Protection 8 would provide additional protection for peregrine falcons that perch on power lines and associated superstructure by reducing the probability of electrocution at these sites. Nevertheless, this protection would not necessarily decrease the potential for collisions of peregrine falcons with power lines.

Overall, the effects of the Proposed Action would be beneficial to the arctic peregrine falcon in the CRSA because the protections would minimize human disturbance and habitat loss.

4.2.1.2 No Action

The protective measures for the peregrine falcon in the No Action Alternative would provide continued protection for peregrine falcons and their nesting and foraging habitat within some portions of the CRSA, but this would be less than that provided under the Proposed Action. Where setbacks (K-1 Lease Stipulation) and land-use restrictions (K-7, F-1 ROPs) do occur (e.g., Northeast and Northwest NPR-A), the incidental benefits to peregrine falcon habitat are similar as those described for the Proposed Action. However, because of the inconsistencies among protections within the Northeast, Northwest, and lack of explicit protections for the South NPR-A Planning Areas, there are fewer limits and prohibitions that apply to the entire CRSA (Table 2-1). In addition, protections for South NPR-A have not been formally adopted in an up-to-date planning document, so the potential for human-caused disturbance to peregrine falcons in South NPR-A could be higher.

The No Action Alternative provides fewer protections for falcons than the Proposed Action. The 1 mile setback, 15 mile foraging area considerations, pipeline and road consolidation, subsistence advisory consultation, and aircraft flight restrictions would apply along the Colville in both Northwest and Northeast NPR-A but not South NPR-A. However, Protections 4 (campsite restriction near nest sites), 5 (cliff site visits), 6 (timing of clean-ups and construction),

7 (motorized ground vehicle use) would not apply in any part of the CRSA. The long-term result could be an overall greater amount of disturbance to arctic peregrine falcon from human activity in the CRSA compared to the Proposed Action.

4.2.2 Birds, Bird Surveys, and Bird Hunting

This section discusses the impacts from the Proposed Action and No Action alternatives to birds, bird surveys, and hunting in the CRSA.

4.2.2.1 Proposed Action

Most of the bird species using the portions of the CRSA inhabited by arctic peregrine falcons would indirectly benefit from the protections in the proposed action (Table 2-1). For example, the gyrfalcon and rough-legged hawk also nest in the cliff areas that falcons use (Yokel 1999). And trans-Beringian migrants and shorebirds using riparian areas or habitat along the rivers would also benefit from the protections designed for the peregrine falcon.

The CRSA segment in South NPR-A, which has no established plan, would gain Protections 1 through 9. The protections are: 1 (1 mile setback prohibiting construction of permanent facilities), 2 (considerations for 15 mile foraging area), 3 (aircraft flight restrictions), 4 (minimize campsite disturbance), 5 (minimize authorized cliff site visits), 6 (minimize construction and clean up impacts near nest sites), 7 (minimize impacts from motorized ground-vehicles), 8 (minimize impacts from power lines), and 9 (minimize effects from sand/gravel extraction). These protections are designed to protect the arctic peregrine falcon but would also reduce disturbance to other birds. Protections 1, 2 and 3 already apply to Northeast and Northwest NPR-A through previous planning decisions but Protection 4, 5, and 6 would be new to both of these planning areas. The portion of CRSA in Northwest NPR-A would gain Protection 7, 8, and 9, whereas these would be existing protections in the Northeast NPR-A section of the CRSA.

Protections 4, 5, and 6 provide different levels and types of protection from disturbance for all bird species throughout the CRSA. These protections would result in positive impacts to birds because of decreased disturbance rates from various activities in the CRSA (especially to birds inhabiting sites near cliffs where arctic peregrine falcons are found). In particular, incidental or intentional disturbance to birds within 0.5 miles of cliffs, 500 meters of nesting arctic peregrine falcons, and near cliff faces would decrease. These protections would reduce impacts from humans on foot. Protection 8 would provide additional protection for all raptors and other birds that perch on power lines and associated superstructure that could be developed in South or Northwest NPR-A. This protection, however, is not likely to decrease the potential for collisions of birds with power lines. Likewise, the addition of Protection 9 would also protect birds in the vicinity of falcon nest sites and cliff faces from loss of habitat due to sand or gravel extraction along cliff faces would be reduced or eliminated. The Proposed Action would be beneficial to birds in the CRSA because the protections would minimize human disturbance and habitat loss. Birds that use habitats near peregrine falcon nest sites (e.g., cliff nesting raptors and some trans-Beringian migrants or shorebirds that use riparian habitats along the rivers) would benefit the most.

The Proposed Action could have a very minor effect on bird survey activity, but this activity is not common in the CRSA. Researchers/field workers in South NPR-A would have to adhere to

the Protection 3, and would need to limit cliff site visits throughout the CRSA (Protection 5).. The protections for falcons described in Table 2-1 would have negligible effects to bird hunting and all other hunting activities, because those activities are not regulated by permits and therefore do not fall under the purview of the BLM's protective mitigation requirements.

4.2.2.2 No Action

The protective measures for the peregrine falcon in the No Action Alternative indirectly provide protection for other birds and their habitat within the portions of CRSA, but this would be less than that provided under the Proposed Action. Where setbacks and land-use restrictions do occur (e.g., Northeast and Northwest NPR-A), the incidental benefits to bird habitat are the similar as those described for the Proposed Action. For example, ROP C-2, ROP E-16 (powerline protections), and ROP E-15 (sand/gravel extraction) , would apply in Northeast NPR-A, but not Northwest. The protections in South NPR-A have not been formalized in an up to date planning document, so the potential for human-caused disturbance rates to birds in South NPR-A could be higher. Due to the inconsistencies among protections within the Northeast, Northwest, and South NPR-A Planning Areas, there are fewer limits and prohibitions that apply to the entire CRSA (Table 2-1).

The No Action Alternative would provide fewer protections for birds than the Proposed Action. The 1 mile setback (K-1 Lease Stipulation), 15 mile foraging area considerations (K-7 ROP), pipeline and road consolidation, and aircraft flight restrictions (F-1 ROP) would apply along the Colville in both Northwest and Northeast NPR-A but not South NPR-A. However, Protections 4 (campsite restriction near nest sites), 5 (regarding cliff site visits), 6 (timing of clean-ups and activities), 7 (motorized ground vehicle use) would not apply. Change from the current level of impacts would be negligible.

Impacts to bird survey activity would be very minor, similar to the Proposed Action. Bird surveys and research are not common in the CRSA. Cliff site visits would not be restricted, so if there were bird surveys conducted in the CRSA, then workers would not need to adhere to cliff site visit restrictions (Protection 5 of the Proposed Action). BLM restrictions on access would have negligible impact on bird hunters because most bird hunting activities occur before or after the April to August timing restrictions designed to protect peregrine falcons.

4.2.3 Moose, Moose Surveys and Moose Hunting

This section discusses the impacts from the Proposed Action and No Action alternatives to moose, moose surveys and moose hunting in the CRSA.

4.2.3.1 Proposed Action

The protections for falcons described in Table 2-1 would have an indirect beneficial effect to the moose population in CRSA because the protections would provide conservation of important habitat.

The Proposed Action would likely have some indirect beneficial impacts on moose populations. Protection 1 (1-mile setback from the river) would likely have a slight, positive, indirect impact on the moose population in South NPR-A by minimizing permanent disturbance and habitat

destruction in the riparian zone. There would be no additional effect within the CRSA in Northeast and Northwest NPR-A, because Protection 1 has already been implemented in those planning units. Any impacts from protections 2 through 9 [i.e., Protection 2 (considerations for 15 mile foraging area), 3 (aircraft flight restrictions), 4 (minimize campsite disturbance), 5 (minimize authorized cliff site visits), 6 (minimize construction and clean up impacts near nest sites), 7 (minimize impacts from motorized ground-vehicles), 8 (minimize impacts from power lines), and 9 (minimize effects from sand/gravel extraction)] would likely be negligible to moose populations.

The Proposed action could have a very minor adverse impact on moose survey activities in South NPR-A because of the altitude flight restrictions associated with Protection 3. However, the flights are not under the purview of BLM, so the compliance to the restrictions would be up to the discretion of ADF&G. There would be no change in Northwest and Northeast NPR-A lands within the CRSA because these protections already exist.

The protections for arctic peregrine falcons described in Table 2-1 would have no effects to moose hunting and all other hunting activities, because those activities are not regulated by BLM.

4.2.3.2 No Action

Moose in South NPR-A would have less habitat protection compared to the Proposed Action because there would be no 1 mile setback along the Colville River. Thus, certain facilities (non-oil and gas) could potentially be built there. The result would be potential indirect impacts to moose populations due to habitat destruction in the riparian zone. Moose in the CRSA portions of Northeast and Northwest NPR-A would have the same protections as currently, so any change would be negligible. Implementation of the other measures (Protections 2 through 9) would have no to negligible effects on moose

The protections for falcons described in Table 2-1 would have negligible effects on moose survey activities or moose hunting because those activities are not regulated by BLM.

4.2.4 Fish, Fish Habitat and Fish Surveys

This section discusses the impacts from the Proposed Action and No Action alternatives to fish, fish habitat and fish surveys in the CRSA.

4.2.4.1 Proposed Action

Several of the proposed protective measures for the peregrine falcon under the Proposed Action would, indirectly, provide beneficial protections for fish and their habitat within the CRSA. In the CRSA portion of South NPR-A, where no falcon protections exist, Protections 1 (1 mile setback), 2 (considerations for 15 mile foraging area), 6 (minimize construction and non-hazardous clean ups during nesting season), 7 (ground-vehicle restrictions), and 9 (restriction of sand or gravel extraction from cliff sites) could result in some benefits to fish and fish habitat by reducing sedimentation and degraded water quality. Protections 3 (aircraft restrictions), 4 (campsite restrictions near falcon nest sites), 5 (minimizing impacts from cliff site visits), and 8

(minimizing impacts from power lines) would have little or no effect on fish habitat or fish in the CRSA.

In Northwest NPR-A Protections 6, 7, and 9 could benefit fish and fish habitat; in Northeast NPR-A fish could benefit from implementation of Protection 6, and potentially Protection 1 (which prohibits construction of all facilities within the 1 mile setback, not just oil and gas facilities). Otherwise, Protections 1, 2, and 3 have been implemented in the CRSA within Northwest and Northeast NPR-A, and Protections 7 and 9 have been implemented in Northeast NPR-A. The overall effects of the Proposed Action would be beneficial to fish and fish habitat.

Protection 4 could result in very minor impacts to fish survey activities by restricting where field workers could camp. However, this would be more of an inconvenience (possibly resulting in slightly longer commutes to field sites along the rivers). None of the other protections would appear to affect fish survey activities.

An Essential Fish Habitat assessment for salmon was completed (Appendix B), as required by the National Marine Fisheries Service. The finding is "not likely to adversely affect fish habitat," and no consultation is required.

4.2.4.2 No Action

The protective measures for the arctic peregrine falcon in the No Action Alternative would indirectly provide some protection for fish and their habitat within the CRSA, but this would be less than that provided under the Proposed Action. Any changes to fish or fish habitat from the current situation would be negligible. Where setbacks and land-use restrictions do occur, the incidental benefits to fish habitat are the same as those described for the Proposed Action. However, because of the inconsistencies among protections within the Northeast, Northwest, and South NPR-A Planning Areas, there are fewer limits and prohibitions that apply to the entire CRSA. The No Action Alternative provides fewer protections for fish than the Proposed Action. The 1 mile setback, 15 mile foraging area considerations, pipeline and road consolidation, subsistence advisory consultation, and aircraft flight restrictions would apply along the Colville in both Northwest and Northeast NPR-A but not South NPR-A. However, Protections 4 (campsite restriction near nest sites), 5 (regarding cliff site visits), 6 (timing of clean-ups and activities), 7 (motorized ground vehicle use) would not apply. The No Action Alternative would result in negligible effects to fish survey activities.

An Essential Fish Habitat assessment for salmon was completed (Appendix B), as required by the National Marine Fisheries Service. The finding is "not likely to adversely affect fish habitat," and no consultation is required.

4.2.5 Subsistence

This section discusses the impacts from the Proposed Action and No Action alternatives to subsistence in the CRSA.

4.2.5.1 Proposed Action

Several of the proposed protective measures for the arctic peregrine falcon under the Proposed Action would indirectly benefit subsistence users and subsistence resource activity. In South NPR-A, which has no plan or protections for the arctic peregrine falcon, Protections 1 (1-mile setback and consolidation of crossings), 3 (aircraft altitude restrictions), and 7 (minimize impacts from motorized ground vehicles) would result in reduced impacts to game resources in the CRSA. Additionally, any direct benefits to habitat or wildlife populations, such as Protections 5 (minimizing visits to cliff sites) and 9 (restricting sand or gravel removal from cliff sites) could result in indirect benefits to subsistence users because there would be less disturbance to subsistence activities (e.g., hunting game animals).

In Northwest NPR-A, protection 1 and 2 already exist so there would be no change, but Protections 5, 7, and 9 would be new to that planning unit, resulting in benefits to subsistence resource activity by reducing additional human activity in hunting areas. Northeast NPR-A also has Protections 1, 2, 7, and 9, but Protection 5 would be a new benefit for subsistence and would benefit subsistence users by reducing additional human activity in hunting areas. Also, Protection 1 would be slightly more restrictive in Northeast NPR-A, because construction of permanent facilities (not just oil and gas facilities) would be prohibited and would benefit subsistence because there would be no permanent facilities (of any kind except essential pipelines and roads) built within 1 mile of the river.

The added protections would reduce the amount of some activities associated with development in the CRSA that could potentially disturb or displace game animals. Similarly, hunters prefer to hunt in less developed areas (BLM 2008a). Limiting the amount of development that can occur ensures that subsistence hunters will continue to utilize the area.

Adoption of the protections presented in Table 2-1 is not expected to limit in any way the use of the CRSA by subsistence users. Protections 4, 5, and 7 do not apply to subsistence users and therefore, they would not be impacted. An ANILCA 810 analysis on subsistence use was completed (Appendix C), and found that the Proposed Action does not result in a significant restriction to subsistence use.

The protections for arctic peregrine falcons described in Table 2-1 would have no effect to subsistence use or other hunting because these activities are not regulated by BLM.

4.2.5.2 No Action

The protective measures for the peregrine falcon in the No Action Alternative would also indirectly provide some protection for subsistence use or subsistence resource activities in the CRSA, but effects would be less than under the Proposed Action. Where setbacks and land-use restrictions do occur (e.g., Northwest and Northeast NPR-A), the incidental benefits to subsistence users are the same as those described for the Proposed Action. However, because of the inconsistencies among protections within the Northeast, Northwest, and South NPR-A CRSAs, there are fewer limits and prohibitions that apply to the entire CRSA. Also, unique to the Proposed Action is the additional protective measure regarding sand and gravel removal from cliffs along the entire span of the CRSA. Such activity could be disruptive to game animals or hunting. An ANILCA 810 analysis on subsistence use was completed (Appendix C), and found that the No Action Alternative does not result in a significant restriction to subsistence use.

4.2.6 Environmental Justice

This section discusses the impacts from the Proposed Action and No Action Alternative to Environmental Justice in the CRSA.

The BLM is required to determine if a proposed action will adversely and disproportionably impact minority populations, low-income communities, or Tribes pursuant to Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. Nuiqsut, located approximately 4 miles north of the CRSA, has a large proportion of its total population identified as Alaska Natives (89.1% according to the 2000 census). In addition, the Native Village of Nuiqsut is a federally-recognized tribal government. In determining whether adverse or disproportional impacts will occur, the BLM is directed to analyze how the proposed action may result in human health, economic and social effects. Where an action may affect fish, vegetation, or wildlife, that action may also affect subsistence patterns of consumption and indicate the potential for disproportionately high and adverse human health or environmental effects.

4.2.6.1 Proposed Action

The proposed protections under the Proposed Action will not lead to direct or indirect negative impacts to the environment or human health. Several of the proposed protective measures for the peregrine falcon under the Proposed Action would indirectly benefit the environmental justice population, in that they reduce impacts to subsistence use (see section 4.7). The beneficial impacts would be more apparent in South NPR-A, because the planning unit has protections in place currently. The effects to environmental justice in Northwest and Northeast NPR-A would not change substantially. Beneficial effects to subsistence use results in its continuation, contributing positively to human, economic and social health.

4.2.6.2 No Action

The proposed protections under the No Action Alternative will not lead to direct or indirect negative impacts to the environment or human health. The protective measures for the peregrine falcon in the No Action Alternative would also indirectly provide some protection for subsistence use in the CRSA, thereby positively effecting the environmental justice population. However, these effects would be less than under the Proposed Action both because there are fewer limits and prohibitions that apply to the entire CRSA as a result of the inconsistencies among protections within the Northeast, Northwest, and South NPR-A portions of the CRSA.

4.2.7 Paleontological and Cultural Resources Activities

This section discusses the impacts from the Proposed Action and No Action Alternative to paleontological and cultural resources activities in the CRSA.

4.2.7.1 Proposed Action

The protections for arctic peregrine falcons in the CRSA (Table 2-1) would have minor impacts to activities associated with paleontological and cultural resources research and excavation. The timing and extent of excavation activities near falcon nest sites may need to be altered to lessen the frequency of disturbance to falcons. In South NPR-A, Protections 4 (campsite restrictions), 5 (cliff site visits) 6 (construction [including excavations] and clean-up), 9 (removal of sand and gravel from cliffs) could impact research activities by limiting campsite location or location of some excavations. The remaining Protections 1 (1 mile setback), 2 (consideration of the 15 mile foraging area), 3 (aircraft flight restrictions), and 8 (minimizing impacts from power lines) would not affect paleontological and cultural resources activities.

The effects in South, Northwest, and Northeast NPR-A would be relatively similar, because Protections 4, 5, and 6 would be new protections for all the CRSA. Excavation activities in the Northwest and South NPR-A would become somewhat more restrictive if there was potential removal of sand or gravel at cliff sites (Protection 9). This protection already applies to Northeast NPR-A, so there would be no change in that planning unit for sand and gravel removal.

4.2.7.2 No Action

Continued implementation of existing protections would result in negligible impacts to paleontological or cultural resources activities in Northeast NPR-A and Northwest NPR-A. The South and Northwest planning units would not have a prohibition of sand or gravel extraction, so permitting would be slightly less restrictive. Protections 4, 5, and 6 would not apply in South NPR-A which would allow workers additional access to campsites and survey areas for research activities.

4.2.8 Recreational Activities

This section discusses the impacts from the Proposed Action and No Action Alternative to recreational activities in the CRSA.

4.2.8.1 Proposed Action

In South NPR-A, which has no plan or protections for the arctic peregrine falcon, Protections 1, (1-mile setback and consolidation of crossings), 2 (consideration of 15 mile foraging area), 3 (aircraft altitude restrictions), 6 (minimize impacts from construction and non-emergency clean ups), 7 (minimize impacts from motorized ground vehicles), and 9 (restricting sand or gravel removal from cliff sites) could result in indirect beneficial impacts to recreational experiences and opportunities of the small number of recreational users of the area. Protections 4 (campsite restrictions) and 5 (cliff site visits) could result in minor adverse direct impacts because the activities and choices of recreational users would be restricted slightly. Additionally, any direct benefits to habitat or wildlife populations, such as Protections 5 and 9 could result in indirect benefits to resource users because there would be potentially less disturbance to wildlife or habitat. Protection 8 (power line design) would have no impact on recreation.

In Northwest and Northeast NPR-A, Protections 1, 2, and 3 already exist so there would be no change. Protection 4, 5, and 6 would be new to both planning areas so the relative impacts would

be the same as in South NPR-A (i.e., Protection 6 could be beneficial, while Protections 4 and 5 would reduce accessibility of certain areas).

The measures designed to protect falcons do not prohibit use of the area and still allow people to enjoy the natural qualities and raptors of the area. These protections would also apply to users of the public easement (the easement was established in the ASRC and Sohio Alaska Petroleum Company vs. US, 1984 court settlement in which the eastern boundary for NPRA was defined) that was placed on private lands along the Colville River below the confluence of the Etivluk River. BLM would be able to apply these measures directly to guides (in the form of permit conditions and stipulations) operating along the Colville and other rivers in the CRSA. Overall, the impacts to recreational activities would be very minor to negligible. Further, the number of recreation users in CRSA is very small, and only a few users would be impacted by the protections. The Proposed Action would not limit the number of permits or visitors to the CRSA, but the timing and location of certain potential activities under BLM permit could change.

4.2.8.2 No Action

None of the protections described for the Proposed Action would apply in South NPR-A, which has no management or activity-level plan. Therefore, with the No Action Alternative, recreational users in South NPR-A would have fewer restrictions, and many resource values would be less protected. For example, non-oil and gas facilities could be constructed within 1 mile of the river, aircraft flight restrictions would not apply, and incidental disturbance rates to wildlife, as well as recreational use rates, could become higher.

In Northwest and Northeast NPR-A the K-1, K-7, and F-1 Lease Stipulations/ROPs would continue to apply, to the benefit of recreational users. Protections 4, 5, and 6 would not apply in either area, which would allow recreational users to have unlimited access to campsites and cliffs. ROP C-2 (restricting motorized ground vehicle use) and ROP E-15 (prohibiting sand or gravel extraction on cliffs) would protect resource values in the CRSA portion of Northeast NPR-A, but not in the Northwest planning unit.

4.3 Cumulative Effects

Methodology

The National Environmental Policy Act requires cumulative effects analysis to evaluate “the impact on the environment which results from the incremental consequences of an action when added to other past, present and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions” (40 CFR 1508.7). The procedures for cumulative effects analysis follow the Council on Environmental Quality (CEQ) handbook for cumulative effects analysis (CEQ 1997).

Summary of Past, Present, and Future Actions

The cumulative effects of human activity in NPR-A and Alaska’s North Slope have been extensively documented in BLM and MMS (2003) and BLM (2008a).

The general time frame for analysis begins in the early 1900s when modern (westernized) human settlements became established and oil and gas potentials were discovered, to 80 to 100 years into the future (approximately 2100) when the oil fields within NPR-A would be abandoned and reclaimed (BLM 2008a). The spatial domain generally includes the Colville River drainage, but also other locations within NPR-A and the North Slope more broadly. Generally this covers the southern half of NPR-A (the Arctic Foothills Physiographic Province). The past present and future actions are sub-divided into oil and gas, communities, and non-oil and gas.

Oil and Gas**:** This discussion will be limited to onshore activities within the region. Although the North Slope has been known to have extensive oil resources, modern exploration and development did not start until the 1940s (BLM 2008a). Wide-scale exploration and development of oil fields started in the 1960s and 1970s. Infrastructure on the North Slope increased from approximately 350 acres in 1968 to 17,000 acres in 2001 (BLM 2008a). According to estimates by the BLM, the footprint for infrastructure will increase by approximately 7,350 acres, and gravel pits by an additional 1,470 acres in NPR-A by the end of the 21st century (BLM 2008a). Throughout the remainder of the North Slope, including state and Native lands between NPR-A and the Arctic National Wildlife Refuge, an additional 3,850 acres of footprint and approximately 730 acres of gravel pit could be expected (BLM 2008a). A gas pipeline has been proposed for decades and the considerations are continuing (BLM 2008a). A mixture of existing and new infrastructure would be needed for a gas pipeline and gas development to become a reality.

Communities**:** Development includes villages and non-oil and gas infrastructure. Nuiqsut is the primary village within the region of influence, although caribou migration routes of herds relied upon by several villages pass through the CRSA and the harvest areas of Nuiqsut, Barrow, and Wainwright overlap with the CRSA (Map 5). Nuiqsut was established in 1973 and it has a community footprint of approximately 180 acres and an estimated population of 416 in 2003. These numbers could double by 2040 (BLM 2008a). The North Slope had a population of 6,500 in 2003, and is growing at a rate of 2% per year. The footprint of community development on the North Slope is expected to double by 2040, from about 1,800 acres today, to 3,600 acres (BLM 2008a).

Non Oil and Gas: Other activities considered in the analyses include recreation, subsistence use, and scientific research or monitoring.

The most prevalent recreational activities that occur in the CRSA include hiking, boating and float trips down the river, sightseeing, and hunting or fishing. Group sizes are small and, relative to the size of the CRSA and surrounding areas, the activities are not frequent. Large groups usually require permits, while small groups do not. Most of the users must travel through the area using primitive modes of transportation. Use of aircraft for sightseeing and transport is an exception. The level of tourism could increase in future decades. See section 3.2.8 for additional information on recreation activities.

Subsistence use activities that occur in the CRSA include fishing, furbearer harvest, and hunting for caribou, moose, and birds. Approximately 90% of Nuiqsut's households participate in subsistence use activities. Additional information on subsistence is presented in section 3.2.5.

Scientific research and monitoring includes surveys, camps, transport through the CRSA, and site visits or excavations. The lands and waterways in and surrounding the CRSA are subjected to a variety of activities related to resource protection and monitoring, and scientific research. These activities are carried out by a number of agencies (federal, state, North Slope Borough), Alaska Native governments or corporations, universities, or private researchers or contractors. Survey activities for the arctic peregrine falcon (section 3.2.1), other birds (section 3.2.2), moose (section 3.2.3), and fisheries (section 3.2.4) are summarized below.

On the ground Arctic peregrine falcon surveys were conducted annually in the past, but the frequency has been reduced to once every three years. Aerial surveys for peregrine falcons were conducted in 1977 and 1999. Surveys and studies for other birds have been intermittent and there are no current large scale surveys being conducted. In recent years two separate boat trip surveys on short sections of the Colville River have been conducted for birds, and a localized netting study of passerines was conducted near Umiat for two years. Aerial bird (non peregrine falcon) surveys along the Colville River are conducted about once every five years. Aerial moose surveys, mostly along the Colville River, are conducted twice every year (April and June). These last about two days and require low level flights. More intensive trend count surveys are conducted about once every five years, and these usually require about four days of flights. Fish surveys are conducted annually, usually with on the water activity. Recent fish inventories (2006 and 2007) have required the use of helicopters to establish remote camps. Future fish surveys are not planned, but would likely occur.

There have been one or two paleontological excavations, with crews of 6 to 14 people, per year on the Colville River since the 1980s. At present there are two permitted paleontological teams that work in the CRSA. Cultural resources excavations are conducted on an as needed basis, for salvage if a site is exposed, as mitigation, or for research. The activity level for cultural excavations was higher in the 1970s and 1980s than in recent years. Currently, there are no excavations in the CRSA, and in recent years only short term (<1 day) projects have occurred. Paleontological and cultural resources excavations are discussed in section 3.2.7.

Additional contributing activities include geophysical science monitoring and research (e.g., air quality, water quality, climate, or permafrost studies), in addition to programs designed to mitigate effects of other activities such as oil and gas development (e.g., clean up and site restoration) (BLM 2008a). These types of activities have occurred consistently since the 1950s, have increased, and will continue to be conducted into the future. Impacts from these activities are generally localized, short term, and intermittent.

Climate Change

The effects and magnitude of climate change in the NPR-A and the Arctic remain uncertain (BLM 2008a). Environmental effects include changes in precipitation and hydrology, melting permafrost, seasonality of freeze-up and thaw, which could affect soil factors, vegetation growth and distribution, and the distribution and abundance of wildlife. These changes could then affect the timing and level of human activity in the region.

Much research in recent years has focused on the effects of naturally-occurring or man-induced global climate regime shifts and the potential for these shifts to cause changes in habitat structure over large areas. Although many of the forces driving global climate regime shifts may originate outside the Arctic, the impacts of global climate change are exacerbated in the Arctic (ACIA 2004). Temperatures in the Arctic have risen faster than in other areas of the world as evidenced by glacial retreat and melting of sea ice.

The increasing thickness of the active layer of soil above arctic permafrost is likely to cause changes in moisture regimes and the distribution of vegetation types over much of the Arctic in coming years. Thawing of the permafrost may result in increased amounts of surface water in some areas. Areas of permafrost with substrates composed of fine-grained materials may be susceptible to drying, erosion, and desertification (ACIA 2004). Warmer soil temperatures are likely to increase thermokarsting, and increases in sea level may inundate low lying tundra areas, increasing salt marsh, aquatic and wet tundra vegetation types and erosion of coastal bluffs (ACIA 2004). Rising temperatures are likely to favor the expansion of the northern boreal forest into areas currently occupied by tundra. Global climate change may also result in an increase in shrubs at the expense of forbs and graminoid vegetation characteristic of Arctic tundra. In addition, rising sea levels resulting from increasing temperatures may further reduce the amount of tundra due to coastal erosion and by inundation of low-lying areas (Mars and Houseknecht 2007). These changes may be beneficial to some species such as those associated with boreal forest or shrub habitats. High rates of coastal erosion and storm surges have led to saltwater intrusion into freshwater habitats.

The impacts of climate change to resources (arctic peregrine falcons, other birds, moose, fish or fish habitat) or activities (bird surveys and hunting, moose surveys and hunting, fish surveys, subsistence use, paleontological or cultural resources research, and recreation) are not well understood. The habitat and prey base for the arctic peregrine falcon could change, but the population level effects and time frame are not known. The changes described above would result in changes in the distribution and abundance of birds, resulting in more favorable conditions for birds favoring boreal or shrub habitats, while some species that rely exclusively on tundra habitats would be negatively affected. If shrub habitats increased, moose populations could also increase in size. Fish species could be positively or negatively impacted, depending on habitat preferences and changes to habitat distribution and structure. Climate change could have a negative or positive impact on subsistence use or recreational hunting, depending on the species sought and climate-driven impact to those species. The timing of wildlife or fisheries survey activities could change due to altered breeding or behavioral phenology due to climate change.

4.3.1 Arctic Peregrine Falcon

The geographic scope of the cumulative effects analysis on arctic peregrine falcons includes the CRSA and outlying lands including the Arctic Foothills Ecoregion between the Kuparuk River to the east and Kokolik River to the west, and lands in the Arctic Plain Ecoregion within the peregrine falcon foraging areas. This geographic scope covers the extent of known peregrine falcon nesting in and adjacent to NPR-A (Ritchie et al. 2003). The geographic scope also extends to areas in which the species migrates. The time frame would go back to the 1950s

when initial surveys on peregrine falcons were conducted and 80 to 100 years in the future, which would be the expected duration of oil and gas exploration, development, and reclamation.

Past Present and Future Actions

In addition to the impacts from changes in protection measures analyzed in section 4.2.1, the arctic peregrine falcon could also be impacted by other actions outside the scope of this EA. They include oil and gas development on the North Slope within and outside NPR-A, research and monitoring activities, growth of the footprint of Nuiqsut, subsistence activities, actions of recreationists (including hunters on the North Slope and elsewhere in the bird's range, bird-watchers, float trips on the rivers, and hikers), and industrial development in other areas of the bird's range.

Oil and Gas Development: Oil and gas development has occurred in the eastern portion of the range used by Colville River area arctic peregrine falcons, i.e., at Kuparuk, Tarn, and Meltwater. Although no studies have ever been conducted to look at the summer range of the Colville peregrine falcons, activities in these areas could affect some individual birds. An oil and gas lease sale is expected in 2008 and subsequent years in NPR-A, presumably resulting in new exploration and development projects in NPR-A and the CRSA. The Arctic Slope Regional Corporation and State of Alaska have land holdings across the North Slope, including adjacent to NPR-A. Recent interest in the gas pipeline indicates that oil and gas development on these lands adjoining NPR-A could occur.

Existing and potential oil and gas infrastructure could result in direct loss of falcon nesting habitat and prey species habitat due to the footprint of the infrastructure and noise related to human activity. This may have an incremental and cumulative effect on the peregrine falcon population.

Oil and gas activities could also affect falcons through aircraft disturbance, disturbance from ground-level activities (including foot and vehicle approaches to nests), and mortality due to collisions with infrastructure and from predators attracted to infrastructure. Peregrine falcon collisions with vehicles, buildings or oil field infrastructure probably do not represent a significant source of mortality at the population level.

Activities related to oil development and production, such as vehicle, aircraft, pedestrian and boat traffic, summer tundra travel, routine maintenance activities, heavy equipment use, facility noise, and oil spill clean-up activities, could cause disturbances that would affect arctic peregrine falcons. These disturbances could result in temporary or permanent displacement from preferred foraging and/or nesting areas, decreased nest attendance, nest abandonment, and/or increased nest predation. In addition, increased energy expenditures due to disturbance could affect the physiological condition of arctic peregrine falcons and their survival or reproduction. The likelihood for impacts to arctic peregrine falcons would vary depending on the type, duration and location of the disturbance, the number of individuals in the area, and the time of year. Impacts would be most likely to occur if facilities were located in habitats with high arctic peregrine falcon nesting concentrations or in habitats of high arctic peregrine falcon prey concentrations. Ritchie (1987) reported that pedestrians caused greater disturbance to nesting raptors than other sources of disturbance.

Some predators, such as ravens, gulls, Arctic fox, and bears, would be attracted to areas of human activity where anthropogenic sources of food and denning or nesting sites are present (Eberhardt et al. 1982, 1983a, b; Day 1998). The availability of anthropogenic food sources, particularly during the winter, could increase winter survival of Arctic foxes and ravens and contribute to increases in their population. Increased levels of predation due to elevated numbers of predators could in turn impact nesting arctic peregrine falcons and their prey species.

Communities: An increase in footprint of Nuiqsut could affect a small portion (up to 4% of potential habitat for pairs nesting in the extreme northeast portions of the CRSA, assuming a 15 mile foraging area) of foraging habitat for peregrine falcons that nest in the northeast portion of the CRSA. Additional human activity associated with increased population would likely result in increased disturbance rates, although due to the widely dispersed population and large area the current level of disturbance is relatively low.

Other Non Oil and Gas: Overall human activity levels in the CRSA and surrounding lands is low, but these activities will continue into the future. This analysis considers recreation, subsistence, and research and monitoring.

Recreational activities will likely increase in the future. The most common activities that could affect peregrine falcons include float trips, hiking, bird watching, fishing, and aircraft transport into the CRSA. Capture and removal of fledgling gyrfalcons or peregrines for falconry is currently not permitted within their range in the CRSA, but could be an adverse impact if it were allowed. Recreational hunting activities are mostly outside the critical nesting and fledging seasons of falcons.

The majority of subsistence hunting activities occur during fall outside of the time when restrictions for falcon protections apply. Subsistence activities such as berry picking or fishing often coincide with hunting trips, but also occur through the summer months. Most of the subsistence fishing is downstream of Nuiqsuit, and out of range of the region of interest. Caribou hunting occurs year-round. Subsistence use will continue and activity levels would increase with an increased human population. However, disturbance rates would remain low because the timing of much of the activity does not coincide with falcon nesting.

Survey or research activities for the arctic peregrine falcon, other birds, moose, fisheries, paleontological or cultural resources excavations, or for geophysical studies occur in the CRSA and region of interest throughout the summer. These activities have been conducted since the 1950s and will continue into the future.

Given the protections designed to reduce impacts to arctic peregrine falcons, transitory and localized nature of activities of recreation, subsistence use and research and monitoring, the effects of non-oil and gas activities would not be expected to accumulate to population level declines.

Influences outside of the North Slope: Wintering grounds and portions of migratory routes of arctic peregrine falcons lie in areas outside of the North Slope, including areas within the U.S.

and several other countries. Regulated and non-regulated development in these areas can impact important bird habitats. Various types of contaminants and toxins from industrial and agricultural activities can enter either terrestrial or marine environments and affect bird mortality or reproductive success. Oil spills have been an obvious source of bird mortality at numerous locations around the world. Development along migration corridors and in wintering areas may result in habitat loss or disturbances that add to the cumulative impacts on peregrine falcon populations. All of these factors can add to the cumulative loss of individual birds. The level of significance of these losses is not well understood. Recent trend data indicate a stable population in the CRSA.

Little is known about how climate change would affect the arctic peregrine falcon. The habitat and prey base could change, but the population level effects and time frame are not known.

Conclusion

Existing management under the No Action Alternative provides protections for arctic peregrine falcons. The Proposed Action would provide additional benefits to the arctic peregrine falcon because there would be more protections and the geographic range of the protections would be greater due to the inclusion of lands in the South NPR-A. Neither alternative would add substantially to the incremental past present and future impacts. In fact, the protections provided by the Proposed Action would offset some the effects of increased development and human activity in and near the CRSA.

4.3.2 Other Affected Resources (and Associated Activities)

This EA also evaluated the direct and indirect impacts to Other Birds, Bird Surveys, and Bird Hunting (section 4.2.2); Moose, Moose Surveys, and Moose Hunting (section 4.2.3); Fish, Fish Habitat and Fish Surveys (section 4.2.4); Subsistence and Subsistence Activities (section 4.2.5); Environmental Justice (section 4.2.6); Paleontological and Cultural Resources Excavations (section 4.2.7); and Recreation Activities (section 4.2.8). Under the Proposed Action the direct and indirect impact levels to each resource or issue ranged from beneficial (birds, moose, fish and fish habitat, subsistence use, subsistence resource activities, and environmental justice) to negligible (recreational activities), very minor (bird surveys, moose surveys, fish surveys), and minor (paleontological and cultural resources excavations). The No Action Alternative would result in negligible impacts to these resources and activities. The protections in the CRSA would be less extensive with the No Action Alternative, which would result in reduced beneficial effects to resources and subsistence use and research activities. Impacts to bird, moose, and fish surveys would be slightly less than the Proposed Action.

The incremental effects of both the Proposed Action and No Action Alternative do not add substantially to the combined effects of past, present, and future actions described in section 4.3, and evaluated in greater detail in MMS and BLM (2003) and BLM (2008a). In addition, most of the effects of the Proposed Action are beneficial or negligible to resources or activities while the impacts of the No Action Alternative are mostly negligible. There is little to no discernable difference between the direct and indirect impacts of the two alternatives to compare for cumulative effects analysis. Consequently, given that the cumulative impacts associated with the two alternatives would be essentially identical, describing the cumulative impacts for resources and activities other than the arctic peregrine falcon would serve no purpose for making an

informed choice among the alternatives. Therefore, no additional cumulative impact analysis is needed.

5. Tribes, Individuals, Organizations, and Agencies Consulted

Agencies
Alaska Department of Fish and Game
Alaska Department of Natural Resources
U.S. Fish and Wildlife Service

Governments
Native Village of Nuiqsut
North Slope Borough

Organizations
Alaska Audubon
Arctic Slope Regional Corporation
Northern Alaska Environmental Center
BLM-Alaska Resource Advisory Council (including representatives from the oil and gas industry)
BLM NPR-A Subsistence Advisory Panel (including representatives from tribal and local governments)

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APPENDIX A
AGENCY AND OTHER CORRESPONDENCE

United States Department of the Interior
BUREAU OF LAND MANAGEMENT

ARCTIC FIELD OFFICE
1150 University Avenue
Fairbanks, Alaska 99709-3899

IN REPLY REFER TO:
6842.1 (AK-023)

MEMORANDUM

To: **Ted Swem, U.S. Fish and Wildlife Service, Fairbanks, Alaska**

From: **Debbie Nigro, Wildlife Biologist**

Through: **Lon Kelly, Arctic Field Office Manager**

Subject: **Request for concurrence on a no effect determination for spectacled and Steller's eider for establishment of a management plan for the Colville River Special Area. BLM EA: AK-023-2008-005**

I request your concurrence on our *no effect* determination for spectacled eider (*Somateri fischeri*) and Steller's eider (*Polysticta stelleri*) for establishment of a management plan for the Colville River Special Area.

A management plan is needed for the Colville River Special Area to ensure that the habitat for arctic peregrine falcon is afforded maximum protection under the requirements of the Naval Petroleum Reserves Production Act of 1976. The October 1998 Record of Decision for the Northeast NPR-A Integrated Activity Plan (IAP) and Environmental Impact Statement (EIS) (Northeast NPR-A IAP/EIS; BLM and MMS 1998) stated that the BLM would develop a management plan for the Colville River Special Area. The management plan establish through BLM EA: AK-023-2008-005 fulfills that obligation.

The Colville River Special Area Management Plan will provide maximum protection for the arctic peregrine falcon in the Colville River Special Area while allowing for the leasing, exploration, and development of oil and gas resources in addition to other human activities. In addition, this management plan will entail development of a scientific plan

that provides proactive and adaptive management of arctic peregrine falcons in the Special Area.

The management plan for the Colville River Special Area uses environmental protections outlined in previous documents (Federal Register 1977 [Vol 42, No. 107, page 28724], BLM and MMS1998, BLM 1999, Federal Register 1999 (FR Vol. 64, No. 65, pg 16747, April 6 1999); BLM 2000; BLM and MMS 2004; BLM 2008), compiled and consolidated to a single planning document to ensure consistent implementation of the management plan throughout the Colville River Special Area.

The primary objective the management plan is to maintain or increase arctic peregrine falcon population levels in the Colville River Special Area. To accomplish this objective, the BLM will design and implement an adaptive management plan for arctic peregrine falcons in the Special Area; monitor occupancy and productivity, evaluate habitat use (nesting and foraging), prey species abundance and use, contaminant levels and minimize disturbance or incidental mortality of falcons during the time of year when they inhabit the Special Area.

Given the very limited amount of eider habitat found in the Colville River Special Area, BLM has concluded there will be no impact on either of the listed eider populations. If you have any questions, please contact Debbie Nigro at 474-2324 or debbie_nigro@blm.gov.

United States Department of the Interior
U.S. FISH AND WILDLIFE SERVICE
Fairbanks Fish and Wildlife Field Office
101 12th Avenue, Room 110
Fairbanks, Alaska 99701
April 18, 2008

Lon Kelly
Arctic Field Office Manager
Bureau of Land Management – Arctic Field Office
1150 University Avenue
Fairbanks, AK 99709-3899

Re: Section 7 consultation for the Colville River Special Area Management Plan

Dear Mr. Kelly:

Thank you for your correspondence regarding endangered and threatened species and critical habitat pursuant to Section 7 of the Endangered Species Act of 1973, as amended (Act). We understand that BLM is working to establish a management plan for the Colville River Special Area. This plan aims to protect arctic peregrine falcon habitat, and maintain or increase their population levels in this area, while allowing for the leasing, exploration, and development of oil and gas resources and other human activities in the area.

Both Steller's (*Polysticta stelleri*) and spectacled (*Somateria fisheri*) eiders, which are listed as threatened under the Act, breed on Alaska's Arctic Coastal Plain. There is, however, almost no overlap between the areas used by these listed eiders and the Colville River Special Area. Therefore, the Service concludes the proposed management plan will not adversely affect spectacled or Steller's eiders. Preparation of a Biological Assessment or further consultation under section 7 of the Act is not necessary at this time. If you need further assistance, please contact Sarah Conn at (907) 456-0499.

Sincerely,

Ted Swem

Ted Swem
Branch Chief,
Endangered Species

CORRESPONDENCE WITH USFWS REGARDING POLAR BEARS

BLM corresponded with the USFWS on May 15, 2008, regarding effects of the Colville River Special Area Management Plan on polar bears, which had been listed as threatened under the Endangered Species Act on May 14, 2008. USFWS responded on May 15, 2008, and concurred with BLM that polar bears would be unlikely to be affected by the proposed action as they are unlikely to use areas within the Colville River Special Area.

APPENDIX B
ESSENTIAL FISH HABITAT ASSESSMENT

Proposed Alternatives: The purpose of the proposed action is to develop and implement a management plan with consistent protections for Arctic peregrine falcons throughout the Colville River Special Area (CRSA) (Alternative 1). The other alternative (Alternative 2) would manage the CRSA with existing protections for arctic peregrine falcons.

Essential Fish Habitat

Although there are no federally-managed fisheries in the Beaufort Sea, the ranges of the five species of Pacific salmon under the jurisdiction of the North Pacific Fisheries Management Council (NPFMC) extend into the Beaufort Sea. On October 11, 1996, the Sustainable Fisheries Act (Public Law 104-297) became law which, among other things, amended the habitat provisions of the Magnuson Act. The re-named Magnuson-Stevens Act calls for direct action to stop or reverse the continued loss of fish habitats for species that are under the jurisdiction of the NPFMC. Therefore, EFH is a specific classification term that only applies to Pacific salmon and not to any other species in the CRSA. Freshwater Essential Fish Habitat for salmon includes all streams, lakes, ponds, wetlands, and other water bodies that have been historically accessible to salmon. Marine EFH includes all estuaries, tidewater, and tidally submerged habitats, and marine areas used by Pacific salmon seaward to the 200 mile limit of the U.S. Exclusive Economic Zone (EEZ). Salmon EFH in marine waters is designated as an area within the EEZ down to a depth of 1,640 feet (500 meters; North Pacific Fishery Management Council 1999).

The National Marine Fisheries Service recognizes salmon waters cataloged under AS 16.05.870 (Waters Important for the Spawning, Rearing or Migration of Anadromous Fishes) as essential fish habitat (BLM pers. comm.; National Marine Fisheries Service, Anch, AK; 28 Mar 2000). The most current information regarding the distribution of anadromous fish, as approved by the Alaska Department of Fish and Game, is available on the worldwide web (ADFG 2008; Johnson et al. 2004). While the Colville River (330-00-10700) is listed for chum and pink salmon, the only tributary also listed for these fish is the Itkillik River (330-00-10700-2151). Although not listed in the catalog, chum salmon have also been located in the Killik River (Whitman and Morris 2007).

Potential Effects: The potential effects of the Alternatives proposed in this EA on EFH are the same as those described for all fish and fish habitat described in sections 4.5.1 and 4.5.2.

EFH Finding: Neither Alternative 1 or Alternative 2 is expected to impact salmon or their habitat and both are assigned the EFH determination: *Not likely to adversely affect*. No EFH consultation is required.

APPENDIX C

ANILCA SECTION 810 ANALYSIS

COMPLIANCE WITH
ANILCA SECTION 810

EVALUATION AND FINDINGS

EA Number: AK-023-2008-001

APPLICANT: Bureau of Land Management, Arctic Field Office (BLM)

PROPOSED ACTION: The BLM proposes to adopt the Colville River Special Area Management Plan, which outlines and consolidates measures to protect the arctic peregrine falcon in the Colville River Special Area (CRSA). This plan was created in order to: 1) standardize the protections for arctic peregrine falcon that are currently specified within two planning documents that guide management actions in the National Petroleum Reserve-Alaska, namely the Northeast NPR-A Supplemental Record of Decision (ROD) and the Northwest NPR-A ROD; and 2) to ensure that these same protections are applied to that portion of the CRSA that is located in South NPR-A, a planning area that currently lacks a planning document and ROD.

The proposed action consists of nine protection measures for arctic peregrine falcons that will be adopted and universally applied within the CRSA. These protections include:

- Prohibiting permanent oil and gas facilities within the streambed and within particular setbacks along rivers within the CRSA;
- Requiring permanent facilities within the CRSA to be located as far from arctic peregrine nests as possible, and prohibiting the alteration of high-quality habitat in a 15-mile radius of arctic peregrine nest sites;
- Requiring aircraft users to remain at an altitude of 1,500 feet above ground level from April 15 through August 15;
- Requiring permitted campsites to located at least 500 meters away from any arctic peregrine nest site;
- Allowing only 3 authorized visits (each day in which work is done within 500 meters of a nest site) to arctic peregrine nest sites, and requiring an operational plan be submitted to the BLM for any permitted use to occur between April 15 and August 15 that includes dates, locations, and schedule of visits to cliff sites;
- Prohibiting non-emergency or construction hazardous materials or solid waste clean-up from April 15-August 15 from within 1 mile of arctic peregrine nests;
- Prohibiting permitted motorized ground-vehicle use within ½ mile of nests from April 15-August 15, and minimizing this use from within 1 mile of nests;

- Requiring power lines to be designed and constructed in a manner which prevents the death of arctic peregrine falcons by electrocution; and
- Prohibiting the removal of more than 100 cubic yards of gravel from cliffs, and requiring a hydrological study that shows no impacts to cliffs before allowing gravel removal from active river or stream channels.

Two alternatives were analyzed in the Environmental Assessment: the Proposed Action as described above, and the No-Action Alternative. The No-Action Alternative would retain the status-quo of differing protections for the two portions of the CRSA covered by the NE NPR-A and NW NPR-A RODs, and no protections in the South planning area portion. Four other alternatives were considered but eliminated from analysis for this EA, primarily because they were beyond the scope of the purpose and need for the proposed action.

LOCATION: Colville River Special Management Area, National Petroleum Reserve-Alaska

EVALUATION

Effect of proposed action on subsistence uses and needs

As described in Section 4.2.5 of the EA, overall, the proposed action is anticipated to result in indirect, beneficial effects to subsistence use within the planning area. Protections that have been created for the arctic peregrine falcon have the additional benefit of protecting both subsistence use and subsistence resources that utilize the CRSA. The new protections that have been added to the proposed action would reduce the amount of some activities associated with development in the CRSA that could potentially disturb or displace game animals, such as the limit on the amount of gravel that can be removed. Similarly, hunters prefer to hunt in less developed areas (BLM 2008a). Limiting the amount of development that can occur ensures that subsistence hunters will continue to utilize the area. Adoption of the protections presented in Table 2-1 is not expected to limit in any way the use of the CRSA by subsistence users.

Fisheries:

As described in Section 4.2.4 of the EA, the proposed action provides several indirect benefits for fish and their habitat. Therefore, the proposed action would not significantly reduce harvestable fisheries resources that are available for subsistence use. The proposed action would not alter the distribution, migration or location of harvestable fisheries resources. Because the protections described within the proposed action only apply to permitted activities (i.e., activity which require a permit from the BLM) within the CRSA, they do not create any legal or physical barriers that would limit access by subsistence users to the fisheries resource.

Wildlife:

As described in Section 4.2.3 of the EA, the proposed action provides several indirect benefits for moose and their habitat. Therefore, the proposed action would not significantly reduce moose populations, the primary resource harvested from within the planning area available for subsistence use. The proposed action would not alter the

distribution and location of harvestable wildlife resources. Because the protections described within the proposed action only apply to permitted activities (i.e., activity which require a permit from the BLM) within the CRSA, the proposed action would not create any legal or physical barriers that would limit subsistence harvest and access.

Other Resources:
The proposed action would not appreciably impact any other harvestable resources such as wood, water, berries or vegetation.

Availability of other lands for the purpose sought to be achieved:
The proposed action to adopt the Colville River Special Area Management Plan within the NPR-A, an area designated by the Secretary of the Interior in 1977 to protect nesting and foraging habitat of the arctic peregrine falcon. No other lands are appropriate for this particular purpose.

Other alternatives which would reduce or eliminate the use, occupancy, or disposition of public lands needed for subsistence purposes:
The no-action alternative would result in less protection for the arctic peregrine falcon, and could lead to confusion due to differences in the protective measures that would apply to different areas of the CRSA. There is no substantial evidence that would indicate a significant impact as a result of the proposed action, and indirect beneficial impacts have been identified for both subsistence resources and users. No other alternatives were evaluated.

FINDING: This proposed action will not significantly restrict subsistence uses. No reasonably foreseeable and significant decrease in the abundance of harvestable resources or in the distribution of harvestable resources, and no reasonably foreseeable limitations on harvester access will result from the proposed action.

PREPARED BY___Stacie J McIntosh_____ **DATE:**__06/09/2008_____

STACIE J. MCINTOSH

APPENDIX D

Characteristics of Cultural Resources Sites along the Colville River

1. Types of sites within the CRSA and their value to understanding the past:

Prehistoric - Village to large and small camps, hunting sites, lookouts, workshops, quarry sites. These sites are the physical remains of occupation of the area by people over the last 13,000 -14,000 years. The value of the sites varies with the type and age of the site. Generally speaking, village/camp sites provide the greatest amount of information in regard to the daily life activities of the people. Sites in excess of 6,000 years of age are extremely significant because there are not a lot of them. It takes a variety of sites to obtain insight into how these past inhabitants of the Colville survived through exploitation of the environment and responded to fluctuating ecosystems resulting from global climate changes.

Historic - The physical remains of these sites document the contact of the indigenous population with Euro-American culture and technology beginning about 1800 AD and traces the resultant dramatic changes that subsequently occurred in the Native life-way. Historic sites also document the initial discovery of oil on the North Slope and the early exploration activities that followed. Historic sites also document the activities of the US Navy and Air Force in regard to the Cold War activities of the US Government.

2. Number of known sites
   Prehistoric 257
   Historic 97

3. Number of sites within 300 yds. of the river?
   Prehistoric 192
   Historic 61

4. Number of sites from 300 yds. to 1 mile from the river?
   Prehistoric 65
   Historic 36

5. Characteristics of site locations along the river
   upper - Prehist 72; Hist 13
   middle - Prehist 127; Hist 24
   lower - Prehist. 58; Hist 60

6. Differences between historic and prehistoric sites

In general prehistoric sites tend to be on higher ground than historic sites. However that may primarily be a function of their age - river level sites more than a few hundred years old haven't survived the action of the river. Hunting related sites tend to lie in elevated

locales that offer a good view while village/camp sites tend to be near and close to river level. Most historic sites lie near the river.

APPENDIX E
RESPONSE TO COMMENTS RECEIVED REGARDING CRSAMP AND CRSA EA

Comment Number	Commentor	Comment	Response	Action Taken
1	Tom Cade – Peregrine Fund	the Plan focuses too narrowly on protection for a single, widely occurring species… By focusing on a single species that no longer requires special consideration for its welfare, BLM has again lost an opportunity to do the right thing by considering all the natural assets of the CRSA and other species that do need maximum protection.	The scope of the CRSAMP is under the discretion of the BLM. The CRSA is designated for the sole purpose of assuring maximum protection for the arctic peregrine falcon.. However, the actions described in the CRSAMP also provide protections for other species and values in the CRSA, and do not preclude future consideration for management or additional protection. Additionally, the existing lease stipulations and required operating procedures adopted by the Northeast Supplemental and Northwest RODs provide protections to multiple species throughout NPR-A, including the CRSA.	No change to text
2	Tom Cade – Peregrine Fund	a) I assume that protection 1 refers to nesting habitat, although not explicitly stated in the document, and that the 1-mile set-back from the river is a continuous boundary regardless of habitat characteristics, ie. whether there are suitable nest sites or not. Also, it is not clear what you mean by nest sites and nests	"To minimize the direct loss of arctic peregrine falcon nesting habitat, and to protect nest sites, in the CRSA the following protective measures apply" … a continuous1-mile setback	Text has been modified CRSAMP Page 5
3	Tom Cade – Peregrine Fund	In complying with stipulations and required operating procedures, will lessees and their operators have to take into consideration the locations of all known raptor nest sites or only those of Peregrine Falcons? Will the latter include all known nest sites whether currently occupied or not, or only currently occupied sites? Peregrines do shift around among the total available nest sites from year to year, so that the latter distinction could be significant for	BLM considers all raptor nest sites and occupation history. Arctic peregrine falcon nest site locations are monitored every three years, and BLM will maintain a database of historic nest site locations, which will account for shifting of nest sites. The stipulations and required	No change to text.

Comment Number	Commentor	Comment	Response	Action Taken
		management.	operating procedures will refer to the known locations of arctic peregrine nests (current or previously occupied) as noted in the CRSAMP's Planning Map Book. In addition, the setback is continuous under Protection 1, so unless pipeline or road crossings are considered, effects from construction to nest site occupancy is not a factor.	
4	Tom Cade – Peregrine Fund	I have already argued in my previous communication that set-backs for nesting habitat should not be fixed at some arbitrary limit such as one mile, but should be flexible depending on site-specific circumstances. One mile might be considered the bare minimum for most human activities, but larger distances may be required depending on the magnitude of disturbance and on the degree of protection that a given nest site affords. One mile may be sufficient for a single, isolated drill-site, but a large facility with dozens of people, ground and air vehicles coming and going on a regular basis, may cause disturbance and abandonment or reduced productivity of nest sites even when located farther than one mile away.	A 2 mile setback has been considered by BLM following the 1999 Raptor Workshop and during the process of developing this EA (Section 2.3.4). Although 2 miles might be more conservative the restriction appears to be greater than necessary, to the detriment of other resource management. Note that any future construction within the 15 mile foraging area will require consideration of impacts to foraging habitat. Proposals within the 15 mile foraging area will be considered on a case by case basis.	No change to text.
5	Tom Cade – Peregrine Fund	My point is that management and monitoring will need to be much more cautious and rigorous in the NE NPR-A than will be required where the falcons are more dispersed on safer, hard-rock cliffs upriver from Umiat (Shivugak Bluff below Umiat is a transition zone between rocky and earthen formations). Also, of course, most of the known oil reservoirs are in the NE zone and are the ones close enough to existing infrastructure to make them economically feasible to produce, at least for the time being; thus, there will be more frequent situations in which proposed developments for oil and gas will conflict with the protection of Peregrines.	BLM will review future developments on a case by case basis.	No change to text.
6	Tom Cade – Peregrine	b).—Protection 2 allows for a generous zone of 15 miles around "raptor nest sites" in which "significant alteration of high quality	The protections outlined in the CSRAMP refer to arctic peregrine falcon nest sites;	Text has been modified.

Comment Number	Commentor	Comment	Response	Action Taken
	Fund	foraging habitat shall be prohibited" unless the lessee can demonstrate minimal impact or there is no feasible or prudent alternative. Again, does this protection apply to all raptor nest sites or only to Peregrine sites? Who will determine where high quality foraging habitat occurs and how will it be determined? Peregrines forage over every habitat in Arctic Alaska wherever birds occur; distinguishing high quality areas from ordinary ones will take a lot of study. Who will determine whether or not a proposed development will cause a "serious alteration of habitat" or that there is no feasible or prudent alternative? What is prudent to a developer may not be prudent to a conservationist. Will BLM have personnel in the field to make these determinations? The basic concept of this protection is good, but it sounds like there are too many loopholes for it to work effectively.	however the Northeast and Northwest NPR-A IAP/EISs include the equivalent protection for other raptors. Future developments will be reviewed on a case by case basis and this additional review will determine how the activity may impact foraging habitat. The BLM is committed to conducting field research and monitoring to evaluate the distribution and extent of high quality foraging areas.	CRSAMP Page 5
7	Tom Cade – Peregrine Fund	c).—Protection 3 seems okay, except for the caveat of needed on-the-ground monitoring and enforcement.	BLM does conduct a program of monitoring and enforcement.	No change to text.
8	Tom Cade – Peregrine Fund	d).—Protection 4 seems okay, except that 500 meters are arbitrary, as the actual safe distance will depend on the size of the camp, number of people, kind of activities, and duration of stay.	BLM does not agree that 500 meters is an arbitrary standard. This distance was developed at the 1999 Raptor Management Workshop.	No change to text.
9	Tom Cade – Peregrine Fund	e).—Protection 5: Note that some young Peregrines (the latest raptor species to nest in Arctic Alaska) do not fledge until after 15 August, depending on the year's weather pattern. I recommend 31 August as a safer cut-off date.	The panel of experts that contributed to the 1999 workshop that resulted in BLM's 1999 Proceedings of the NPR-A Raptor Disturbance and Mitigation Workshop set the dates of April 15 through August 15 as the critical period for successful nesting of arctic peregrine falcons in the CRSA as related to the impacts from humans accessing cliffs. It is recognized that there is variation in the timing of nesting of individual arctic peregrine falcons in the CRSA and that this	No change to text.

Comment Number	Commentor	Comment	Response	Action Taken
			variation may cause young arctic peregrine falcons to be present on the nesting cliff after August 15. And recognizing this, in an attempt to balance its obligations to a variety of users, such as paleontologists, who need to complete field work before freeze-up, with the low likelihood of co-location of permitted activities and late-fledging arctic peregrines, and particularly considering the recommendation of the 1999 workshop panel of experts, BLM will retain the date of 15 August for Protections 5 -7 of this document. As part of the NEPA review process for future BLM-authorized activities near Colville River cliffs, BLM will consider new information as it becomes available, and could change the effective dates of Protections 5-7 in the future if warranted.	
10	Tom Cade – Peregrine Fund	f).—Protection 6: again recommend 31 August for maximum protection. Also, please define "permanent facilities" here and elsewhere in the Plan. I thought all facilities associated with oil and gas development were to be decommissioned and removed from location after the energy resources have been exhausted.	This protection will remain through August 15 but BLM will consider the timing of activities when permits are issued (see response to comment 9). Permanent Facilities include production facilities, pipelines, roads, airstrips, production pads, docks and other bottom-founded structures, seawater-treatment plants, and other structures associated with an oil and gas operation that occupy land for more than one winter season; also included are material sites such as sand and gravel, and "temporary platforms" if	No change to text.

Comment Number	Commentor	Comment	Response	Action Taken
			those platforms are used for production rather than exploration. Exploration wellheads and seasonal facilities such as ice roads and ice pads are excluded, even when the pads are designed for use in successive winters. See Northeast NPR-A 2008 ROD, Appendix B (Definitions).	
11	Tom Cade – Peregrine Fund	g).—Protection 7: Again, 31 August.	This protection will remain through August 15 but BLM will consider the timing of activities when permits are issued (see comment 9).	No change to text.
12	Tom Cade – Peregrine Fund	h).—Protection 8: There should be no overhead powerlines anywhere in the NPR-A, and no permanent roads connecting to the Dalton Haul Road These are the kiss of death for maintaining the essential wilderness character of the region. I know, you have stated that wilderness is not your concern, but it is very much a public concern.	NPR-A is managed for a variety of uses, some of which may reasonably require overhead power lines.	No change to text.
13	Tom Cade – Peregrine Fund	i).—Protection 9: Who determines and how will it be determined that excavations will have no potential impacts on the integrity of river bluffs? The removal of materials is itself a *de facto* impact. Have any of you ever seen the famous Peregrine eyrie at Morro Rock on the Central California coast? Large portions of the rock's original mass were quarried over decades and carted away to build a seawall for the local harbor, but the stubborn Peregrines never gave up nesting on it, even during the worst of the DDT era. Perhaps BLM will improve some nest sites by allowing lessees to carve up cliffs. In fact, as mitigation you could actually improve some nest sites by blasting potholes or constructing artificial ledges, etc, the way the Germans did in Baden-Württemberg. If you do not have a copy of our "Guide to Management of Peregrine Falcons at the Eyrie" I'll be glad to send you one. (It can also be found as a pdf file on our website www.peregrinefund.org by clicking on Library.)	BLM is charged with assessing potential environmental impacts when authorizing activities in NPR-A.	No change to text.
14	Tom Cade –	j).—Action 1: What measures can be taken to insure compliance	BLM field personnel monitor for	No change to

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	Peregrine Fund	with restrictions on flying aircraft?	compliance with all permit requirements. BLM also receives reports of possible violations of restrictions from members of the public.	text.
15	Tom Cade – Peregrine Fund	k).—Action 2: The emphasis on the need for research (and continual monitoring, I hope) is most encouraging, if it will actually be funded and carried out as described. I hope this is not just window-dressing. Who will do the research and monitoring? Will BLM have its own biologists for these actions? I see nothing mentioned about costs and budgeting. Will there be a line item in the BLM budget for this research? I wish I were young enough to do it for you. What fun that would be!	BLM field personnel monitor for compliance with all permit requirements. BLM also receives reports of possible violations of restrictions from members of the public. Monitoring activities will be commensurate with the types, locations and magnitude of authorized actions. BLM will prioritize arctic peregrine falcon research as funds are available.	No change to text.
16	Tom Cade – Peregrine Fund	l).—Action 3: Seems okay.	This comment is not stubstantive.	No change to text.
17	Tom Cade – Peregrine Fund	m).—Action 4: How can one minimize a "potential" impact? This action appears to beat a straw horse. There is absolutely no proof anywhere that regulated take of eyass Peregrines or Gyrfalcons for falconry has had or is likely to have an adverse impact on these species. Only resident falconers are allowed to take falcons in Alaska, and there are very few of them. The U. S. Fish and Wildlife Service and the Alaska Department of Fish and Game are perfectly capable of regulating falconry, and BLM has no need to become involved. This action should be deleted from the Plan.	BLM is required by law to manage all resources in NPR-A. Oftentimes there is overlapping government jurisdiction, as in the case of wildlife.	No change to text.
18	Tom Cade – Peregrine Fund	n).—In the EA (section 2.3, p. 13) on Alternatives Considered But Not Examined In Detail, the explanation for not considering a broader range of alternatives is unacceptable to conservationists. The two reasons for not doing so—(1) "no decisions ripe for doing so at this time" except for Peregrine Falcons, and (2) "to analyze a broader range of decisions…is neither timely nor in conformance with the Northeast NPR-A Supplemental ROD or the purpose of the CRSAPM"—appear to represent an arbitrary and capricious	The scope of the CRSAMP is under the discretion of the BLM. The CRSA is designated for the sole purpose of assuring maximum protection for the arctic peregrine falcon. However, the actions described in the CRSAMP also provide protections for other species and values in the CRSA, and do not preclude	No change to text.

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		interpretation of BLM's statutory, regulatory, and policy-making authority. First of all, the referenced ROD has not been signed and presumably provides no actionable authority. Secondly, who's time are you talking about? Such actions would certainly be timely as far as conservationists are concerned; in fact, they are way overdue, and they would be in conformance with the stated objective of "maximum protection" for the Peregrine Falcon.	future consideration for management or additional protection. Additionally, the existing lease stipulations and required operating procedures adopted by the Northeast Supplemental and Northwest RODs provide protections to multiple species throughout NPR-A, including the CRSA.	
19	Leonard Young – Raptor Research Foundation	While RRF is pleased that BLM is developing a management plan for the CRSA, we are disappointed that the Plan proposes a habitat protection setback (i.e., Protection 1) that is half the distance recommended by RRF, participants in the Raptor Disturbance and Mitigation Workshop for the NPRA (Attachment 2), and 47 specialists in raptor biology (Attachment 3). RRF does not believe that scientific information supporting a lesser setback has been developed since these recommendations were provided.	A 2 mile setback has been considered by BLM following the 1999 Raptor Workshop and during the process of developing this EA (Section 2.3.4). Although 2 miles appears to be more conservative the restriction may be greater than necessary, to the detriment of other resource management. Note that any future construction within the 15 mile foraging area will require consideration of impacts to foraging habitat. Proposals within the 15 mile foraging area will be considered on a case by case basis.	Text has been modified. EA Section 2.3.4
20	North Slope Borough	Purpose and scope of plan should be expanded to protect other species and subsistence hunting	The scope of the CRSAMP is under the discretion of the BLM. The CRSA is designated for the sole purpose of assuring maximum protection for the arctic peregrine falcon.. However, the actions described in the CRSAMP also provide protections for other species and values in the CRSA, and do not preclude future consideration for management or additional protection. Additionally, the existing lease stipulations and required operating procedures adopted by the Northeast Supplemental and Northwest	No change to text.

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			RODs provide protections to multiple species throughout NPR-A, including the CRSA.	
21	North Slope Borough	Some examples of additional mitigation measures should include: (1) Consultation with subsistence hunters to reduce impacts (2) Require operators to develop a plan to mitigate impacts to riparian and upland habitats (3) Require operators to avoid important moose browsing/foraging habitat	1. The BLM has consulted with the subsistence board to discuss impacts to resources in the CRSA. 2. Riparian and upland habitats are protected through measures outlined in the CRSAMP as well as Stipulations and ROPs in the Northeast and Northwest NPR-A RODs. 3. Important moose foraging habitat consists primarily of tall willows in riparian areas, and these occur mainly in the Colville River floodplain. Most of this land is in ownership other than federal/BLM. Where BLM has purview, these habitats are already included in mitigation measures (see ROP C-2, NE Supplement). Although tall willows are not mentioned specifically in this ROP, they are implicitly included in the objective and when operations occur in such areas BLM staff confer with operators and inspect operations to ensure damage is kept to a minimum.	No change to text.
22	North Slope Borough	Pg. 2. Protective measures have been analyzed in the EA, but it is also probable that this plan will lead to increased research and monitoring of arctic peregrine falcons to evaluate a.) the effectiveness of proposed mitigation measures, and b.) research items outlined in pg. 8. It is well-known that nesting peregrine falcons are extremely	Monitoring activities will be designed to minimize impacts to arctic peregrine falcons. Any research actions will be conducted to benefit arctic peregrine falcons. Impacts from monitoring and research will be considered when planning and implementing future studies.	

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		sensitive to human activities, leading to nest abandonment or increased risk of predation to nestlings (Cade, 1960). Prolonged research at or near the eyrie can lead to parents being off eggs or downy young long enough such that the young die from overcooling or overheating (White et al. 2002). Researchers unfamiliar with how sensitive peregrine falcons are to human disturbance may unknowingly injure adults or chicks through banding or transmitter work, or force-fledge young out of the nest. Given that increased research may be a primary threat to these birds, it is arbitrary to categorically exclude these impacts from the environmental assessment analysis.	Impacts related to research have been considered in this EA; Protections 4, 5 and 7 apply to arctic peregrine monitoring and research.	
23	North Slope Borough	Pg. 3. CRSA Resources. A brief overview of the environmental resources specifically within the CRSA would inform readers of the other species that exist within the area. Alternatively, the affected environment section in the EA could be referred to.	The first paragraph now refers to the CRSAMP EA. Comprehensive information on environmental resources is presented in the Northeast and Northwest NPR-A EIS/IAPs, which are also referred to.	Text has been modified. CRSAMP Page 3
24	North Slope Borough	The last sentence of the "CRSA Resources" should read "a relatively stable population…"	This has been changed.	Text has been modified. CRSAMP Page 3
25	North Slope Borough	Pg. 4. Third bullet. Besides measuring the effects of global warming, long-term research could also be utilized to assess direct, indirect, and cumulative impacts of current and future oil and gas activities.	Although not stated, that is the underlying purpose of doing long term research.	No change to text.
26	North Slope Borough	Management Constraints/Planning Criteria for the CRSAMP The third and four items should be reworded to develop more realistic assumptions about subsistence activities. It is not the intent of land managers to restrict subsistence, but inversely the assertion that "access to subsistence activities will not be affected" or that "other uses…will continue to occur" is slightly presumptuous without knowing the future effects of the proposed management	The third and fourth bullets now read: - Management practices will be developed with the assumption that subsistence hunting, recreation, scientific study or monitoring will continue to occur within the area -Access to subsistence activities will	Text has been modified. CRSAMP Page 4

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		actions. Therefore, these items should not be classified as constraints/planning criteria. Instead, these items should fall under Action Measures of the plan. Alternatively, these items could be reworded as planning criteria: (1) management practices will be developed with the assumption that subsistence hunting, recreation, scientific study or monitoring will continue to occur within the area, (2) mitigation measures will be developed such that subsistence activities or access will not be precluded or restricted.	be allowed to continue. ANILCA Section 811 (a) and (b) ensures that subsistence users will have reasonable access to public lands using transportation that has been traditionally used for subsistence harvesting	
27	North Slope Borough	Pg. 5. Protection 2: Prevent or minimize loss of arctic peregrine falcon foraging habitat in the CRSA. More specific information should be provided to define the parameters or thresholds that determine a "significant alteration of high quality foraging habitat." First, without this information (eg., threshold values (amount of area disturbed) for each habitat considered, the type of disturbance or damage, rehabilitation time of habitat, etc.), the determination of whether certain activities have significantly altered habitat is an arbitrary exercise. Second, besides broad topographical definitions (lakes, ponds, wetlands, etc.), it is not specified what particular habitat types are considered "high-quality." Third, in the event that permanent facilities are located near peregrine falcon nests, regulators should require industry to conduct habitat mapping analysis within a 15 mile radius of each falcon nest to quantify *availability* of high-quality foraging habitat. Habitat availability would also play a role in determining a "significant alteration," especially if high-quality foraging sites are limited. Fourth, such "high-quality foraging sites" are likely to vary on a seasonal basis, and this added variable should be taken into account.	The baseline ecological studies discussed under Protection 2 would be designed to answer these questions.	No change to text.
28	North Slope Borough	Pg. 7. Protection 5. We suggest that raptor biologists coordinate *and consolidate* their activities to minimize impacts to nesting peregrine falcons. Reducing the number of nest visitations by consolidating	Coordination and consolidation are already practiced by agency biologists. Visits to nesting sites are minimized.	No change to text.

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		research effort will reduce unnecessary disturbances to raptors.	Coordination and consolidation are specific practices to meet the objective of minimizing impacts.	
29	North Slope Borough	We also propose a new mitigation measure to deal with raptor mortality involving strikes from power lines, communication towers, wind turbines, and other structures.New Mitigation Measure: <u>Protection 10</u> Objective: Minimize mortality and injury to peregrine falcons from power line and building strikes. Requirement/Standard: To mitigate impacts to arctic peregrine falcons, construction projects within the CRSA will comply with the most up to date suggested practices for mitigating bird collisions with power lines and other structures. Structures capable of killing or harming raptors will be prohibited 1 mile from each nest site. Require all power lines, building structures, and wind turbines to be designed and constructed in a manner which reflects safe configurations that will prevent the death or injury of raptors from collisions with utility infrastructure.	The proposed new mitigation would be adequately covered by Protections 1 and 8.	No change to text.
30	North Slope Borough	Action Item 4. Given that the arctic subspecies of peregrine falcon is a BLM species of concern and that any decline in the population could lead to the subspecies being re-listed, it seems unreasonable for fledglings to be collected for falconry purposes because (a) this action may be difficult to regulate and enforce, b.) visitations to eyries for non-research activities will increase, and c.) removal of fledglings will obviously reduce recruitment of the population. Since the peregrine falcon is widely distributed across the globe, there is ample opportunity for falconers to acquire a falcon from another source population.	The BLM concurs with this comment. BLM's policy regarding harvest of falcon fledglings will be developed as described in Action 4 (MP, p. 10). BLM will coordinate with the State of Alaska in developing our policy.	No change to text.
31	North Slope Borough	Pg. 1. Background- As stated in the comments on the CRSAMP, the EA should also analyze the cumulative impacts of <u>increased</u> *research* activities that will be required to evaluate the effectiveness	Monitoring activities will be designed to minimize impacts to arctic peregrine falcons. Any research actions will be	No change to text.

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		of protection measures upon the arctic peregrine falcon. Foot traffic is a greater source of disturbance for arctic peregrine falcons than any other activity.	conducted to benefit arctic peregrine falcons. Impacts from monitoring and research will be considered when planning and implementing future studies. Impacts related to research have been considered in this EA; Protections 4, 5 and 7 apply to arctic peregrine monitoring and research.	
32	North Slope Borough	Pg. 2. "The eastern *boundary* and *a portion* of the southern boundary of the CRSA and portions of NPR-A *are* defined by the highest high water *mark*……"	This correction has been made.	Text has been modified. EA Sect. 1.1
33	North Slope Borough	Pg. 2. According to the language of Northwest NPR-A ROD, oil and gas leasing in the CRSA is deferred "until the Southern NPR-A IAP/EIS and the Colville River Management Plan is completed." On a technical and purely logical level, since BLM halted development of the South NPRA IAP/EIS in 2007, does BLM have the authority to still lease areas within the CRSA by just undertaking the Colville River Management Plan? Or would the Northwest Plan have to be amended? Please clarify…	The Northwest NPR-A IAP/EIS has been reviewed for adequacy by the Alaska BLM State Office and the BLM has the authority to lease in the Colville River Special Area following completion of this EA.	No change to text.
34	North Slope Borough	Pg 3. Purpose and Need for Action Objective #4. "Allow oil and gas leasing in the Northwest NPR-A within the CRSA. See comment above.	The Northwest NPR-A IAP/EIS has been reviewed for adequacy by the Alaska BLM State Office and the BLM has the authority to lease in the Colville River Special Area following completion of this EA.	No change to text.
35	North Slope Borough	1.3. Public Involvement and Issues "The BLM has discussed management objectives? regarding the Colville River….." Third paragraph. It is unclear what you mean by "internal vs. external communication"? Do you mean BLM vs. other agencies/general public?	"Through internal <u>(within BLM)</u> and external <u>(other agencies, governments, and organizations)</u> communication these concerns and issues were identified and are analyzed in this EA."	Text has been modified. EA Sect.1.3

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36	North Slope Borough	Pg. 4. The process of utilizing categorical exclusions (CXs) seems arbitrary unless sufficient justification is provided for why such activities (esp. research) are excluded from analysis.	Categorical exclusions are defined as a group of actions that would have no significant individual or cumulative effect on the quality of the human environment and, for which in the absence of extraordinary circumstances, neither an environmental assessment nor an environmental impact statement is required (see Dept. of Interior 516 DM 2). The CX applied to monitoring and research is: 1.6 Nondestructive data collection, inventory (including field, aerial, and satellite surveying and mapping), study, research, and monitoring activities (516 DM 2, Appendix 1). Pursuant to CEQ Regulations (40 CFR 1508.4), the BLM screened against extraordinary circumstances as described in 516 DM 2.3A(3).	No change to text.
37	North Slope Borough	2. Proposed Action and Alternatives. It would be helpful to briefly enumerate the other three alternatives that are not being considered in the analysis.	The four alternatives considered and eliminated are now identified in the Proposed Action and Alternatives section.	Text has been modified. EA Section 2.3.4
38	North Slope Borough	Pg. 5. Third paragraph. Actual research and monitoring activities (on-the-ground, flight surveys) may actually have detrimental effects upon falcons, instead of reducing impacts as stated. See NSB comments on the CRSAMP.	The research activities would be intermittent and designed to be as non-invasive as feasible. Protections 4, 5 and 7 apply to arctic peregrine monitoring and research.	No change to text.
39	North Slope Borough	Fourth paragraph. Again, we reiterate that there is no rationale provided for why such activities are categorically excluded from the EA.	See response to Comment 36..	No change to text.
40	North Slope Borough	Pg. 7. Protection 2. The requirement/standard as it is now written provides no guidance as to what “a significant alteration of high	The primary objective of Action 2 of the CRSAMP is to “Improve knowledge	No change to text.

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		quality foraging habitat" entails. There is no reference to specific thresholds (e.g., extent of area altered, magnitude of alteration, etc) in this provision, making it entirely arbitrary for land use managers to decide if such an alteration has actually taken place or would take place in the future.	about the ecology, life history, and behavior of arctic peregrine falcons to help decision makers and managers make informed decisions on proposals that could have an impact on falcons." Studies to evaluate foraging habitat in the CRSA remain a high priority.	
41	North Slope Borough	Pg. 8. Protection 2. In addition, it seems ironic that this action would restrict overland moves and winter seismic work, but allow construction and excavation activities, which would likely have a more detrimental and long-lasting impact on foraging habitat for raptors.	This protection is consistent with the Northwest and Northeast NPR-A IAP/EISs.	No change to text.
42	North Slope Borough	Please see NSB comments on CRSAMP for proposed addition of Protection 10 involving a provision to protect peregrine falcons from line and other utility infrastructure strikes.	The proposed new mitigation would be adequately covered by Protections 1 and 8.	No change to text.
43	North Slope Borough	*Pg. 13. 2.3.1. Consider Making Decisions in the CRSA Other than Protection of Arctic Peregrine Falcon* The first explanation for why the scope of this EA was not expanded is an insufficient and flawed argument. It basically says that BLM considered making decisions in the plan for purposes other than protecting arctic peregrine falcons, but that they decided not to do so because there were no decisions to be made. From a NSB perspective, there are other resources and activities in the CRSA that are worthwhile managing and protecting, such as subsistence hunting, moose, wolves, wolverine, fish, and the Colville river and its tributaries. Even though the area "receives low use by recreationists, researchers, and others," it should be acknowledged that there is moderate to high use of some sections of the CRSA at certain times of the year by local subsistence hunters from Wainwright, Barrow, and Nuiqsut.	See response to Comment 1. Other resources would be protected by implementing the Protections outlined in the EA.	Text has been modified. EA 2.3.1
44	North Slope Borough	*Pg. 13. 2.3.1. Consider Making Decisions in the CRSA Other than Protection of Arctic Peregrine Falcon*	Protections for subsistence activities and wildlife resources are covered in the	No change to text.

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		The second explanation for why the scope of this EA is limited to peregrine falcon management is also unsatisfactory as there is justification provided as to *why* a broader management scheme is not allowed under the Northeast NPR-A Supplemental ROD or the purpose and need of the CRSAMP. We disagree that providing additional mitigations measures within the CRSAMP that are not necessarily affecting falcon management is "untimely." More than ever, as oil and gas exploration and development increases on NPRA lands, it is actually very appropriate and timely to have protective measures in place to ensure that subsistence activities and wildlife resources within the CRSA are adequately protected.	Northeast and Northwest NPR-A IAP/EISs and RODs.	
45	North Slope Borough	Pg. 14. Although the Northeast and Northwest IAP/EIS did not find the Colville River to be suitable for designation as a Wild and Scenic River, it is stated that "BLM will manage to protect the outstanding values of the segment of Colville River that passes through South NPR-A so as to not preclude possible future designation for inclusion in the National Wild and Scenic Rivers system." Please provide more info as to what are the specific management tools to "protect the outstanding values" of this particular segment? If there are such management objectives in place, then they are a.) not stated in the CRSAMP, and b.) they violate the overarching goal of unifying the management of the CRSA to be applicable across all portions of this special area.	There are no specific management tools implemented in South NPR-A or plans other than the CRSAMP. South NPR-A remains unavailable for oil and gas leasing and activities. The protections of the Proposed Action would indirectly benefit resources and values in the CRSA portion of South NPR-A. For example, without the protections, there could be development of [non oil and gas] permanent facilities within one mile of the river, but with implementation of the CRSAMP, construction of permanent facilities within the 1 mile setback would not occur, and there would be considerations within the 15 mile foraging area. These measures will protect values of resources in South NPR-A.	No change to text.
46		Pg. 15. Section 3.2. Wolves and wolverine (furbearers) also occur in the CRSA and are actively hunted and trapped in the wintertime. There is also a wolf survey that is often conducted in conjunction with the winter moose survey by ADF&G. Therefore, it is necessary	The BLM agrees that wolves and wolverine occur in the CRSA, and acknowledged that during an internal meeting on potential issues and concerns	No change to text.

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		to include a Wolves, Wolf Surveys, and Wolf hunting section in the analysis	held October 23, 2007. At that time it was decided that, among mammals, only moose represented an issue or concern in the CRSA. Moose are a more important resource to subsistence hunters in general, and to recreational hunters, than are wolves or wolverines. That is reflected by the much greater effort ADFG puts into monitoring moose populations than the two carnivore species. Since there is no issue for wolves or wolverines, no analysis of impacts on these species is necessary.	
47	North Slope Borough	Pg. 18. Last paragraph. "BLM issues permits to a variety of agencies…"	"BLM issues permits to a variety of agencies, universities…"	Text has been modified. EA 3.2.1
48	North Slope Borough	Pg. 19. Section 3.2.2. Note that spectacled and Steller's eiders are classified as threatened species under the ESA, but not endangered.	"Two eider ducks, the threatened spectacled eider (*Somateri fischeri*) and Steller's eider (*Polysticta stelleri*)…"	Text has been modified. EA 3.2.2
49	North Slope Borough	Pg. 19. Bird Surveys. "Currently no systematic or large scale….are being undertaken (sp.)"….."Some small-scale studies have been conducted on passerines…"	"Currently no systematic or large scale survey or management actions are being undertaken on birds in the CRSA by state…" "Some small-scale studies have been conducted on passerines…"	Text has been modified. EA 3.2.2
50	North Slope Borough	Pg. 19. Please specify the AGL of the low-level aircraft flights that are conducted once every year.	Low level aircraft surveys for birds do not occur in CRSA.. Reference to this activity has been removed from the text.	Text has been modified. EA 3.2.2
51	North Slope	Pg. 20. Bird Hunting. Please provide scientific names for Rock and	Scientific names added	Text has been

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	Borough	Willow Ptarmigan. In addition, please provide reference for the statement that "hunting of ptarmigan by human…..has minimal impact on ptarmigan populations in the CRSA."	REPLACE : "Hunting of ptarmigan….has minimal impact on ptarmigan populations in the CRSA." WITH: Given the liberal bag limits imposed on sport hunters in Unit 26 (except for Unit 26B; 50 ptarmigan/day with 100 in possession; 2008-2009 ADF&G sport hunting regulations; 2008-2009 ADF&G sport hunting regulations) it seems reasonable to assume that ADF&G expects little impact to ptarmigan populations from sport hunting.	modified. EA 3.2.2
52	North Slope Borough	Pg. 21. Please provide an estimate of how low in elevation aircraft fly for moose surveys.	Surveys may involve altitudes of less than 500' AGL.	Text has been modified. EA Sect. 3.2.3
53	North Slope Borough	Pg. 21. Moose Hunting. "The moose management reports……., so moose hunting data …are unknown." Technically, the data are not unknown, but the amount of hunting in the specific area is.	The moose management reports published by ADF&G (Carroll 2004) do not distinguish the CRSA from other portions of the Colville River watershed, so the amount of moose hunting actually within the CRSA is unknown.	Text has been modified. EA Sect. 3.2.3
54	North Slope Borough	Page 25. Environmental Justice. Was there any attempt to gather public comments from residents of Barrow and Wainwright to satisfy the environmental justice requirements?	Discussion with the BLM Subsistence Advisory Panel (comprised of representatives from all of the federally recognized tribes within the NPR-A, as well as Point Lay and Anaktuvuk Pass, and a representative from the North Slope Borough) as well as review of the literature regarding subsistence use indicated that while the CRSA is part of Barrow and Wainwright's total harvest	No change to text.

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			area, that their use primarily occurs during the winter, when the arctic peregrine falcon is absent. Nuiqsut, however, utilizes the area on a year-round basis and is the closest community to the CRSA. The proposed action has not been found to result in any disproportionate high or adverse effects to any population, and instead has been found to provide indirect benefits to subsistence users. The public was given an opportunity to comment on the preliminary EA.	
55	North Slope Borough	Pg. 26. Third paragraph. Can an estimate of the frequency of flights (e.g., #/week) be provided for the paleontological work?	"Flights in and out of the camps are not frequent, and can vary from 0 to 5 per week."	Text has been modified. EA Sect. 3.2.7
56	North Slope Borough	Cumulative Impacts: A cumulative effect, according to the Council on Environmental Quality, is defined as "the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions," not impacts that would occur regardless of applying the action in question. Cumulative impacts would actually be affected by actions initiated by the CRSAMP, because an additive component of the impact is the actual action(s) addressed in the management plan.	The incremental effects of the CRSAMP are considered in the cumulative effects analysis	No change to text.
57	North Slope Borough	Pg. 31. First paragraph. Note that inland subsistence caribou hunting (by boat) can occur during this time (usually from July-Oct.).	Text has been modified to include the following statement: "The protections for falcons described in Table 2-1 would have negligible effects to bird hunting and all other hunting activities, because those activities are not regulated by BLM permits and therefore do not fall under the purview of the BLM's protective mitigation requirements."	Text has been modified. EA Sect. 4.2.2.1

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58	Brendan Cummings - Center for Biological Diversity	We have strong concerns that the draft CRSA Plan does not adequately protect endangered species, marine mammals, or migratory birds, all of which occur in or near the plan area. As such, implementation of the plan will likely result in violations of the Marine Mammal Protection Act ("MMPA"), the Endangered Species Act ("ESA"), the Migratory Bird Treaty Act ("MBTA"), and other governing statutes and regulations.	Protections for endangered species, marine mammals, and migratory birds are covered in the Northeast and Northwest NPR-A IAP/EISs and RODs. None of the actions identified in the EA will impact endangered species, or marine mammals. The EA discussed how the proposed action will benefit birds (see 4.2.2.1).	No change to text.
59	Brendan Cummings (Center for Biological Diversity)	The draft CRSA Plan also is being developed in violation of the spirit and letter of the National Environmental Policy Act ("NEPA") and its implementing regulations.	The CRSAMP and EA met NEPA requirements.	No change to text.
60	Brendan Cummings (Center for Biological Diversity)	Finally, and perhaps most importantly, the draft CRSA Plan is completely at odd with the very purposes of a CRSA Plan as outlined in the 1998 Record of Decision ("ROD") for the Northeast National Petroleum Reserve-Alaska ("NPR-A") Integrated Activity Plan/Environmental Impact Statement ("IAP/EIS").	The purpose of designating the CRSA n 1977 was to protect arctic peregrine falcon. The 2008 ROD for Northeast NPR-A IAP/EIS supersedes the 1998 ROD.	No change to text.
61	Brendan Cummings (Center for Biological Diversity)	The stated purpose of the draft CRSA Plan is to address protection of the Arctic peregrine falcon. While this is of course a worthy goal, it is far too limited a purpose for the CRSA Plan.	See response to Comment 1.	No change to text.
62	Brendan Cummings (Center for Biological Diversity)	Beyond the unreasonably small range of alternatives, BLM's most significant violation of NEPA is its failure to prepare a full EIS for the CRSA Plan	An EA is the appropriate NEPA analysis for actions that do not result in significant impacts to the human environment.	No change to text.
63	Brendan Cummings (Center for Biological	BLM must also consider the cumulative effects of all the past, present and likely future activities and events affecting the sensitive species and other resources of the CRSA Plan area in its NEPA analysis. Among these are global warming, pollutants building up in	The cumulative effects analysis completed is appropriate for this EA. The Northeast NPR-A IAP/EIS provides a more detailed analyses of cumulative	No change to text.

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	Diversity)	the Arctic and in the bodies of these species, activities in the Canadian and Russian portions of the species ranges, oil and gas development in the NPR-A and adjacent state, private, and federal lands and waters, and all other relevant factors. Moreover, the NEPA document must analyze the impacts of the greenhouse and black carbon emissions occurring as a result of development and use of oil and gas recovered in the CRSA	effects in NPR-A.	
64	Brendan Cummings (Center for Biological Diversity)	The EA also utterly fails to properly analyze the likely and potential impacts of oil spills into or on the Colville River. NEPA requires BLM to consider the probability of an events' occurrence (the spill) together with the severity of consequences before declining to evaluate the impacts of such an event	The Northeast and Northwest NPR-A IAP/EISs provide a more detailed analyses of oil spill impacts. This EA does not propose any actions that would result in oil spills.	No change to text.
65	Brendan Cummings (Center for Biological Diversity)	The draft CRSA Plan includes a no-surface-occupancy setback one mile to either side of the Colville and major tributaries. This is inadequate. The 1998 IAP acknowledged that a two-mile area around the river required special management. At a minimum, this area should have a no-surface occupancy condition. Moreover, the only way to truly protect the values in the CRSA is to allow no surface occupancy anywhere in the CRSA, nor any leasing of this area. The draft plan includes some protections for a 15-mile falcon foraging area around the river corridor. This whole zone should also be subject to no-surface-occupancy and no-leasing provisions. Exceptions in the draft CRSA Plan for roads and pipelines within the CRSA and within the one mile buffer are poorly described with no measurable criteria on when and if they will be allowed. Such intrusions should simply be prohibited from the entire CRSA.	The BLM will continue to maintain a one mile setback along the Colville River and tributaries. Any future development within the 15 mile foraging area would be evaluated on a case-by case basis. If necessary to construct within the CRSA reasonable and practicable efforts shall be made to locate permanent facilities as distant from raptor nests as feasible.	No change to text.
66	Brendan Cummings (Center for Biological Diversity)	The promulgation of the CRSA Plan also is in apparent violation of the ESA. Several listed species including polar bears, and spectacled and Steller's eiders occur in or adjacent to the CRSA. Additionally, activities in the CRSA may affect listed species in the Beaufort Sea such as bowhead and humpback whales. BLM must engage in and complete consultation under the ESA to examine the effects of plan activities on all of these species.	Appropriate levels of ESA consultation regarding polar bears and eiders has been conducted. See Appendix A for consultation for the spectacled and Steller's eider. The USFWS agreed that the CRSAMP would likely have no effect on polar bears (Ted Swem, USFWS, personal communication, May 15, 2008).	No change to text.

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67	Pat Pourchot (Audubon TWS NAES NRDC)	We continue to believe the Management Plan should recognize and provide specific protections for the array of significant values found along the Colville River in addition to Arctic Peregrine Falcons. Although the CRSA was designated primarily for protection of the then-endangered Arctic race ("*tundrius*") of the Peregrine Falcon, other values associated with the Colville River were recognized at the time and subsequently in later NPR-A planning documents.	See response to Comment 1.	No change to text.
68	Pat Pourchot (Audubon TWS NAES NRDC)	The recommendation in the draft plan to retain a no-surface-occupancy setback one mile to either side of the Colville and major tributaries (where federal ownership permits) throughout the CRSA will go far in protecting raptor nest sites and habitat along the river. In addition to raptors, this setback will have ancillary benefits to other river values, including scenic, recreational, wildlife, and paleontological values. The inclusion of this setback in the South Planning Area, which currently lacks specific management direction, will be especially beneficial. However, as we previously commented, a two-mile no-surface-occupancy setback would much better protect not only nesting raptors but also raptor foraging areas and other river-related wildlife, recreation, scenic, and other values.	A 2-mile setback is discussed in 2.3.4 of the EA. Knowledge of foraging habitat use by arctic peregrine falcons is not adequate to determine whether the extra protection is necessary. BLM will analyze specific proposals for actions that may occur, including within a 2-mile setback from the Colville River. Restrictions may be imposed at that time.	No change to text.
69	Pat Pourchot (Audubon TWS NAES NRDC)	Most of the measures described in the draft appear to select the most protective ROPs and STIPs of the Northwest and Northeast plans and RODs. However, the draft plan neglects to indicate that the 1998 ROD for the Northeast Planning Area prohibits all permanent surface occupancy within one mile of the Colville River with the possible exception of essential pipelines, but not roads. The 98 ROD is still the current ROD, pending implementation of the proposed 2008 Northeast ROD. Although the draft CRSA Management Plan may permit roads within the river setback, the more restrictive 1998 ROD provisions prohibiting road crossings of the Colville would provide much more protection for nesting falcons and other river values. Additionally, the 1998 ROD prohibits road connections from the Northeast Area to the existing	The EA adopts protection measures from the 2008 ROD for Northeast NPR-A IAP/EIS. The 2008 ROD for Northeast NPR-A supersedes the 1998 ROD.	No change to text.

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		road system. It is not clear whether or not that restriction would still apply to the Colville River under the draft Management Plan.		
70	Audubon TWS NAES NRDC	We commend the language and provisions of the draft plan that recognize the importance of falcon foraging area requirements that extend well beyond nest sites and the proposed one-mile setbacks. Permanent facilities would only be permitted in the CRSA if all reasonable and practicable efforts were made to locate as far from nests as feasible. Similarly, foraging habitat within 15 miles of nests would be protected from significant alteration, including roads and pipelines, unless the impacts were minimal and no feasible or prudent alternatives exist. However, it is not clear in all cases whether the distance is the boundary of the CRSA or 15 miles. Because the CRSA is not always 15 miles from the river, the greatest distance of either the CRSA boundary or 15 miles from nest sites should be implemented to ensure maximum protection of falcon foraging habitat.	Considerations for the 15 mile foraging area will include NPR-A lands outside of the CRSA; the 15 miles is measured from nest site locations.	No change to text.
71	Pat Pourchot (Audubon TWS NAES NRDC)	We also commend the adoption of several of the recommendations of the 2000 BLM Raptor Workshop. In particular, the recommendations for research and monitoring are essential to make sound land management decisions in the future. In separate correspondence with your office and the BLM State Office we have raised serious concerns over the current NPR-A research and monitoring efforts and questioned whether or not the original objectives of the former Research and Monitoring Team (RMT) established pursuant to the 1998 Northeast ROD are being fulfilled through the reconstituted North Slope Science Initiative (NSSI).	The BLM is committed to conduct research and monitoring to evaluate the ecology of arctic peregrine falcons in the CRSA and to ensure that management and decisions include scientific data collected in the Special Area.	No change to text.
72	Audubon Pat Pourchot (Audubon TWS NAES NRDC)	As expressed in our previous comments, we remain concerned about the criteria under which future developments, including roads and pipelines, may be permitted within the one-mile setback corridor as well as the 15-mile foraging areas. Well-formulated and well-executed research and monitoring projects as described above, coupled with a commitment to incorporate findings into future management actions, could provide more security in the protections	The BLM is committed to conduct research and monitoring to evaluate the ecology of arctic peregrine falcons in the CRSA and to ensure that management and decisions include scientific data collected in the Special Area.	No change to text.

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		outlined and in words like “prudent and feasible”, “minimal impacts”, and “significant alteration” of habitats.		
73	Pat Pourchot (Audubon TWS NAES NRDC)	The draft plan and EA rejects some alternatives on the basis of current land ownership along the river. Specifically, the creation of a “Bird Conservation Area” and wild and scenic river designation of the Colville were rejected because of “lack of interest” among owners of the south and east sides of the Colville through the Northwest and Northeast Planning Areas. In addition, these alternatives were not considered because they were not required or part of the purposes for which the river plan was being conducted. Again, this latter reason is circular and should not rule out consideration of reasonable alternatives in the Management Plan or EA process.	Without cooperation of adjoining landowners management of a bird conservation area or wild and scenic river status would not be feasible in this case. Reference to the Northeast NPR-A Supplemental ROD was removed in context of the alternative of designating a Bird Conservation Area.	The text was modified. EA Sect. 2.3.2
74	Pat Pourchot (Audubon TWS NAES NRDC)	The problem of land ownership and management does not exist along 100+ miles of the Colville in the South Planning Area (plus additional miles in the Utukok River Uplands Special Area). The multiple outstanding river values along this stretch of the river have been long recognized, and this upper river area has been found to be qualified for wild and scenic river designation. This alternative should be actively pursued in the Management Plan and the EA.	Oil and gas leasing and activities are not authorized in the South planning area, and the level of non-oil and gas activities is extremely limited. Thus, the area receives very little impact. The protections to be implemented in the CRSAMP would not preclude future consideration of the upper portion of the Colville River for National Wild and Scenic River system designation in future land allocation plans. The BLM would manage to protect the outstanding values of the segment of the Colville River that passes through South NPR-A so as not to preclude possible future designation for inclusion in the National Wild and Scenic Rivers system.	No change to text.
75	Don Perrin – State of Alaska	The State supports existing regulatory protections as they are sufficient for the continued viability of the Arctic peregrine falcon.		No change to text.

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76	Don Perrin – State of Alaska	Though the protection measures are intended for activities permitted by the BLM, some measures are unclear in the Plan and EA concerning their application to public or state administrative activities. We request BLM provide clarification that these measures are not applicable to those activities not permitted by the BLM, e.g., general public access or state administrative activities.	The text has been changed to clarify these questions. The restrictions apply to BLM authorized (permitted) activities only.	Text has been modified. CRSAMP Page 6 and 7 EA Table 2-1
77	Don Perrin – State of Alaska	**Page 6**, Protection 3: We request this language be revised to reflect that altitude restrictions a only applicable to flight operations authorized under BLM authority. As written, it appears to to all aircraft – including private and state aircraft operations.	"…aircraft <u>permitted under BLM authority</u> are required to maintain an altitude of at least 1,500 feet above ground level (AGL) when within ½ mile of cliffs identified as arctic peregrine falcon nesting sites from April 15 through August 15 (March 15 through August 15 when gyrfalcon nests are involved)."	Text has been modified. CRSAMP Page 6 EA Table 2-1
78	Don Perrin – State of Alaska	**Page 6**, Protection 4: As written, this protection appears to apply to all users. We assert that the restrictions should not apply to public or state administrative activities. Further, any restriction would not apply to state or private lands within the CRSA. We request this measure be clarified to incorporate our concerns.	"To reduce disturbance from campsite activity to nesting arctic peregrine falcons <u>BLM authorized (permitted)</u> campsites, including short and long-term camps and agency work camps, shall be located at least 500 meters from any arctic peregrine falcon nest site. Exceptions may be granted by the authorized officer on a case-by-case basis."	Text has been modified. CRSAMP Page 6 EA Table 2-1
79	Don Perrin – State of Alaska	**Page 6**, Protection 5: As written, the protection applies to "[a]ll authorized users, including BLM and other agency personal…." We request clarification that the protection does not apply to public or state administrative activities.	All authorized (permitted) users, including BLM and other agency personnel, shall submit for approval an	Text has been modified.

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			operational plan that includes dates, locations, and schedule of visits to cliff sites, when dates are between April 15 and August 15.	CRSAMP Page 6 EA Table 2-
80	Don Perrin – State of Alaska	**Page 7**, Protection 7: Limiting general motorized ground-vehicle use near raptor nests would constitute a closure to subsistence access protected by the Alaska National Interest Lands Conservation Act (ANILCA) Section 811(b). Any restrictions to subsistence activities would require closure procedures that comply with Title VIII of ANILCA. We request clarification that subsistence access will not be affected. For reference, this is correctly stated on page 4, Management Constraints/Planning Criteria for the CRSAMP, fourth bullet.	"Motorized ground-vehicle use, authorized by BLM, shall be minimized within one mile of any arctic peregrine falcon nest from April 15 through August 15. Such use shall be prohibited within ½ mile of nests during the same period unless authorized by BLM" -Access to subsistence activities will not be restricted	Text has been modified. CRSAMP Page 7 EA Table 2-1
81	Don Perrin – State of Alaska	**Page 10**, Requirement/Standard: We request the BLM consult with the State Department of Fish and Game before imposing restrictions or prohibitions on falconry activities.	BLM's policy will be developed as described in Action 4 (MP, p. 10). BLM will coordinate with the State of Alaska as these policies are developed.	No change to text.
82	Don Perrin – State of Alaska	**Page 1-2**, 1.1 Background, fourth paragraph: We request acknowledgement that the Colville River is a navigable waterway with State of Alaska interests.	Last sentence of the 2nd paragraph of Section 1.1 reads: "The Colville River is a navigable waterway with State of Alaska interests."	Text has been modified. EA Section 1-1
83	Don Perrin – State of Alaska	**Pages 6-12**, Table 2-1. Proposed Action and No Action Alternative: Please refer to specific comments regarding the application of the protections above to public and state administrative users.	The table has been modified to be consistent with the previous comments.	Text has been modified. EA Table 2-1
84	Don Perrin – State of Alaska	**Pages 13-14**, 2.3.3. Although the paragraphs on page 14 provide a detailed background regarding Wild and Scenic River status of the Colville River, we request the Bureau remove these paragraphs as unnecessary to the scope of the EA. We suggest that the discussion found on page 13 is sufficient in this circumstance.	The BLM believes inclusion of this section provides clarification about an alternative related to Wild and Scenic river designation.	No change to the text.

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85	Don Perrin – State of Alaska	**Page 20**, Bird Hunting, fourth paragraph: The Department of Fish and Game is responsible for maintaining the sustainability of fish and wildlife and, unless superseded by federal law, administers the harvest of said fish and wildlife on all lands in Alaska, regardless of ownership. Under ANILCA, the Federal Subsistence Board assures a reasonable opportunity for the continued customary and traditional subsistence use of fish and wildlife of rural residents on federal public lands. The State also provides for subsistence and other uses of fish and wildlife on all lands in Alaska except where closed by federal or state law. Therefore, we request the BLM not use the term "management" in this context. We request this sentence be revised as follows: ~~*The*~~ *Federal subsistence* ~~*management*~~ *regulations allow for the take of 20 ptarmigan per day with a 40 bird possession limit.*	"Federal subsistence regulations allow for the take of 20 ptarmigan per day with a 40 bird possession limit"	Text has been modified. EA Sect. 3.2.2
86	Don Perrin – State of Alaska	**Page 21**, Fish and Fish Habitat, second paragraph: The Department of Fish and Game manages for the sustainability of fish stocks, while the Board of Fisheries regulates the harvest of fish in the State of Alaska. We request this paragraph be revised as follows: *The Department of* Fish *and Game manages for the sustainability of fish stocks* ~~population management~~ in the Colville River watershed~~, is conducted by ADF&G, which sets sport f~~ *Fish* harvest limits *are set by the Board of Fisheries* ~~to protect species populations. ADF&G harvest limits~~ and are based on the best available information, ~~but do not include~~ *including harvest data* ~~any routine surveys or monitoring~~.	"The Department of Fish and Game manages for the sustainability of fish stocks in the Colville River watershed. Fish harvest limits are set by the Board of Fisheries and are based on the best available information, including harvest data."	Text has been modified. EA Sect. 3.2.4
87	Don Perrin – State of Alaska	**Page 22**, 3.2.5 Subsistence, first paragraph: Subsistence users are not limited to Section 801of ANILCA acknowledges this where it states "the continuation of t subsistence uses by rural residents of Alaska, including both Natives and non-N Therefore we request the first sentence be revised as follows: Subsistence ~~in Alaska~~ is a ~~unique concept that represents the traditional~~ *many rural residents of* Alaska ~~Natives~~.	"Subsistence is a way of life for many rural residents of Alaska."	Text has been modified. EA Sect. 3.2.6
88	Don Perrin – State of Alaska	**Page 27**, last paragraph, fourth paragraph: State of Alaska regulations allow hunting on priv land; however, land owners may limit access to their lands. We request the following revisic this sentence: Below the confluence of the Etivluk and Colville rivers*, as elsewhere in the State, individuals must obtain permission to hunt* ~~is generally off limits to hunting in the rip area of the Colville, as it is~~ *on* private land *when access is restricted by the landowne*	"Below the confluence of the Etivluk and Colville rivers, as elsewhere in the State, individuals must obtain permission to hunt on private land when access is restricted by the landowner."	Text has been modified. EA Sect. 3.2.8
89	Don Perrin – State of Alaska	**Pages 30-31**, 4.2.2.1 Proposed Action, fourth paragraph: This discussion should provide additional information regarding any potential effect to wildlife surveys conducted by the State of Alaska.	"The protections for falcons described in Table 2-1 would have negligible effects to bird hunting and all other hunting	Text has been modified.

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			activities, because those activities are not regulated by permits and therefore do not fall under the purview of the BLM's protective mitigation requirements.."	EA Sect. 4.2.2.1
90	Don Perrin – State of Alaska	**Page 32**, second full paragraph: This paragraph contradicts the intent of the protection as outlined in the Plan. Page 6 of the Plan states "[t]his protection is not intended to restrict flights necessary conduct wildlife surveys to obtain information necessary to satisfy wildlife data collection requirements." We request clarification that this protection will not interfere with state administrative activities.	As stated in the paragraph, the flights are not under the purview of BLM. Compliance to the restrictions would be up to the discretion of ADF&G.	No change to text (but the language in the CRSAMP has been modified).
91	Don Perrin – State of Alaska	**Page 34**, 4.2.5.1 Proposed Actions: Please refer to Specific Comments – Plan, page 7.	Restrictions refer to BLM authorizations and permits only. Adoption of the protections presented the EA is not expected to limit in any way the use of the CRSA by subsistence users The last paragraph of section 4.2.5.1 has been updated to reflect that protections 4, 5, and 7 do not apply to subsistence users within the CRSAMP.	Text has been modified. EA Sect. 4.2.5.1
92	Don Perrin – State of Alaska	**Pages 39-40**, Climate Change: The Department requests the BLM acknowledge that most climate models break down in their local predictive abilities. That is, while circumpolar effects can be predicted, it is hard to determine with any accuracy the effects on local areas such as the NPR-A. Thus, while a qualitative discussion is possible, a quantitative assessment is not.	The section on climate change begins with the caveat that "The effects and magnitude of climate change in the NPR-A and the Arctic remain uncertain (BLM 2008a)." This is adequate for this EA and an additional disclaimer is not needed.	No change to text.
93	Don Perrin – State of Alaska	Appendix D, Federal Management and ANILCA: We request the BLM remove this apper because it is unnecessary to the scope of the document. Section 810 of ANILCA requires analysis of the effects on subsistence uses, not a detailed description of the Federal Subsist Program.	This section has been removed. The 810 analysis is included in Appendix C.	Appendix has been modified. Appendix C

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94	Don Perrin – State of Alaska	Compliance with ANILCA Section 810: Please refer to the above comments concerning the proposed protections.	The 810 analysis is included in Appendix C.	Appendix has been modified. Appendix C
95	Jim Zelenak (USFWS)	The Service has consistently recommended that the one-mile surface protection buffer around raptor nesting habitats proposed by the BLM should be expanded to two miles. Our recommendation is based on the expert opinion of a broad array of raptor biologists, including those convened by the BLM for its 1999 Alaska Raptor Disturbance and Mitigation Workshop (see 26 March 1998 letter to USDOI Assistant Secretary for Land and Minerals from Dr. Tom J. Cade and signed by 46 other raptor biologists; BLM 1999). In 2000, the BLM declined to adopt the two-mile buffer, citing inadequate knowledge of raptor use of foraging habitats. We agree that species- and region-specific knowledge of habitat requirements is lacking; however, in the absence of conclusive scientific evidence to inform the buffer-width decision, we believe it is appropriate to adopt an approach based on the best available information – in this case, the expert opinions of raptor biologists.	A 2 mile setback has been considered by BLM following the 1999 Raptor Workshop and during the process of developing this EA (Section 2.3.4). Although 2 miles might be more conservative the restriction appears to be greater than necessary, to the detriment of other resource management (BLM 2000). Note that any future construction within the 15 mile foraging area will require consideration of impacts to foraging habitat. Proposals within the 15 mile foraging area will be considered on a case by case basis.	Text has been modified. EA Sect. 2.3.4