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FINAL
ACEC MANAGEMENT PLAN

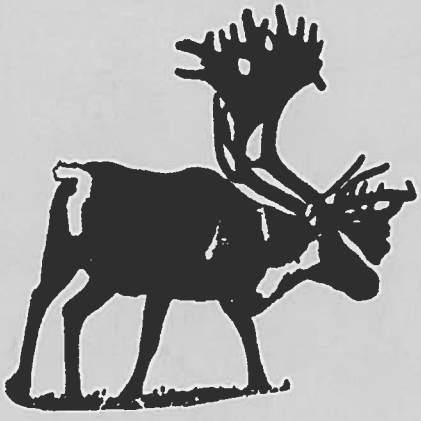
for

Tozitna North and Tozitna South

Areas of Critical Environmental Concern

Scott R. Robinson

June 13, 1988



U.S. Department of the Interior
Bureau of Land Management
Kobuk District, Alaska

Dear Reader:

Enclosed is the final management plan for the Tozitna North and Tozitna South Areas of Critical Environmental Concern (ACEC). These ACECs were approved as part of BLM's Central Yukon Resource Management Plan and Environmental Impact Statement (RMP-EIS), which was completed in 1986. Whereas the RMP addressed five major land management issues for the entire planning area (9.5 million acres), this ACEC management plan specifies management actions needed on 190,369 acres to protect caribou.

The Ray Mountains caribou herd has been studied for five years by BLM personnel to determine potential impacts from conflicting land uses. This plan is a culmination of that study effort.

During the 30-day comment period, we received written comments from two state of Alaska agencies, one industry group and a private individual and met with two organizations. The written comments can be found in Appendix D. We reviewed all comments and amended the document where appropriate. We thank all the people who took an interest in this plan.

Roger Bolstad

Roger A. Bolstad, District Manager

FINAL
ACEC MANAGEMENT PLAN

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TOZITNA NORTH and TOZITNA SOUTH
AREAS OF CRITICAL ENVIRONMENT CONCERN

U.S. Department of the Interior
Bureau of Land Management

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June 17, 1988

Abstract: A resident herd of caribou (*Rangifer tarandus*) inhabits the Ray Mountains, which are located on the north side of the Yukon River between the Alaskan villages of Tanana and Rampart. The Ray Mountains caribou herd has been studied for five years by Bureau of Land Management personnel to determine potential impacts from conflicting land uses. Two Areas of Critical Environmental Concern (ACEC) were designated in BLM's "Central Yukon Resource Management Plan and Environmental Impact Statement" (RMP-EIS) to protect caribou habitat. The purpose of this ACEC management plan is to identify protective measures within the basic goals and objectives of the Central Yukon RMP. Population and habitat of the Ray Mountain caribou herd will be monitored over the next three years. This management plan has been coordinated with other BLM programs, agencies, and organizations. A public affairs plan has been incorporated to seek public comment. The RMP's Environmental Impact Statement fulfilled the requirements of the National Environmental Protection Act (NEPA) for this ACEC management plan.

Key Words: Alaska, caribou, land uses, *Rangifer*, Ray Mountains.

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LIST OF ACRONYMS AND TERMS

ACEC	Area of Critical Environmental Concern
ADF&G	Alaska Department of Fish and Game
AGL	Above Ground Level
ANILCA	Alaska National Interest Lands Conservation Act, as amended
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
EIS	Environmental Impact Statement
FLPMA	Federal Land Policy and Management Act of 1976
NEPA	National Environmental Policy Act of 1969, as amended
NPR-A	National Petroleum Reserve in Alaska
PLO	Public Land Order
RMP	Resource Management Plan
RNA	Research Natural Area
ROD	Record of Decision for the Environmental Impact Statement
USF&WS	United States Fish and Wildlife Service
VABM	Vertical Azimuth Benchmark

INTRODUCTION

A small group (500+) of caribou inhabits the Ray Mountains, which are located on the north side of the Yukon River between the Alaskan villages of Tanana and Rampart. These animals were once believed to be part of the much larger Western Arctic Herd. Between 1950 and 1975, some western arctic caribou migrated across the central Brooks Range into the Koyukuk River valley. Caribou were first noted in the Ray Mountains during the winters of 1963-64 and 1973-74. Caribou migration into the Koyukuk drainage ceased as the Western Arctic Herd declined from 242,000 to 75,000 animals during the early 1970s (Davis and Valkenburg 1978). These researchers did not discount the possibility that a resident caribou herd existed in the Ray Mountains. Subsequent investigators located caribou on summer range, winter range, and calving areas in the Ray Mountains, thus confirming existence of a resident herd (Davis 1978:6; Farquhar and Schubert 1980:244; Robinson 1985, 1987).

BLM personnel have studied the Ray Mountains caribou herd for five years to determine potential impacts from conflicting land uses. Of all the BLM lands in the Central Yukon Planning Area (9.5 million acres), the Ray Mountains have the best potential for large-scale development of metalliferous minerals. The Central Yukon RMP-EIS examined conflicts between caribou and potential development of mineral resources (BLM 1986a). Wildlife inventories determined population levels and identified crucial habitat for caribou. The EIS's preferred alternative opened 90 percent of the caribou habitat to mineral entry and location and 97 percent to noncompetitive leasing for oil and gas. All crucial habitats were included in these openings, but were designated as ACECs.

Three ACECs totaling 977,093 acres were designated in this general area by the Central Yukon RMP Record of Decision (ROD) (BLM 1986b). They are the Tozitna River, Tozitna North, and Tozitna South ACECs. The Federal Register Notice (Vol. 51, No. 72, 15 April 1986) identified these same three units as the Tozitna Watershed, Ray Mountains, and Tanana Ridge. All three have either common or overlapping boundaries. The Ishtalitna Creek and Spooky Valley Research Natural Areas are outside, but have common boundaries with, the Tozitna North ACEC (BLM 1986a:385,387). This management plan considers only the Tozitna North (Ray Mountains) and Tozitna South (Tanana Ridge) ACECs (Figure 1). The purpose of these two ACECs , and this management plan, is to protect habitats that have traditionally been used as calving areas by the Ray Mountains caribou herd. A separate ACEC management plan for the contiguous Tozitna watershed is concurrently being prepared (Knapman 1988).

ECOSYSTEM DESCRIPTION

General

The diverse terrain of the Ray Mountains reaches from 400 feet elevation at the Yukon River to 5,519 feet atop Mt. Tozi. The southern exposures are relatively steep and dissected by deep canyons, whereas the northern exposures are generally flatter with rounded ridge tops. The Tozitna River, flowing from east to west in a broad valley, separates the mountain range into two sections. One percent of both ACECs is covered by graminoid tussocks, four percent by black spruce (*Picea mariana*), 22 percent by alpine tundra, and 73 percent by shrubland. In addition to caribou, moose (*Alces alces*), grizzly bears (*Ursus arctos*), wolves (*Canus lupus*), furbearers, rock ptarmigan (*Lagopus mutus*), and several non-game species inhabit both ACECs. Detailed information can be found in Farquhar and Schubert (1980) and BLM (1986a).

Caribou Observations

The highest caribou count was 511 in October 1987, which was comparable to 507 in October 1984 but 28 percent more than 400 in October 1983 (Table 1). These numbers represent a minimum size of the caribou population, not an estimate of the entire population (Robinson 1987). The Ray Mountain caribou herd is one of several small caribou herds in Alaska.

Table 1. Age composition of Alaska's Ray Mountains caribou herd, 6 April 1983 to 21 October 1987.

Season	Total adults counted	Total calves counted	Total caribou counted	Percent calves counted	Survey conditions cloud cover	Survey conditions snow cover
Late Winter 1983[a] (Apr. 6 & 22)			164		Clear/fog	50%
Spring 1983[a] (May 19 & 26)	29	8	37	22	Clear/broke	<20%
Early Winter 1983[a] (Nov. 1)	333	67	400	17	Clear	>80%
Late Winter 1984[a] (Apr. 24)	338	49	387	13	Clear	50%
Spring 1984[a] (May 21 & 22)	130	38	168	23	Scattered	20%
Early Winter 1984[b] (Oct. 25, 26)	444	63	507	12	Clear/fog	>80%
Late Winter 1985[b] (Apr. 19, 21)	292	31	323	10	Clear	50%
Spring 1985[b] (May 21, 22)	93	5	98	5	Clear	50%
Early Winter 1985		No data				
Late Winter 1986		No data				
Spring 1986[b] (May 28, 29)	71	5	76	7	Clear	<20%
Early Winter 1986[b] (Nov. 17)	148	19	167	11	Scattered	50%
Late Winter 1987		No data				
Spring 1987[b] (May 28, 29)	61	8	69	12	Broken	20%
Early Winter 1987[b] (Oct. 21)	457	54	511	11	Broken	>80%

[a] Data from Robinson (1985).
[b] Data from Robinson (1987)..

TANANA

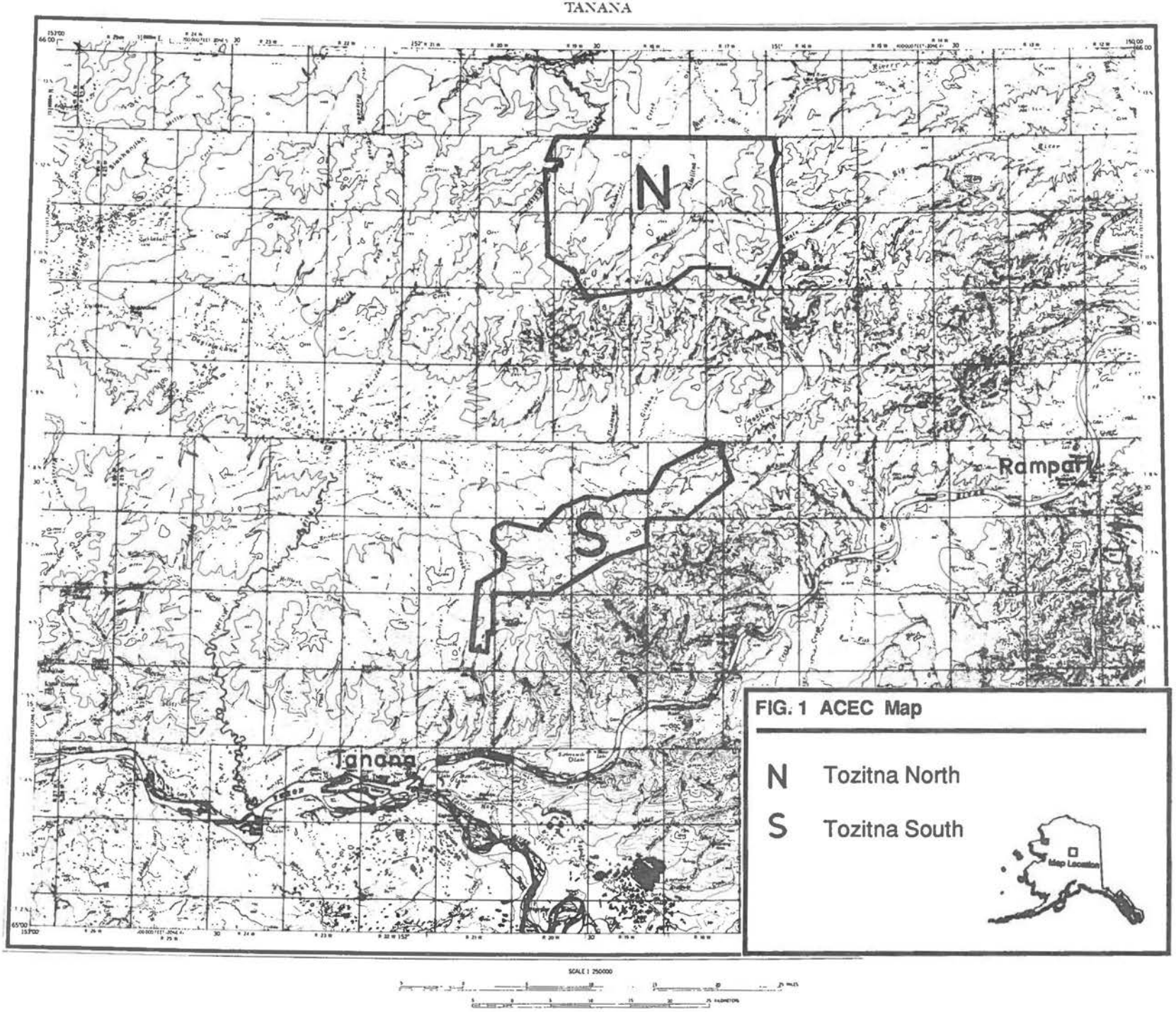

FIG. 1 ACEC Map

N Tozitna North

S Tozitna South

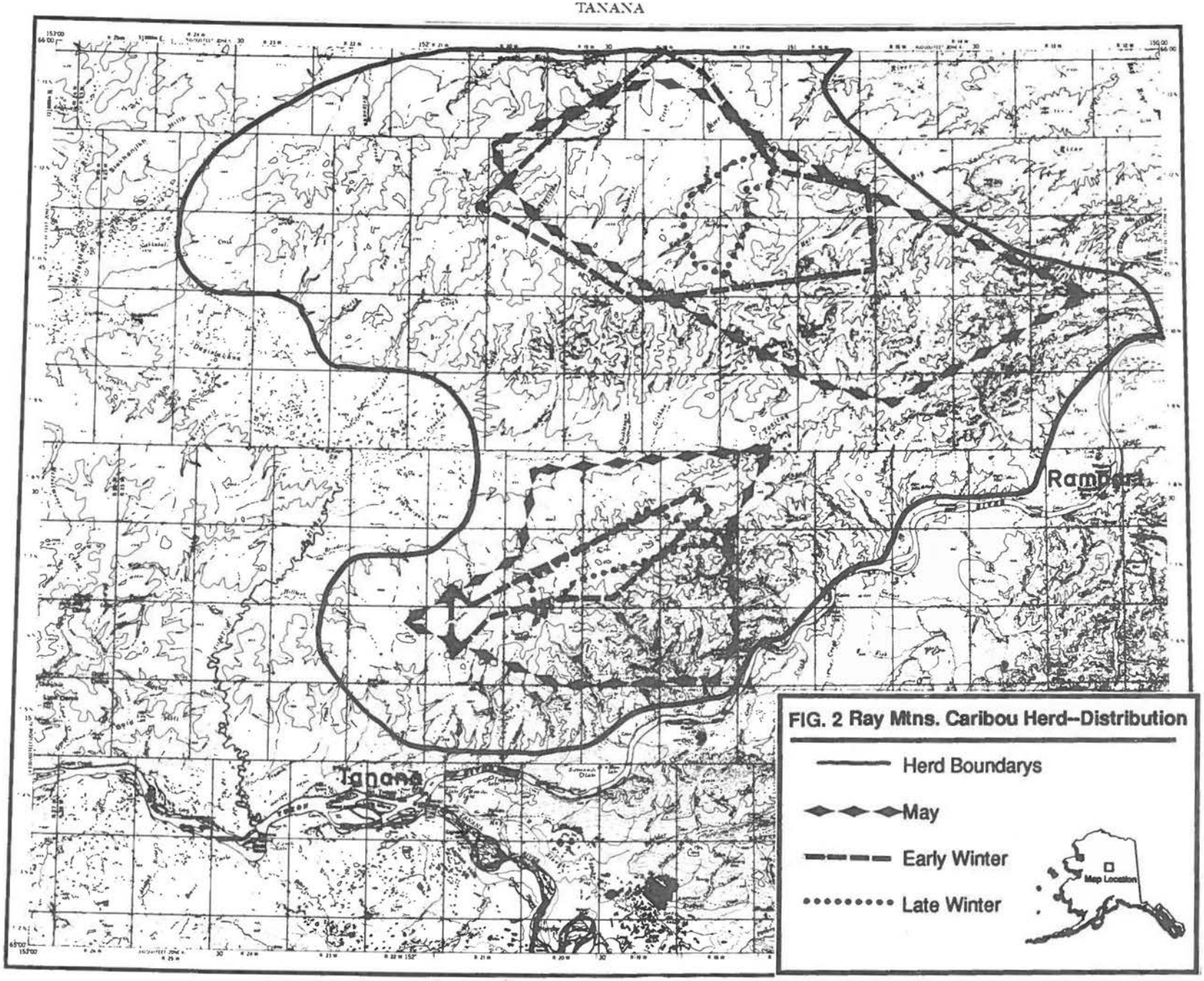

FIG. 2 Ray Mtns. Caribou Herd--Distribution

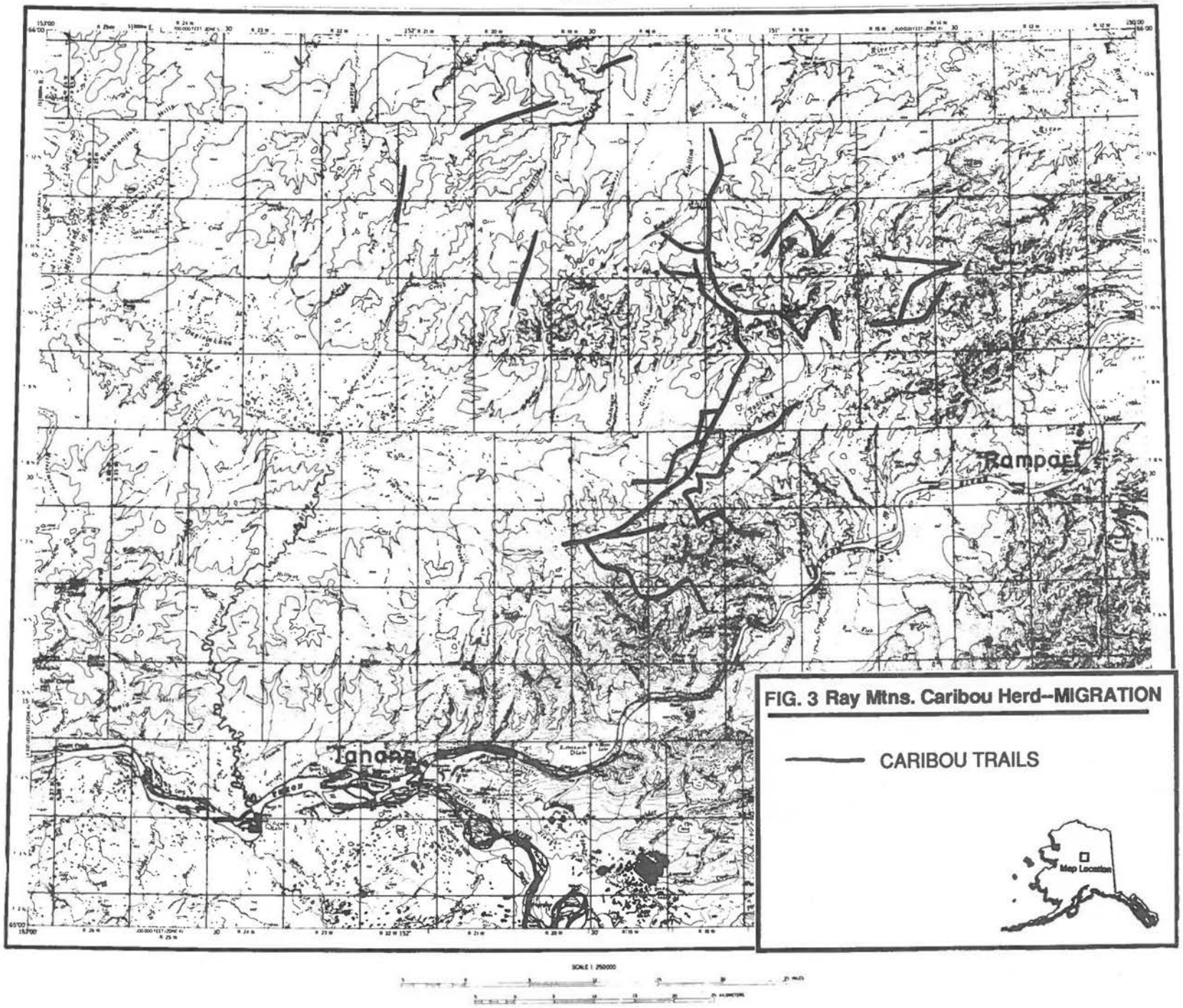

FIG. 3 Ray Mtns. Caribou Herd--MIGRATION

CARIBOU TRAILS

During the past five years, caribou inhabited two distinct areas, one north and the other south of the Tozitna River (Figure 2) (Robinson 1987). During the calving period in spring, caribou appear to be the most scattered, occupying about 529,000 acres. North of the Tozitna River, caribou have been seen between VABM Salt and Ishtalitna Creek. South of the Tozitna River, they have been sighted between Senatis Mountain, Ptarmigan Creek, and the Tozitna River.

As animals gathered for the rut in early winter, their distribution shrank to about 239,000 acres. At this time of year, caribou have been seen between Halu and Ishtalitna creeks north of the Tozitna River. South of the Tozitna River, they have been sighted between the headwaters of Ptarmigan and Canyon creeks.

By late winter, observed distribution of caribou was compressed to about 50,000 acres. North of the Tozitna River, animals have been seen near Kilo Hot Springs. South of the Tozitna River, they have been sighted between VABM Schief and the headwaters of Bear Creek.

Two major movement routes also were identified (Figure 3). One route links Kilo Hot Spring and VABM Salt via the headwaters of Gishna and Twilight creeks. The other passes through Spooky Valley, the headwaters of Gishna Creek, and crosses the Tozitna River, thus linking the two major distribution areas previously described (Robinson 1987). Farquhar and Schubert (1980) reported caribou and their trails between the headwaters of Torment and Twilight creeks. Several other caribou trails follow various ridge tops.

LAND STATUS/ADMINISTRATION

The combined surface area of both ACECs is 190,369 acres: 129,249 acres for Tozitna North and 61,120 acres for Tozitna South. Their legal descriptions are located in Appendices B and C. These lands are currently managed under the guidelines of Public Land Orders (PLO) 399, 5184, 5418, and 5563. Lands described in PLO 399 (160 acres) are leased for development of Kilo Hot Spring. Lands described in PLO 5184 (4,160 acres or 2%) are withdrawn from all forms of appropriation under the public land laws including selection by the State of Alaska, mineral location and entry, and mineral leasing. These lands are open to various types of permits, leases, rights-of-way, and easements. Lands described in PLO 5418 (186,050 acres or 98%) are open to various types of leases, permits, rights-of-way, easements, and mineral entry and location, but are closed to mineral leasing. Current actions include an airport lease application (5 acres), legislatively approved homesite (5 acres), legislatively approved trade and manufacturing site (5 acres), and two unpatented mining claims (40 acres). Lands described in PLO 5563 (200 acres) are available for selection by native village or regional corporations. The Central Yukon RMP-ROD will allow Federal Land Policy and Management Act (FLPMA) leases, mineral entry and location, and mineral leasing in both ACECs; a new PLO is being prepared which will implement the RMP's management goals and objectives (see below).

MANAGEMENT CONSIDERATIONS

The Central Yukon RMP-ROD (BLM 1986b:2-4) identified basic goals and objectives for management of public lands. Goals and objectives that relate to this ACEC management plan are listed below.

Goal 1. Manage Lands Consistent with Multiple-use Principles.

Objectives:

1. Consistent with Departmental policy, provide opportunities for mineral exploration location, development, and extraction under the 1872 mining law as amended.

2. As required by Section 1008 of ANILCA, provide opportunities for mineral leasing and development.

3. Provide opportunities for mineral material sales where environmentally feasible.

6. Provide opportunities for FLPMA leases and sales on federal lands where environmentally feasible and where compatible with management objectives.

9. Provide for protection of subsistence uses and needs as required by Section 810 of ANILCA.

10. Manage lands in conformance with visual quality standards in order to maintain scenic values. Mitigate visual impacts where surface disturbances occur.

14. Continue leases on hot springs that presently have authorized development.

Goal 2. Manage Activities on Public Lands Consistent with Maintenance of Environmental Quality.

Objectives:

1. Require permits for off-road vehicles in excess of 1,500 pounds using federal lands.

2. Designate Areas of Critical Environmental Concern on federal lands with identified critical environmental issues.

4. Manage surface uses of federal mining claims in accordance with 43 CFR 3809 surface management regulations and policy.

7. Manage wildfire in cooperation with the Alaska Fire Service to achieve Alaska Interagency Fire Management Plan goals.

Goal 3. Manage Activities on Public Lands Consistent with Maintenance and Protection of Subsistence Uses and Needs.

Objective:

3. Prohibit domestic livestock grazing due to identified wildlife conflicts and the lack of suitable grazing lands within the planning area.

Goal 4. Provide Support Activities to Implement the Above Goals.

Objective

1. Inventory and monitor caribou populations and distribution of use patterns in cooperation with the Alaska Department of Fish and Game (ADF&G).

Multiple-use Management Prescription

Prescription 10. Designate the following lands totaling 157,278 acres as Areas of Critical Environmental Concern to focus management on crucial caribou calving habitat and movement zones.

b. Approximately six townships which surround Kilo Hot Spring (north side of Ray Mountains).

c. All lands above 2,000 feet in elevation between T. 6 N., R. 21 W., and T. 8 N., R. 17 W., F.M. (mostly within the Tozitna Aquatic ACEC - the overlap acreage has been included in the Tozitna River ACEC and is not included in the above total acreage figure).

MANAGEMENT CONCERNS

Present Activity

Mineral Development. When the Central Yukon RMP-EIS was written, 741 federal mining claims covering 14,820 acres were located throughout the Ray Mountains. In 1987, 60 federal mining claims covering 1,200 acres were recorded on BLM files (Table 2). Exploration on 47 mining claims for gold, seven asbestos claims, five chromite claims, and one for an unknown commodity in the Ray Mountains should not threaten caribou by either habitat alteration or human disturbance. All claims except two on Ishtalitna Creek are located outside both ACECs. Because current activity is exploratory in nature, immediate conflicts between these mineral resources and caribou are not anticipated.

When the RMP-EIS was written, 680 of the 741 federal mining claims were located for tungsten, but these claims are no longer active. Although the mineralized area appears to be suitable caribou habitat (near but outside the Tozitna North ACEC), our observations do not reveal significant use of it by caribou. Therefore, occurrence of this mineral resource does not pose any immediate concern to caribou.

Coal and geothermal sources are leasable resources present in submarginal quantities. Development would require either a substantially higher price of the commodity on the market or a major cost-reducing advance in technology.

Table 2. Mineral commodities in the Ray Mountains, Alaska, 1983/1987.

			Claims (#)			
Map	Twp	Rng	1983	1987	Commodity	Comments
Tanana	05N	19W	0	12	Gold	Exploration
	06N	17W	8	9	Gold	Exploration
		21W	0	0	Limestone	Occurrence
		23W	0	0	Gold	Historic Site
	07N	17W	20	20	Gold	Exploration
		18W	5	5	Gold	Exploration
		20W	0	0	Gold	Favorable Geology
	08N	19W			Coal	Occurrence
	09N	15W	0	0	Tin	Occurrence
	10N	18W	0	0	Gold	Inactive location
	11N	14W	2	2	Asbestos	Exploration
		15W	1	1	Asbestos	Exploration
		18W			Geothermal	Occurrence
		20W	315	0	Tungsten	Inactive location
		21W	365	0	Tungsten	Inactive location
	12N	14W	0	1	Asbestos	Exploration
		15W	3	3	Asbestos	Exploration
		17W	0	0	Unknown	Favorable geology
		19W	1	1	Gold	Exploration
		20W	2	1	Unknown	Exploration
	13N	16W			Geothermal	Occurrence
Bettles	16N	14W	5	5	Chromite	Exploration
		16W	10	0	Chromite	Inactive location
	17N	16W	4	0	Chromite	Inactive location
Total Claims			741	60		Exploration

Hot Spring Leases. Kilo Hot Spring lies within the Tozitna North ACEC and has been leased for authorized development as a medicinal hot springs. The airport lease application, homesite, and trade and manufacturing site are all affiliated with this hot spring lease. Total area for this activity is 175 acres. Human occupation of this area, however, has not been observed during any of the caribou survey flights. Consequently, this low level of human use has not impacted the Ray Mountains caribou herd.

Military Maneuvers. In 1986 and 1987, the Alaska Army National Guard applied for a land use permit from BLM for public lands in the Ray Mountains. The National Guard wished to conduct troop maneuvers, long- and short-range foot patrols, snow machine patrols, helicopter movements, defensive operations, and bivouac area training on 161,000 acres of land. The application area covered 45 percent of the caribou calving area, 84 percent of early winter range, and 74 percent of late winter range south of the Tozitna River. The application requested permission to use blank ammunition, but alluded to live fire ammunition in future years. They proposed a small arms firing range in the calving area with a down-range safety zone in the winter range. BLM issued a permit for use of 50,000 acres outside the ACEC from 1 October 1987 to 30 September 1988. Use of live fire ammunition and pyrotechnics was denied.

Wildfire. Analysis of the fire records reveals eight lightning-caused fires reported in both ACECs from 1956 to 1986. Their individual sizes ranged from one to 450 acres for a total burned area of 845 acres. A ninth fire ignited outside the Tozitna South ACEC, burned toward it, and burned 1,152 acres of the ACEC. The fire's spread into the ACEC stopped when it ran out of fuel. Caribou researchers have had differing opinions on impacts to caribou from wildfires (Bergerud 1980:97-98, Shideler et al. 1986:49-51). While some base their conclusions upon destruction of lichens and a long regeneration time period, other researchers base their conclusions upon maintenance of habitat heterogeneity, recycling of nutrients, and revitalization of sedges, forbs, and shrubs. Because of area's fire history (less than 1% of both ACECs burned since 1956), caribou's ability to move to unburned lichen range,and benefits to habitat in general, wildfire can do more good than harm to all wildlife in the Ray Mountains.

Hunting. Resident caribou in the Ray Mountains are harvested by subsistence and sport hunters. Using BLM data, ADF&G personnel recommended the season and bag limit of five caribou between July 1 and April 30 be changed to one bull between August 10 and September 30. The Alaska Board of Game adopted this change in 1984, but also adopted a recommendation from the Tanana Fish and Game Advisory Council in 1985 for an additional two-week hunting season during March for subsistence users. Tanana residents hunted caribou in March 1986, 1987 and 1988. Using the Dalton Highway for access, sport hunters take animals each year near Caribou Mountain and Oldman.

Future Activity

The reader should refer to the Central Yukon RMP-EIS (BLM 1986a:21-29) for a description of exploration and development scenarios for different mining operations. If any form of mineral development occurs, habitat loss would result from construction of new roads, airstrips, drilling pads, and camp facilities. Forage production that is immediately adjacent to these facilities would be reduced due to changes in snow accumulation, surface water distribution, roadside dust and gravel spray. In comparison to the total available area, these surface disturbances would be minimal in size and impacts to caribou would be insignificant. However, if these disturbances occurred on specific areas that supported traditional use or concentrations of caribou, then the impacts could be significant.

As human activity increases in the Ray Mountains, so does the possibility for disturbance of caribou. Behavioral avoidance of presently occupied habitat by caribou would cause an effective loss of habitat. This indirect loss of habitat would be greater than the direct loss described above. Maternal groups of caribou appear to be most sensitive during the calving and post-calving period, May 14 through June 30 (Gilliam and Lent 1982:II-13). Therefore, human activity in the ACECs should be avoided during this period (Bergerud 1980:100).

An access route linking any future mine development within the Ray Mountains to its market via the Dalton Highway (a distance as much as 52 straight-line miles) may cross the Tozitna North

ACEC. Possible impacts would be physical or behavioral barriers to caribou movement. Physical barriers include steep road cuts, soil berms, and snow berms. Behavioral barriers appear to be associated with road traffic, hunting, and predator activities (Miller 1985, Shideler et al. 1986:56-57).

Opportunities for recreational viewing and hunting of caribou could be added attractions for visitors to Kilo Hot Spring. Many caribou have been observed within a 7.5 mile radius of the hot spring; travel by snowmobile would be easy and convenient. Caribou are closest to the hot spring during April (average distance = 2.7 miles, 13 observations). Moreover, caribou groups are also the largest during the same month (average = 59 animals, 12 observations). By calving time, caribou are the farthest distance from the hot spring (average = 4.9 miles, 11 observations) and gather in the smallest groups (average = 6 animals, 11 observations). Travel by snowmobile to and from the caribou may disturb them, especially during the hunting season when caribou would be most threatened (Valkenburg and Davis 1985, Shideler et al. 1986:58).

Visual and auditory stimuli from aircraft, especially helicopters, associated with increased mineral exploration and development can be a major cause of disturbance. Possible impacts are decreased energy intake because of interruptions to grazing, accelerated energy expended while trying to escape, injury or mortality to young animals due to stampeding, and separation of the cow-calf bond (Shideler et al. 1986:44). Although harassment by aircraft is not legal, caribou exposed to aircraft can habituate if it is not perceived as threatening (e.g. hunting) (Valkenburg and Davis 1985).

MANAGEMENT ACTIONS

Objective: Improve caribou habitat.

- Action. Modify habitat by allowing limited action fires to burn in accordance with the Alaska Interagency Fire Management Plan.

Objective: Protect crucial calving areas from undue and unnecessary habitat alteration and disturbance through avoidance of human activity and facilities.

- Action. Surface occupancy associated with all BLM-authorized activities (see definitions below) shall be prohibited from May 10 to June 30. Authorized scientific and management studies and casual use activities shall be exempt.

- Action. All BLM-authorized activities shall be conducted in a manner that will avoid or minimize disturbance to caribou from July 1 to May 9.

- Action. All BLM-authorized field camps and support facilities, including cabins and tent frames, shall be temporary in nature and must be removed after their purpose has been accomplished. The existing structures at and around Kilo Hot Spring are exempt.

- Action. All BLM-authorized activities and facilities shall be designed to allow free movement of caribou.

- Action. Aircraft associated with all BLM-authorized activities shall be required to fly a minimum of 2,000 feet above ground level (AGL) from May 10 to June 30, unless doing so would endanger human life or be an unsafe flying practice.

- Action. Aircraft associated with all BLM-authorized activities shall be required to fly a minimum of 1,000 feet AGL from July 1 to May 9, unless doing so would endanger human life or be an unsafe flying practice. Normal landings and takeoffs would be allowed.

- Action. Use of live fire ammunition and pyrotechnics by the Alaska Army National Guard shall be prohibited.

- Action. BLM shall monitor the Ray Mountains caribou herd during the next three years.

According to 43 CFR 2920, "casual use " is defined as: "any short-term non-commercial activity which does not cause appreciable damage or disturbance to the public lands, their resources or improvements, and which is not prohibited by closure of the lands to such activities....No land use authorization is required under the regulations of this part for casual use of the public lands." Examples of casual use would be hunting and hiking.

According to 43 CFR 2920, "lease" is defined as : "An authorization to possess and use public lands for a fixed period of time....Leases shall be used to authorize uses of public lands involving substantial construction, development or land improvement and the investment of large amounts of capital which are to be amortized over time." Construction of a trapping cabin would require a lease.

The same CFR defines "permit" as: "A short term revocable authorization to use public lands for specified purposes....Permits shall be used to authorize uses of public lands for not to exceed three years that involve either little or no land improvement, construction or investment, or investment which can be amortized within the term of the permit." Use of public lands by the Alaska Army National Guard would require a permit.

EVALUATION AND MONITORING

According to Federal Register Notice (Vol. 45, No. 168, 27 August 1980), an ACEC designation constitutes a commitment that BLM will manage the area as a priority program item.

Four monitoring plans for evaluating the Ray Mountain caribou herd have been analyzed. Selection of a monitoring plan will be based upon pre-determined threshold levels of human activity in either ACEC.

Monitoring Plan I. This is a "no action" plan and will be selected when money is not available for implementation. Cost of Monitoring Plan I will be $0.

Monitoring Plan II. This represents a limited effort to be selected at a low level of human activity in both ACECs. It would continue our past efforts to monitor caribou in May (calving season) of every year, but the next October (rutting season) survey would be conducted in 1990, which would make valid comparisons with data collected in October 1984 and 1987. Evaluation for continuation of this plan would be completed in fiscal year 1991. This plan would require two days of flying time in a Piper Super Cub for each survey.

The basic cost of Monitoring Plan II would be less than one workmonth for the biologist's time and $2,000 for operating money. Costs in fiscal year 1991 would be $4,000.

Monitoring Plan III. This represents a moderate survey effort to be selected if human activity increases at Kilo Hot Spring or if BLM issues a permit for activities conducted during winter or summer. It would require survey flights in October (rutting season), April (late winter), May (calving season), and June (post-calving season) for the life of the activity. Data will be recorded in a computer database, summarized in an annual progress report, and shared with ADF&G. This plan would call for eight days of flying time in either a Piper Super Cub or Cessna 185. Cost of Monitoring Plan III would be two workmonths for the biologist's time and $8,000 for operating money.

Monitoring Plan IV. This represents an intensive survey effort to be selected if a mining Plan of Operations is received or anticipated that will require road construction across either ACEC. This plan requires placing radio-transmitting collars on caribou and conducting monthly tracking flights for three to four years. Data will be recorded in a computer database, summarized in an annual progress report and shared with ADF&G. For the collaring operation, BLM would enlist the aid of ADF&G personnel and their airplane in addition to a five-day helicopter contract. The tracking operation would require 12 days of flying time in either a Piper Super Cub or Cessna 185. Cost Monitoring Plan IV would be (1) 0.5 workmonth for the biologist's time and $17,000 for the

collaring operation; and (2) three workmonths for the biologist's time and $12,000 annually for the tracking operation.

This range of monitoring plans gives the District Manager flexibility to change management emphasis based upon the ongoing levels of land use activity. Because its threshold level is being met, Monitoring Plan II will be selected at the present time.

COORDINATION WITH OTHER BLM PROGRAMS, AGENCIES, AND ORGANIZATIONS

BLM Programs

Minerals. All surface-disturbing activities, except casual uses, will be conducted under an approved plan of operations. Staff personnel will be responsible for implementing and enforcing the 43 CFR 3809 Surface Management Regulations.

Realty. The realty staff will be responsible for issuing land use permits and leases, identifying and resolving unauthorized land uses, and assessing whether all realty-permitted activities, including Kilo Hot Spring, are in conformance of their authorization.

Timber. Forest products are not available for feasible and practical harvest.

Range. Grazing by domestic livestock is prohibited in accordance with RMP Goal 3, Objective 3.

Cultural. This management plan does not propose any project which would impact cultural resources.

Wilderness. No portions of the Ray Mountains are designated as wilderness study areas or as wilderness.

Visual Resources. Areas of outstanding scenic value in the Ray Mountains would be managed where possible to retain the existing character of the landscape. This management plan does not propose any project which would disrupt the scenic character of the Ray Mountains.

Recreation. Maintain existing recreational opportunities with consideration given to authorizing improved access without disrupting the overall primitive setting of the area. BLM does not presently intend to improve access.

Soil, Water, and Air. Much of the Tozitna South ACEC is within the Tozitna River ACEC. A management plan is concurrently being prepared to protect watershed values as well as anadromous fish. The Tozitna North ACEC is outside of the Tozitna River ACEC, but has a common boundary. This management plan does not propose any project which would disrupt the present soil, water, and air resources.

Subsistence. Traditional subsistence activities will be allowed within both ACECs.

Fire. Wildfire management for both ACECs is covered by the Alaska Interagency Fire Management Plan for the Tanana-Minchumina planning area. The entire Tozitna North ACEC, and the adjacent areas to the south and west are classified as limited action. All adjacent areas to the north and east are classified as modified action. The Tozitna South ACEC has limited action on the Tozitna River side and full protection on the Yukon River side. Fires within both ACECs tend to be infrequent and small in size. These fire management options are appropriate and should remain in place for the benefit of caribou.

Other Agencies and Organizations

Alaska Department of Fish and Game. ADF&G is responsible for managing wildlife populations whereas BLM is responsible for managing the habitat. ADF&G personnel will monitor harvest regulations and respond to changing levels of human harvest. Cooperative survey work between

BLM and ADF&G has occurred in the past and should continue in the future, especially if caribou are radio-collared. The Subsistence Division is currently studying the subsistence activities of Tanana residents, and has documented hunting and trapping activity in and around these ACECs.

Kanuti National Wildlife Refuge. Small numbers of caribou occasionally move onto the Kanuti National Wildlife Refuge, and refuge personnel have expressed interest in the Ray Mountains caribou herd. The preferred alternative in their land use plan calls for minimal management adjacent of the Tozitna North ACEC (USF&WS 1987). Therefore, BLM should not expect any major impacts resulting from possible activities north of this ACEC.

Tanana IRA Council. This group of local residents have expressed interest in BLM's work with the Ray Mountains caribou herd. They should be kept informed of our findings and actions.

Tanana Fish and Game Association. This group of local residents have expressed interest in BLM's work with the Ray Mountains caribou herd. They should be kept informed of our findings and actions.

PUBLIC AFFAIRS PLAN

This ACEC management plan will be subject to public review before it is finalized. Draft copies of this ACEC plan will be sent to interested publics in April 1988, who will be asked to submit either oral or written comments during a 30-day review period. In addition, news releases requesting comments and announcing the final product will be prepared. Public meetings or hearings are not planned unless public comment warrants them. Notice of the final ACEC management plan will be published in the Federal Register.

NEPA PROCESS

A separate environmental assessment will not be prepared for this ACEC management plan for the following reasons:

1. ACEC designation was covered by the Central Yukon RMP-EIS (BLM 1986a).

2. ANILCA 810 requirements were also covered by the Central Yukon RMP-EIS (BLM 1986a).

3. All BLM-authorized actions, except categorical exclusions, will be covered by an environmental assessment at the time of application.

4. All 43 CFR 3809 plans of operations, except casual use, will be covered by an environmental assessment at the time of filing.

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APPENDIX A. Definition of Areas of Critical Environmental Concern (ACEC)[1]

The objectives of ACEC designation are to identify, designate and manage areas within the public lands where special management attention is required to (a) protect important historic, cultural and scenic values, fish and wildlife resources and other natural systems and processes;and (b) protect human life and property from natural hazards.

Authority and Mandate. The Federal Land Policy and Management Act of 1976 contains the following key provisions regarding Areas of Critical Environmental Concern.

Definition. An "Area of Critical Environmental Concern" is an area "within the public lands where special management attention is required (when such areas are developed or used, or where no development is required) to protect and prevent irreparable damage to important historic, cultural or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards" (Sec. 103[a]).

Identification Priority and Effect. Identification of potential ACECs shall be given "priority" in the "inventory of all public lands and their resources and other values," and identification "shall not, of itself, change or prevent change of the management or use of public lands" (Sec. 201[a]).

Designation Priority and Process. The designation of ACECs shall be given "priority" in the "development and revision of land use plans" (Sec. 202[c][3]).

Special Management Priority. The protection of ACECs shall be given "priority" (Sec. 202[c][3]) in applying the required special management attention.

The ACEC Process is Part of Multiple-Use Management. The ACEC identification, designation, and management process is an integral part of BLM's on-the-ground multiple-use planning and management processes. Through the ACEC process, BLM has a mandate to both:

(1) provide special management attention that will protect important environmental resources, and protect human life and property from important natural hazards, and

(2) do this without unnecessarily or unreasonably restricting users of these lands from uses that are compatible with that protection.

Development May Occur in Some ACECs. The Senate Committee Report on FLPMA (Senate Report 94-583) said, "Unlikely wilderness areas...(ACECs) are not necessarily areas in which no development can occur. Quite often, limited development, when wisely planned and properly managed, can take place in these areas without unduly risking life or safety or permanent damage to historic, cultural or scenic values or natural systems or processes." Thus, a particular designation may provide for a range of multiple-use activities, including specified kinds and degrees of development and commodity-production activities, provided that the important environmental resources within that area, or human property or lives, are not damaged or endangered.

The ACEC Process Is Part of the Planning Process. Identification and designation of potential ACECs will be done through BLM's on-the-ground planning process, in accordance with BLM's procedures for preparing, approving, and revising resource management plans. This planning process incorporates environmental analysis pursuant to the National Environmental Policy Act. An ACEC is designated through approval by a BLM district manager of a resource area (BLM's basic geographic planning and management unit). This designation decision is made after review and concurrence by the BLM State Director. Where a proposed ACEC contains and environmental resource of multi-state, national, or international significance, concurrence by the BLM Director and, in some cases by the Secretary of the Interior may also be required.

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[1] Central Yukon RMP-EIS (BLM 1986a:389-390)

ACEC Designations May Complement Other Forms of Management. ACEC and other special management area designations are not necessarily mutually exclusive. An ACEC may overlay another from of designation, in whole or in part, so as to complement the management provided through the other form -- for example, a unit of the National System of Wild and Scenic Rivers, within the public lands.

Opportunity for Public Involvement Is Provided at Each Step. Opportunity for public participation at each phase of the ACEC process will be provided by BLM officials, pursuant to FLPMA and the National Environmental Policy Act, the Department of the Interior's policy on public participation in decision making, and BLM's resource management planning regulations.

APPENDIX B. Legal description of the Tozitna North ACEC.

The Point of Beginning, which is point #1 at approximate Lat. 65 deg. 54.19 min. N. Long. 151 deg. 36.73 min. W., which is also the northeast corner of Sec. 1, T. 12 N., R. 19 W., Fairbanks Meridian, Alaska.

Thence South 12 deg. 05 min. West 168 chains[1] to point #2.

Thence East 82 chains to point #3.

Thence South 60 chains to point #4.

Thence West 40 chains to point #5.

Thence South 20 chains to point #6.

Thence West 74 chains to point #7.

Thence South 20 deg. 00 min. West 120 chains to point #8.

Thence South 05 deg. 06 min. East 398 chains to point #9.

Thence South 59 deg. 23 min. East 186 chains to point #10.

Thence South 30 deg. 43 min. East 198 chains to point #11, which is VABM Tozitna, at approximate Lat. 65 deg. 43.25 min. N. Long. 151 deg. 31.05 min. W.

Thence North 82 deg. 05 min. East 484 chains to point #12.

Thence North 47 deg. 55 min. East 218 chains to point #13.

Thence East 256 chains to point #14.

Thence South 100 chains to point #15.

Thence South 72 deg. 15 min. East 180 chains to point #16, at approximate Lat. 65 deg. 43.80 min. N. Long. 151 deg. 02.75 min. W.

Thence North 28 deg. 16 min. East 300 chains to point #17.

Thence North 09 deg. 26 min. West 490 chains to point #18.

Thence North 26 deg. 15 min. East 107 chains to point #19.

Thence North 12 deg. 53 min. West 119 chains to point #20.

Thence West 1,370 chains to the Point of Beginning.

The tract described contains approximately 129,249 acres.

---

[1] 1 chain = 66 feet

APPENDIX C. Legal description of the Tozitna South ACEC.

The Point of Beginning, which is point #1 at approximate Lat. 65 deg. 29.95 min. N. Long. 151 deg. 21.30 min. W., which is also the northeast corner of Sec. 25, T. 8 N., R. 19 W., Fairbanks Meridian, Alaska.

Thence West 160 chains to point #2.

Thence South 66 deg. 41 min. West 106 chains to point #3.

Thence North 80 deg. 52 min. West 134 chains to point #4.

Thence South 67 deg. 00 min. West 125 chains to point #5.

Thence South 37 deg. 22 min. West 215 chains to point #6, which is also the southwest corner of Sec. 2, T. 7 N., R. 20 W., Fairbanks Meridian, Alaska.

Thence North 78 deg. 35 min. West 244 chains to point #7.

Thence South 64 deg. 06 min. West 92 chains to point #8.

Thence South 01 deg. 20 min. East 56 chains to point #9.

Thence South 36 deg. 21 min. East 104 chains to point #10.

Thence South 00 deg. 20 min. West 110 chains to point #11.

Thence South 59 deg. 21 min. West 154 chains to point #12.

Thence South 09 deg. 36 min. West 440 chains to point #13.

Thence South 84 deg. 34 min. East 120 chains to point #14.

Thence North 03 deg. 45 min. East 130 chains to point #15.

Thence South 88 deg. 55 min. East 27 chains to point #16.

Thence North 234 chains to point #17, which is also the northeast corner of Sec. 1, T. 6 N., R. 21 W., Fairbanks Meridian, Alaska.

Thence East 424 chains to point #18.

Thence North 50 deg. 39 min. East 375 chains to point #19.

Thence North 71 deg. 35 min. East 253 chains to point #20.

Thence North 160 chains to point #21.

Thence East 236 chains to point #22, which is also the southeast corner of Sec. 33, T. 8 N., R. 18 W., Fairbanks, Alaska.

Thence North 52 deg. 26 min. East 390 chains to point #23.

Thence North 22 deg. 32 min. West 253 chains to #24.

Thence South 67 deg. 15 min. West 365 chains to point #25.

Thence South 32 deg. 35 min. West 204 chains to the point of beginning.

The tract described contains approximately 61,120 acres.

APPENDIX D. Written Public Comment

MEMORANDUM State of Alaska

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF GEOLOGICAL AND GEOPHYSICAL SURVEYS

TO: Sally Gibert
State CSU Coordinator
2600 Denali St., Suite 700
Anchorage, AK 99503

DATE: May 11, 1988

FILE NO:

TELEPHONE NO: 474-7147

THRU:

SUBJECT: BLM Tozitna ACEC review and comment

FROM: R.R. Reifenstuhl R3
Geologist

I have reviewed the draft management plan for the Tozitna North and Tozitna South Areas of Critical Environmental Concern that I received May 10, 1988. My geologic-related comments are listed below.

The Rampart mining district has produced between 100,000 and 500,000 oz. of gold (Bundtzen and others, 1987)

Mineral commodities in the Ray Mountains, Alaska, 1986/1987 (table 2 of your report) shows that of the 55 current claims only one occurs in the Tozitna Areas.

Total active claims and new claims staked in 1984, 1985 and 1986 within the Tanana Quadrangle are listed below.

Tanana Quadrangle Active claims (Bundtzen and others, 1987)

Year	1984	1985	1986
Active claims assessment work	1,501	1,605	1,518
New Claims Staked, Federal	6	0	0
New Claims Staked, State	120	24	71
Total Active Claims	1,627	1,629	1,589

Based on the 1,589 total active claims in the Tanana Quadrangle, mining is a common, important, and historic activity in the Rampart mining district.

Reference Cited:

Bundtzen, T.K., Green, C.B., Deagen, James, and Daniels, C.L., 1987, Alaska's Mineral Industry, 1986, Alaska Division of Geological and Geophysical Surveys Special Report 40, 68 p.

RRR/mm

cc: G.G. Mull, Acting Deputy Director, DGGS

Lake Minchumina
Alaska 99757
May 17, 1988

Roger Bolstad, District Manager
Attention: Scott Robinson
Bureau of Land Management
Kobuk District Office
1541 Gaffney Road
Fairbanks, Alaska, 99703

Dear Sir,

Thank you for the copy of the Draft ACEC Management Plan for Tozitna North and Tozitna South; I am glad to have a chance to see and comment on it. I am also glad to see these areas protected for caribou and, I presume, as areas of relatively undisturbed habitat for other plants and animals as well. I do, however, have a few comments and questions---

The maps in the Plan do not show the Tositna River ACEC, so I don't know whether Tositna North and South are connected by ACEC or wilderness land. If they are not, a corridor connecting them (should be included in an ACEC, perhaps through Townships 9,10, and 11 North, Range 17 West. Such corridors have been found useful in other areas to protect the viability of both groups of animals.

Is there any reason for not including the high land in T. 6 N., R. 20 W., It is within the May boundary for the herd, has no mineral claims in it, and connects the peaks farther northeast with those to the southwest that are within the Area.

A person who occasionally flies across this area and to Sethy-lemenkat Lake to the north says there are as many or more caribou tracis near the lake as in the ACECs. Is this area also being considered protection? What about wilderness classification for some or all of these areas?

In Table 2, showing mineral claims, I wonder hoe one knows, in the claim in T. 12 N., R. 17 W., that the geology is "favorable" without knowing what the commodity is?

Sincerely,

Florence R Collins

Alaska Oil and Gas Association

BLM-AK-975

MAY 26 12 27 PM '88

121 W. Fireweed Lane, Suite 207
Anchorage, Alaska 99503-2035
(907) 272-1481

May 25, 1988

Telecopied 1:03 p.m., May 25, 1988

FOLLOW-UP MAIL COPY

Mr. Roger Bolstad
District Manager
Bureau of Land Management
Kobuk District Office
1541 Gaffney Road
Fairbanks, Alaska 99703

Tozitna North and South Areas of Critical Environmental Concern

Dear Mr. Bolstad:

The Alaska Oil and Gas Association (AOGA) is a trade association whose member companies account for the majority of oil and gas exploration, production and transportation activities in Alaska. We wish to comment on the April 25, 1988, BLM workbook for the Tozitna North and South Areas of Critical Environmental Concern.

Monitoring Plan Alternative II selected by BLM is based on current levels of activities in this area. We believe this is a prudent selection which will allow BLM the necessary flexibility for resource management in this area.

AOGA supports BLM's selection of Monitoring Plan II as best suited for ALL the resource values in this area.

Thank you for the opportunity to express our views.

Sincerely,

WILLIAM W. HOPKINS
Executive Director

WWH:tp13:1332

STATE OF ALASKA

DEPARTMENT OF FISH AND GAME

STEVE COWPER, GOVERNOR

1300 COLLEGE ROAD
FAIRBANKS, ALASKA 99701

May 26, 1988

Roger A. Bolstad, District Manager
Bureau of Land Mangement
Kobuk District Office
1541 Gaffney Road
Fairbanks, Alaska 99703

Dear Mr. Bolstad:

The Department of Fish and Game has reviewed the referenced document. We have no additions or corrections to suggest, but would like to offer the following comments for consideration.

The department's Division of Subsistence and the U.S. Fish and Wildlife Service are collaborating on a subsistence study in Tanana, and have documented the activities of Tanana residents in and around the two ACECs. These include hunting of caribou, moose, and bear, and furbearer trapping. A final report is in preparation and will include maps depicting areas used for resource harvesting by the community during the past 20 years.

Prior to authorizing any activities which might affect uses of the ACECs and adjacent areas for subsistence purposes, we recommend that the BLM review the Tanana study findings and also determine whether any additional subsistence research has been conducted in the interim. The Tanana maps should be available for public review early in June, but the final report is not scheduled for completion until later in the year.

Please contact the regional offices of the Division of Habitat or the Division of Subsistence in Fairbanks should you require further information. Thank you for the opportunity to review the draft ACEC management plan.

Sincerely,

Al Ott
Regional Supervisor
Habitat Division
Department of Fish and Game

MEMORANDUM **STATE OF ALASKA**

DATE: June 2, 1988

TO: Scott Robinson
Wildlife Biologist
Bureau of Land Management
1541 Gaffney
Fairbanks, Alaska 99703

FROM: Dick Bishop
Regional Supervisor
Division of Game
Department of Fish and Game
1300 College Rd.
Fairbanks, Alaska

SUBJECT: Comments on the Draft ACEC Management Plan for Tozitna North and South

We have reviewed the draft ACEC and offer the following comments.

MANAGEMENT CONCERNS

Future Activity (p. 5). The last sentence of your fourth paragraph is unclear. It implies that caribou are threatened by hunting. We doubt that is what you, or the authors you cite, intended to convey. Please clarify.

MANAGEMENT ACTIONS

We suggest that the May 15-June 30 critical period, when activities are restricted, should start 10 days earlier. Our experience with interior Alaska herds indicates that May 5-June 30 would provide better protection because calving can often commence earlier than May 15 and because cows are very sensitive to disturbance immediately before the calves are dropped.

Action 1 (p.6). We suggest that authorized state and federal wildlife management activities, in addition to scientific studies, be specified as exempted from the prohibition on surface occupancy during the critical period. We are concerned that exemptions be broadly specified to

include a wide range of management actions, not just research projects.

COORDINATION WITH OTHER PROGRAMS, AGENCIES, AND ORGANIZATIONS

Other Agencies and Organizations-Alaska Department of Fish and Game (p. 8). In addition to specifying each agency's general responsibilities and the cooperative work that has occurred, this section should clearly specify that the memorandum of understanding between ADF&G and BLM provides guidelines for future coordination.

Thank you for the opportunity to comment. Please contact me if I can provide any additional information.

cc: Al Ott
Chris Smith
Tim Osborn
Roy Nowlin