



UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

Fish and Wildlife Enhancement
Federal Bldg., U.S. Courthouse
301 South Park
P.O. Box 10023
Helena, Montana 59626

NOV 17 1987

U.S. Forest Service

IN REPLY REFER TO:

M.19 Flathead NF/Noisy
Face (6-1-87-F-005)

November 16, 1987

Mr. James C. Overbay, Regional Forester
U.S. Forest Service, Region 1
Federal Building, P.O. Box 7669
Missoula, Montana 59807

Dear Mr. Overbay:

In response to your July 30, 1987 request for formal consultation on the recreation management direction for the Noisy Face Geographic Unit, we prepared a draft biological opinion which concluded that the proposed action is likely to jeopardize the grizzly bear. The draft opinion contains a reasonable and prudent alternative that can be taken to implement the proposed action, yet preclude jeopardy to the grizzly bear.

As requested by your office and pursuant to S402.14(g) of the 50 CFR, we are enclosing a copy of the draft biological opinion so that you can analyze the reasonable and prudent alternative. We will meet with members of your staff and the Flathead National Forest to discuss the biological opinion as soon as an acceptable date for both agencies is identified.

After our meeting, we will issue the final biological opinion within 45 days after the 90 day consultation period, which was extended to December 3, 1987. Thus, you will receive the final opinion on or before January 18, 1988.

Your cooperation and assistance in meeting our joint responsibility under the Endangered Species Act is appreciated.

Sincerely,

Wayne G. Brewster
State Supervisor
Montana State Office

Enclosure

cc: ARD, FWE-60153, FWS, Denver, CO
Field Supervisor, MT/WY Field Office (61125), FWS, Helena, MT
Grizzly Bear Recovery Coordinator (61140), FWS, Missoula, MT
X Forest Supervisor, Flathead National Forest, Kalispell, MT

DRHARMS/clh

"Take Pride in America"

EXHIBIT 4

DRAFT

M.19 Flathead NF/Noisy Face
6-1-87-F-005

November 16, 1987

Mr. James C. Overbay
Regional Forester
U. S. Forest Service, Region 1
Federal Building, P. O. Box 7669
Missoula, Montana 59807

Dear Mr. Overbay:

This is the Fish and Wildlife Service's (Service) biological opinion prepared in response to your July 30, 1987 request for formal consultation on the recreation management direction for the Noisy Face Geographic Unit located on the Flathead National Forest. The Forest's biological evaluation concluded a "may affect" on the grizzly bear (Ursus arctos horribilis), and a "will not effect" on the bald eagle (Haliaeetus leucocephalus), peregrine falcon (Falco peregrinus), and gray wolf (Canis lupus irremotus). The Service concurs with these conclusions.

This opinion considers the effects that the proposed recreation management direction will have on the grizzly bear in the Noisy Face Geographical Unit. This biological opinion refers only to the potential effects on the grizzly bear and not the overall environmental acceptability of the proposed action. The Service has examined the proposed action in accordance with the procedural regulations governing interagency cooperation under Section 7 of the Endangered Species Act of 1973, as amended (50 CFR 402 and U.S.C. 1531 et seq.).

BIOLOGICAL OPINION

It is the Service's biological opinion that the proposed recreation management direction for the Noisy Face Geographic Unit is likely to jeopardize the continued existence of the grizzly bear. However, a reasonable and prudent alternative is offered which will preclude the potential for jeopardy.

PROJECT DESCRIPTION

The following excerpt from the Proposed Decision Notice, Recreation Management Direction for the Noisy Face Geographic Unit (revised 6/10/87) outlines the proposed action:

A. Management Direction for System Trails

1. Close Trail #544 (Wolf Creek-Broken Leg) and Trail #187 (Crater Notch) to motorized use year long.
2. Close Trails #7, #8, #68, and #717 to motorized use year long, except snowmobiles in the Camp Misery Area.
3. Trail #37 (Peters Ridge) and #20 (Hemler Creek) are open to motorized use from July 2 to March 31.
4. Trails #725 (Switchback), #5 (Strawberry Lake), and #7 (Alpine 7 north and south of Jewel Basin) are open year long for motor vehicles less than 40 inches wide.
5. Sign the Strawberry Lake Trail (#5) to inform users that it is open to a variety of users (i.e, hikers, horses, and motor vehicles) and instruct users how to react when horses are encountered.
6. Trail #293 is open to motor vehicles less than 40 inches wide from July 2 through November 30.

B. Management Direction for System Roads

1. Bear Creek area--move the gate on the Bear Creek Road at Peterson Creek back to the Wolf Creek Road junction and close the area behind the gate to motorized use from December 1 to July 1.

2. Close the Peters Ridge Road #5388 at the upper end of Section 16 from April 1 to July 1 to all motorized use.
3. Close the Trail Creek Road #5385 at the junction with the Peters Ridge Road from April 1 to July 1 to all motorized use.
4. Camp Misery area--open Road #5392 from lower parking area to upper parking area to vehicles less than 40 inches wide year long and to other vehicles by permit, as long as the road is passable.

C. Management Direction for Non-System Roads and Trails

Of the existing 27.7 miles of routes identified in the inventory, approximately 14.6 miles will be retained and marked on the ground for off-road vehicle use and other forest users. Of these 14.6 miles, approximately 4.4 will be closed to motor vehicles from April 1 to July 1. Use on the remaining 13.1 miles will be restricted and/or discouraged through a combination of physical obliteration, blocking with obstacles, and/or signing. Monitoring will be done to determine the effectiveness of the program.

D. Management Direction for Occasional Events

1. Follow Forest Plan direction which states, "Occasional Events - Handle requests such as for cross-country ski or snowmobile races, youth or church organization outings, and recreation trails on a case-by-case basis. Do not allow permanent structural facilities to be built or permit use where unacceptable resource damage could occur" (page II-49).
2. In addition, permits in this area will adhere to the following guidelines:

- a. Permits for competitive motorized events will not be issued.
 - b. Permits will not be issued until after July 1 on spring grizzly bear range.
 - c. Permits will be confined to identified routes, trails, and/or roads.
 - d. If private or State land is involved, the permission of the other landowners is required.
3. Further procedures to be considered in handling special use permits are:
- a. Allow only those uses of National Forest System land that cannot be reasonably placed on private land.
 - b. Generally approve special use permits only when they do not conflict with National Forest goals and public values, and when they comply with the intent of the specific management area affected.
 - c. To determine if a special use proposal can be approved, an environmental analysis will be required, except where existing approved site plans and environmental analyses have been prepared (i.e., electronic sites). For some special use proposals, the environmental analysis will include other existing or potential sites and will project future use. Cost reimbursement may be required for major Forest Service involvement in the review, authorization, construction, and maintenance phases of some proposals and permits.

- d. District may use letters of permission to regulate special activities not requiring a special use permit.

E. Area Closure

In the area which lies north of the Peters Ridge Road, implement an area closure to all motorized use from April 1 to July 1. This area closure includes all of the Trail Creek Road #5385 and 1.9 miles of the Peters Ridge Road #5388.

In the Bear Creek area which lies south of Trail #544 (Wolf Creek Trail), continue the area closure to all motorized use from October 15 to November 30 as outlined in the 1987 Flathead National Forest Travel Plan. Road #5398 (Bear Creek Road) and Trail #293 (Peterson Creek Trail) will remain open to motorized use from July 2 to November 30, even though they are within this area closure.

BASIS OF OPINION

The Noisy Face Geographic Unit, located on the west side of the Swan Mountain Range, is within the grizzly bear recovery zone and contains 18,615 acres of management situation I and 6,885 acres of management situation II (Figure 1) as defined by the Interagency Grizzly Bear Management Guidelines (51 FR 42863). This stratification has been incorporated into the final Flathead National Forest Plan and was, in part, the basis for the nonjeopardy biological opinion issued on the Forest Plan on May 15, 1985. The May 15, 1985 opinion states that, "this opinion is contingent upon the guidelines for management situation I, II, and III being fully implemented and that the stratification submitted in this consultation remains in effect." The Interagency Grizzly Bear Management Guidelines indicate that within situation I,

"management decisions will favor the needs of the grizzly bear when grizzly habitat and other land use values compete...grizzly-human conflicts will be resolved in favor of grizzlies." Within situation II, "the grizzly bear is an important but not the primary use in the area...when grizzly populations and/or grizzly habitat use and other land use needs are mutually exclusive, the other land use needs may prevail in management considerations."

Through informal consultation, the Service has expressed concerns regarding the level of off-road vehicle use occurring in the Noisy Face Geographic Unit due to the extensive network of trails created by past logging activities and the need for a spring area closure to avoid displacing grizzlies from critical spring feeding sites. Activities by motorcycles and firewood cutters have helped to develop and maintain an extensive trail network that hinders effective road control and reduces habitat use by sensitive wildlife species (biological evaluation, page 5).

Research has clearly shown the adverse effects motorized use has upon the grizzly bear. Published literature shows that bears generally avoid areas 500 meters on each side of a road. Mattson et al. (1986) has shown that grizzly use of habitat decreases significantly within 600 meters of either side of a road. Aune et al. (1986) showed that noise associated with motorized equipment contributes substantially to the displacement of bears from preferred habitats and that grizzlies generally avoid areas 500 meters on each side of a road. Shallenburger and Jonkel (1980) showed that grizzlies avoid roads and trailheads. Brody (1984) has indicated that black bears in southern Appalachia begin to avoid Forest Service roads at a road density of 0.8 miles per square mile.

Our jeopardy conclusion is based on the following considerations:

1. The cumulative effects analysis conducted by the Flathead National Forest demonstrates that significant loss of habitat use is occurring throughout the analysis area due to displacement by road and trail use impacts. Habitat loss over the entire geographic unit for the preferred alternative was 16 percent for spring range, 41 percent for summer range, and 33 percent for fall range. This compares with the existing situation losses of 32 percent for spring range, 43 percent for summer ranges, and 34 percent for fall range. The resultant habitat effectiveness (HE) for each of the sub-units within the Noisy Face Geographic Unit is displayed in Table 1. Those ratings in Table 1 indicate that Subunit 2 (Middle Unit) is very heavily impacted due to the network of non-system roads and trails open to off-road vehicle use.

The sub-unit is 12.5 square miles in size and under the proposed management direction would have 36.2 miles of roads and trails (2.89 mile per square mile). The preferred alternative greatly improved habitat effectiveness for the spring season but does little to improve the extremely poor habitat effectiveness ratings of 40 percent and 44 percent for the summer and fall seasons respectively.

Threshold values for habitat effectiveness to assure that levels of human activity are compatible with grizzly recovery objectives have not as yet been determined for the Northern Continental Divide Ecosystem. A habitat effectiveness threshold of 70 percent is used in the Kootenai National Forest cumulative effects analysis process (Christensen and Madel 1982). An 80 percent habitat effectiveness rating was discussed by the Yellowstone Subcommittee for use as a threshold in the Yellowstone Ecosystem but rejected

GRIZZLY BEAR HABITAT SUB UNITS

Grizzly Bear Management
Situation I

Grizzly Bear Management
Situation II

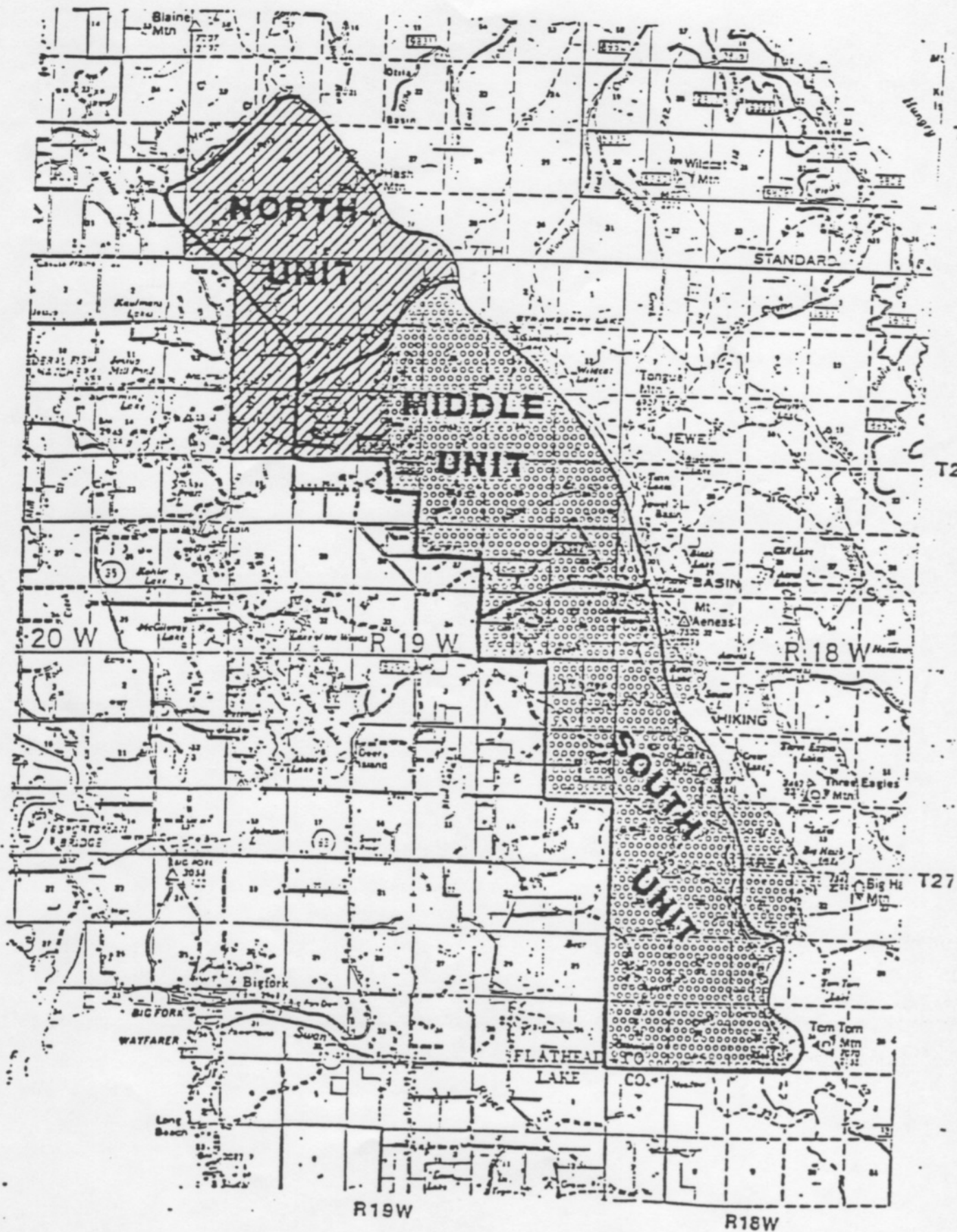


Table 1. Habitat Effectiveness for the existing situation and proposed alternative.

<u>Subunit</u>	<u>Alternative</u>	<u>Spring</u>	<u>Summer</u>	<u>Fall</u>
1 (North)	Base	100%	100%	100%
	Existing	73	54	54
	Proposed	86	63	63
2 (Middle)	Base	100%	100%	100%
	Existing	52	40	44
	Proposed	67	42	48
3 (South)	Base	100%	100%	100%
	Existing	84	72	87
	Proposed	81	72	85

Table 2. Bear habitat value by subunit and grizzly bear use season.

<u>Subunit</u>	<u>Spring</u>	<u>Summer</u>	<u>Fall</u>
North	0.1	.43	.48
Middle	.27	.61	.59
South	.25	.75	.74

until the cumulative effects model for that ecosystem can be validated and tested. Habitat effectiveness of 70 to 80 percent is commonly used as a management tool for nonlisted species such as elk. Using a habitat effectiveness rating of 70 percent to judge the suitability of habitat management, it is logical to conclude that significant improvement in the habitat conditions for Subunit 2 is required for the summer and fall seasons.

To reach 70 percent habitat effectiveness, the number of miles of roads and trails in Subunit 2 must be reduced by approximately 14.6 miles. Because the cumulative effects model is not at this time operational on computer and is extremely labor intensive to manually operate, we calculated the required reductions using the following procedure:

- a. Regression analysis (Figure 2) showed a high positive relationship (correlation coefficient = .91) between miles of roads and trails (mi./mi^2 of habitat) and the "Effect Factor" (Impact Density) used in the Forest's biological evaluation (Tables 2 and 3 of biological evaluation). The equation describing this relationship is:

$$y = mx + b$$
$$y = 0.59(x) + (-0.3)$$

- b. Using the equation in (a), we converted the miles of roads and trails in the Geographic Unit under the preferred alternative and current situation to their corresponding "Effect Factor":

Preferred Alternative: 77.8 miles roads & trails or
1.95 mi./mi^2
 $y = .59(1.95) + (-0.3)$
 $y = .9$ Effect Factor

Current Situation: 93.2 miles roads & trails or
2.33 mi./mi^2
 $y = .59(2.33) + (-0.3)$
 $y = 1.1$ Effect Factor

- c. Regression analysis (Figure 3) showed a high negative relationship (Correlation coefficient = -0.99) between the Effect Factor calculated in (b) and summer habitat effectiveness calculated (biological evaluation, pages 17 and 18) for the preferred alternative, existing situation, and base situation (absence of any human influence on habitat).

The equation describing this relationship is:

$$y = mx + b$$

$$y = -41.1 (x) + 99.4$$

- d. In order to determine an Effect Factor that will result in 70 percent habitat effectiveness, we solved for x using the equation in (c):

$$y = -41.1 (x) + 99.4$$

$$70 = -41.1x + 99.4$$

$$-29.4 = -41.1x$$

$$x = 0.72 \text{ Effect Factor}$$

A 0.72 Effect Factor equates to a density of 1.73 miles of roads and trails/mi²:

$$y = .59(x) + (-0.3)$$

$$.72 = .59x + (-0.3)$$

$$1.02 = .59x$$

$$x = 1.73 \text{ mi. roads \& trails/mi}^2$$

- e. Under the preferred alternative, Subunit 2 contains 36.19 miles of roads and trails or a density of 2.89 mi./mi² $\frac{36.19}{12.5} = 2.89$.

Thus, to achieve a 70 percent habitat effectiveness, the number of miles of roads and trails in Subunit 2 must not exceed 21.6 miles:

$$\frac{1.73}{2.89} = \frac{x \text{ miles}}{36.19}$$

$$x = 21.6 \text{ miles}$$

Figure 2. Regression analysis showing relationship between miles of road and trails in the Noisy Face Geographic Unit and the "Effect Factor".

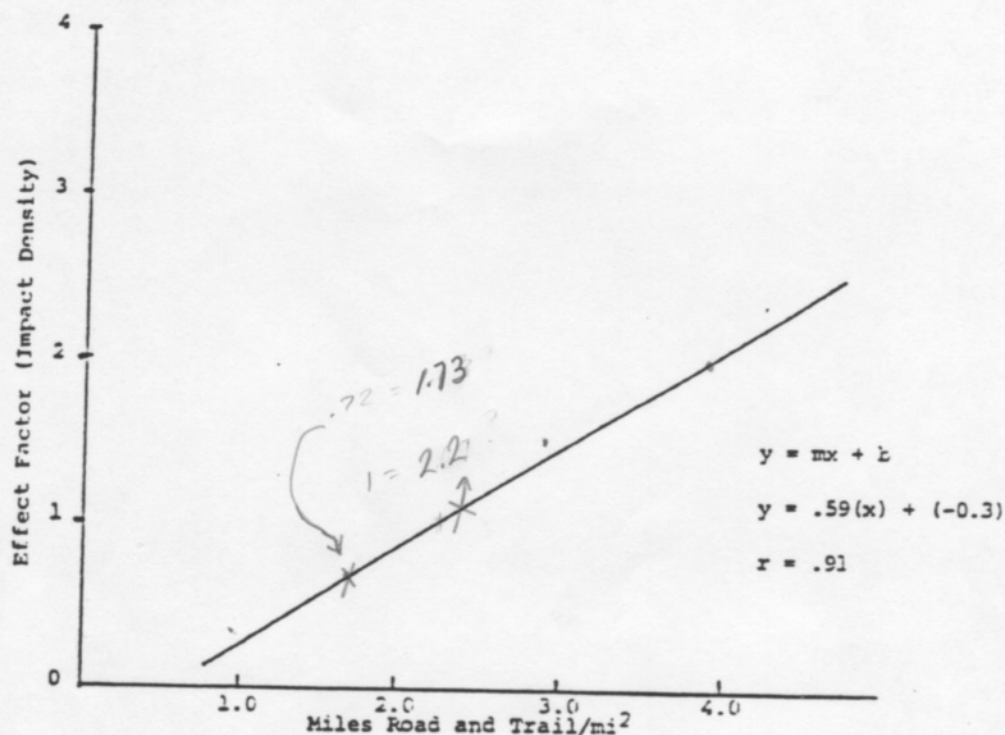
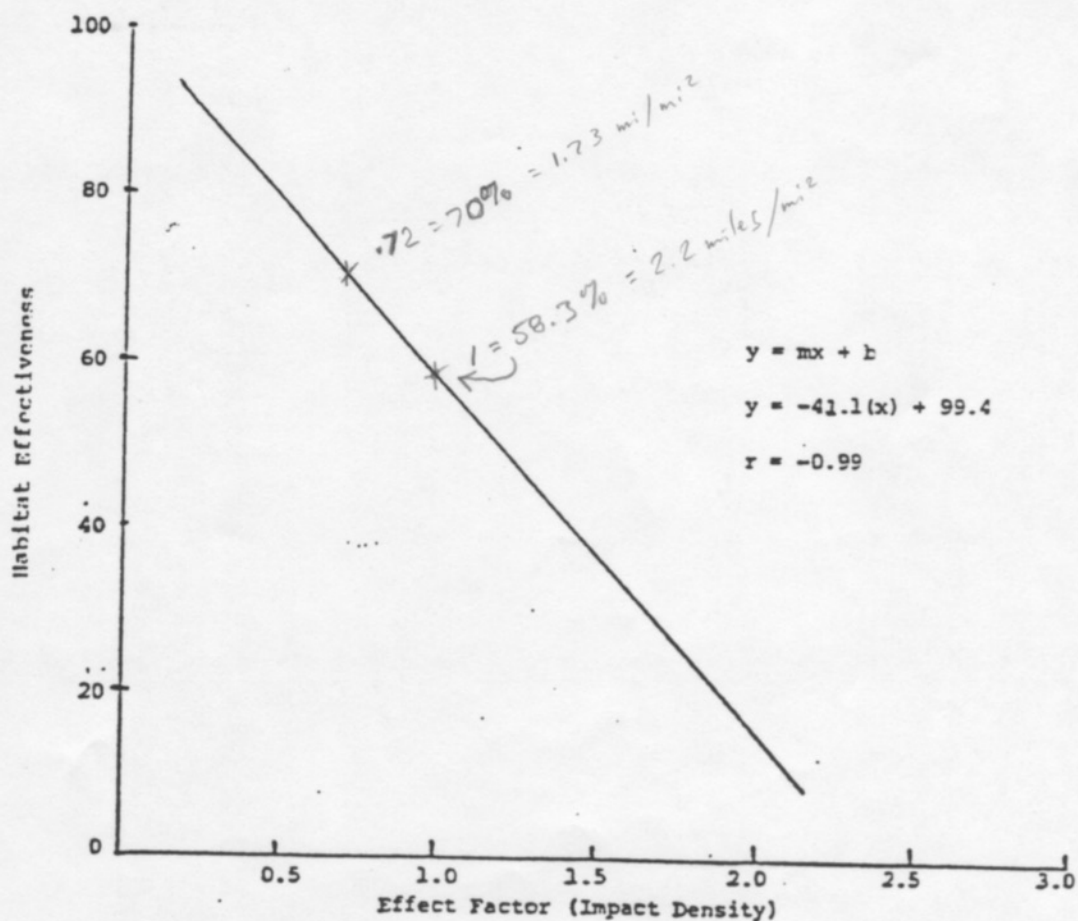


Figure 3. Regression analysis showing relationship between the "Effect Factor" and habitat effectiveness.



Therefore, the number of miles of roads and trails in Subunit 2 must be reduced by approximately 14.6 miles (40 percent reduction) from that proposed in the preferred alternative ($36.19 - 21.6 = 14.6$ miles).

2. The Cumulative Effects Model utilizing the grizzly bear habitat component mapping demonstrates that Subunit 2 (Middle Unit) has the highest spring habitat value while Subunit 1 (North Unit) has the lowest spring habitat value (Table 2). Accordingly, approximately 83 percent of Subunit 2 and all of Subunit 3 has been mapped as situation I habitat whereas all of Subunit 1 has been mapped as situation II habitat (Figure 1). Based upon habitat quality and the management direction for situation I and II (Interagency Grizzly Bear Guidelines), grizzly bear management emphasis should be placed in Subunits 2 and 3. However, contrary to the data on habitat quality and the management direction for situation I and II, the Forest Service has proposed a spring area closure that affects 100 percent of situation II but only 8 percent of situation I (Figure 4). The Service believes that the spring area closure has been misdirected and will not accomplish the intended management objectives, that being to avoid displacing grizzlies from high quality spring habitat.

Areas that are rich in avalanche chutes, seeps, springs, riparian zones, and wet meadows should be targeted for the spring area closure. The drainage areas and benches south of Peters Ridge supports moist site tree species such as hemlock and grand fir, and moist site shrubs such as birch, maple, and alder. Due to the topographical relief (benching) in this area, seeps, springs, and wet meadows which support high value bear foods are common. The general southwest aspect of this area contributes

to an early snowmelt and early green-up of forbs, grasses, and other key bear foods. Similarly, avalanche chutes in the Krause and Noisy Creek drainages also green up earlier than many other areas in the northern Swan Range. However, north of Krause Creek, the slopes become steeper and drier, supporting drier site tree species such as Douglas fir and larch and providing a lower habitat value for bears.

3. The analysis area used in the Forest's biological evaluation included only the National Forest System lands except where the zones of influence of roads, trails, and developments on private and State lands overlapped on National Forest lands. Figure 5 shows the relationship of the analysis area with the bear management unit boundary which coincides with the boundary of the grizzly recovery zone. It must be recognized that impacts are also occurring to grizzly bears off Forest system lands as a result of roads, trails, and developments and that the impacts of the proposed alternative discussed in this biological opinion are not confined to the Forest Service lands.

Much of the private and State lands adjacent to the analysis area but still within the grizzly recovery zone are important spring habitat. After den emergence, bears move to restricted low elevation spring ranges where they feed heavily on succulent herbaceous plant material and, where available, on the carrion of ungulate winter kills. After den emergence, grizzlies may be 25-40 percent lighter in body weight depending on their age and reproductive condition than the previous fall (Folk et al. 1987, Kingsley et al. 1980). During this critical period, bears require areas where they can feed undisturbed in order to meet their nutritional requirements. By early July, alternate foraging areas become available

and disturbance and displacement become less critical to the bears' survival.

Because spring range is limited from a cumulative effects standpoint, availability of high quality spring habitats and relatively undisturbed access by grizzly bears to this important constituent element is critical. The high quality grizzly bear habitats south of Peters Ridge are situated adjacent to private lands which are subject to relatively uncontrolled use. This adds to the importance of maintaining secure habitat on Federal lands. By doing so, grizzly-human conflicts on private land may actually be reduced. Means to minimize people/bear conflicts on private land should be directed toward public information and education programs rather than precluding bear use of Federal lands by encouraging land use activities that displace bears.

Based on the above considerations, the Service concludes that the expected impacts on grizzly bear abundance, reproduction, and distribution as a result of implementing the preferred Recreation Management Direction for the Noisy Face Geographic Unit is likely to jeopardize the continued existence of this species.

REASONABLE AND PRUDENT ALTERNATIVE

Section 7 (b) of the Endangered Species Act, as amended, requires the Service to identify reasonable and prudent alternatives, if any, for actions that are likely to jeopardize the continued existence of endangered and threatened species that can be taken, yet preclude jeopardy to the species. The following alternative, consisting of two parts, provides a course of action for

implementing the proposed action, yet precludes the likelihood of jeopardy to the grizzly bear:

Reasonable and prudent alternative:

Part I - Reduce the number of miles of roads and trails in Subunit 2 by approximately 14.6 miles by permanently closing the non-system roads and trails outlined in red in Figure 6. Closing these roads and trails (13 miles) will increase the habitat effectiveness of Subunit 2 to 67 percent and the habitat effectiveness for the Noisy Face Geographic Unit to 72.3 percent.

Part II - Implement a spring seasonal restriction to motorized use for the period April 1 to June 15 in the Krause Creek-Peters Ridge area as shown on Figure 7. This seasonal closure will preclude grizzly bears being displaced from key spring habitats during the critical spring period.

This reasonable and prudent alternative is consistent with recommendation No. 1 in the Flathead Forest's biological evaluation prepared for the proposed action. This recommendation states, "reduce overall road and trail impacts to grizzly bear use of existing habitats through elimination of selected off-road vehicle routes and seasonal closures."

INCIDENTAL TAKE

Section 9 of the Endangered Species Act prohibits any taking (killing, harassment, or harming) of listed species without special exemption. Under the terms of Section 7 (b)(4) of the Act, taking that is incidental to, and not a purpose of, the Agency action is not considered taking in the terms of the

GRIZZLY BEAR HABITAT

SUB UNITS

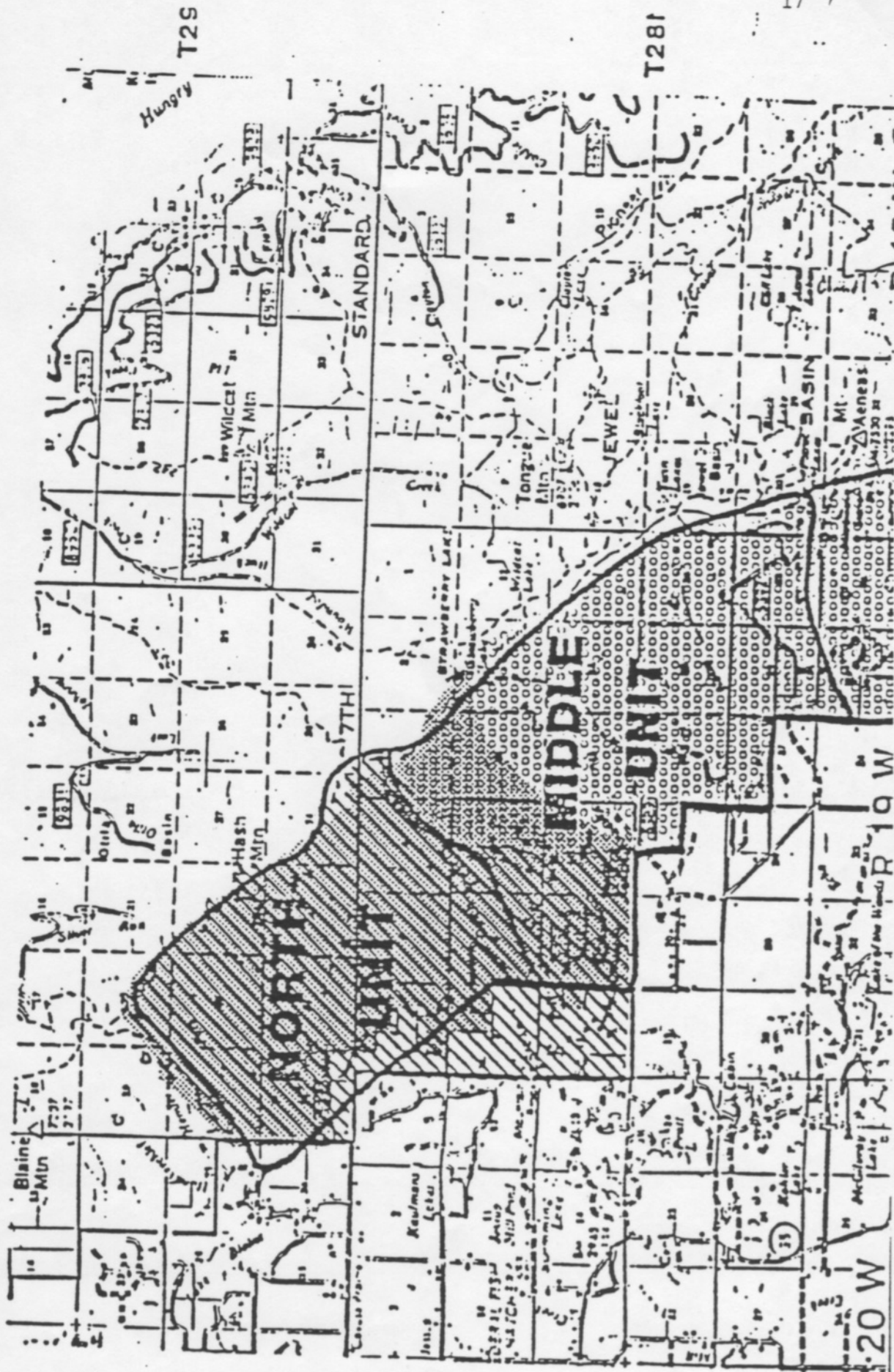
Grizzly Bear Management

Situation I

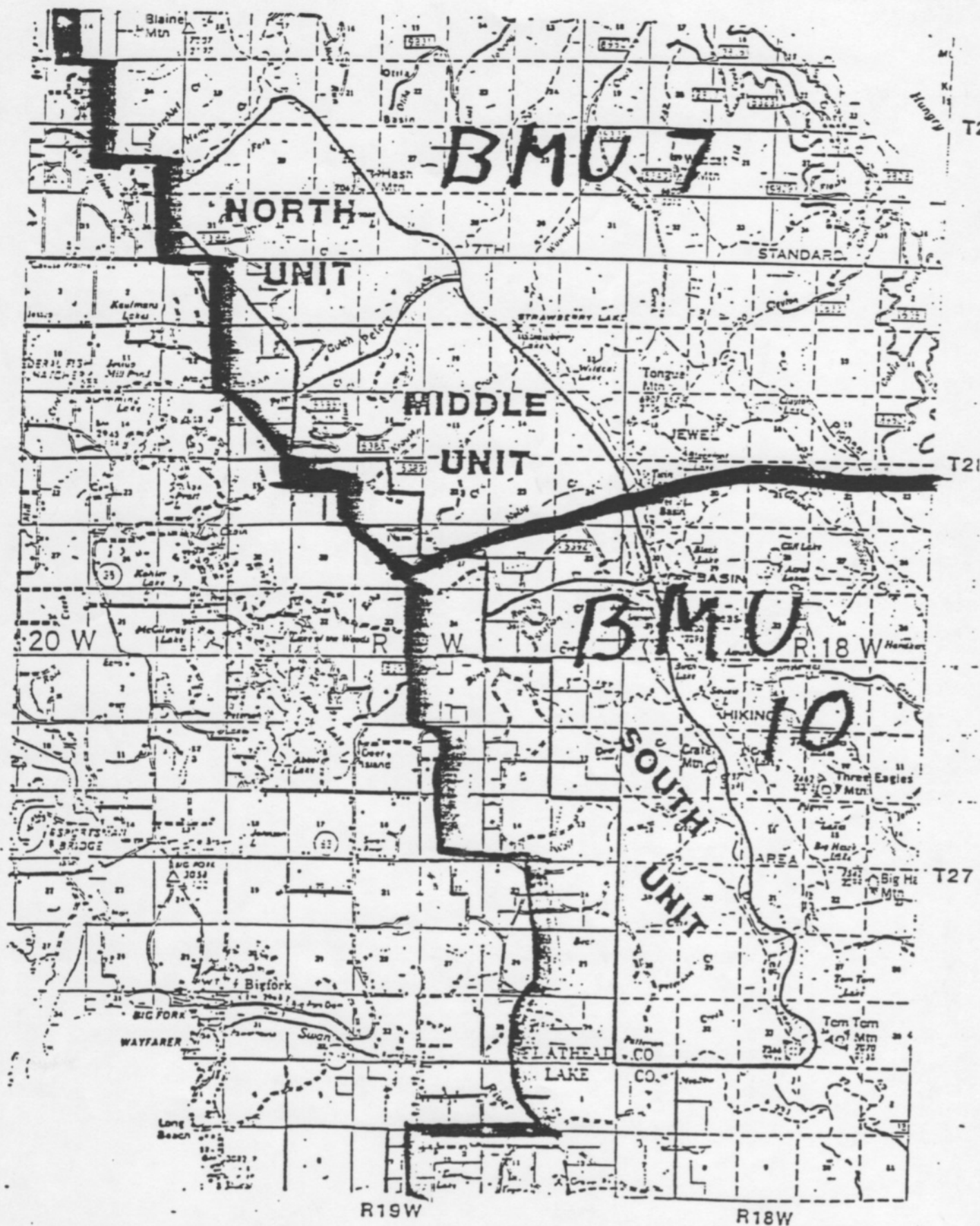
Grizzly Bear Management

Situation II

USFS Proposed Spring
Area Closure To Motor-
ized Use



GRIZZLY BEAR HABITAT SUB UNITS



Act, provided that such taking does not violate Section 7(a)(2) and is in compliance with the measures, terms, and conditions of this incidental take statement.

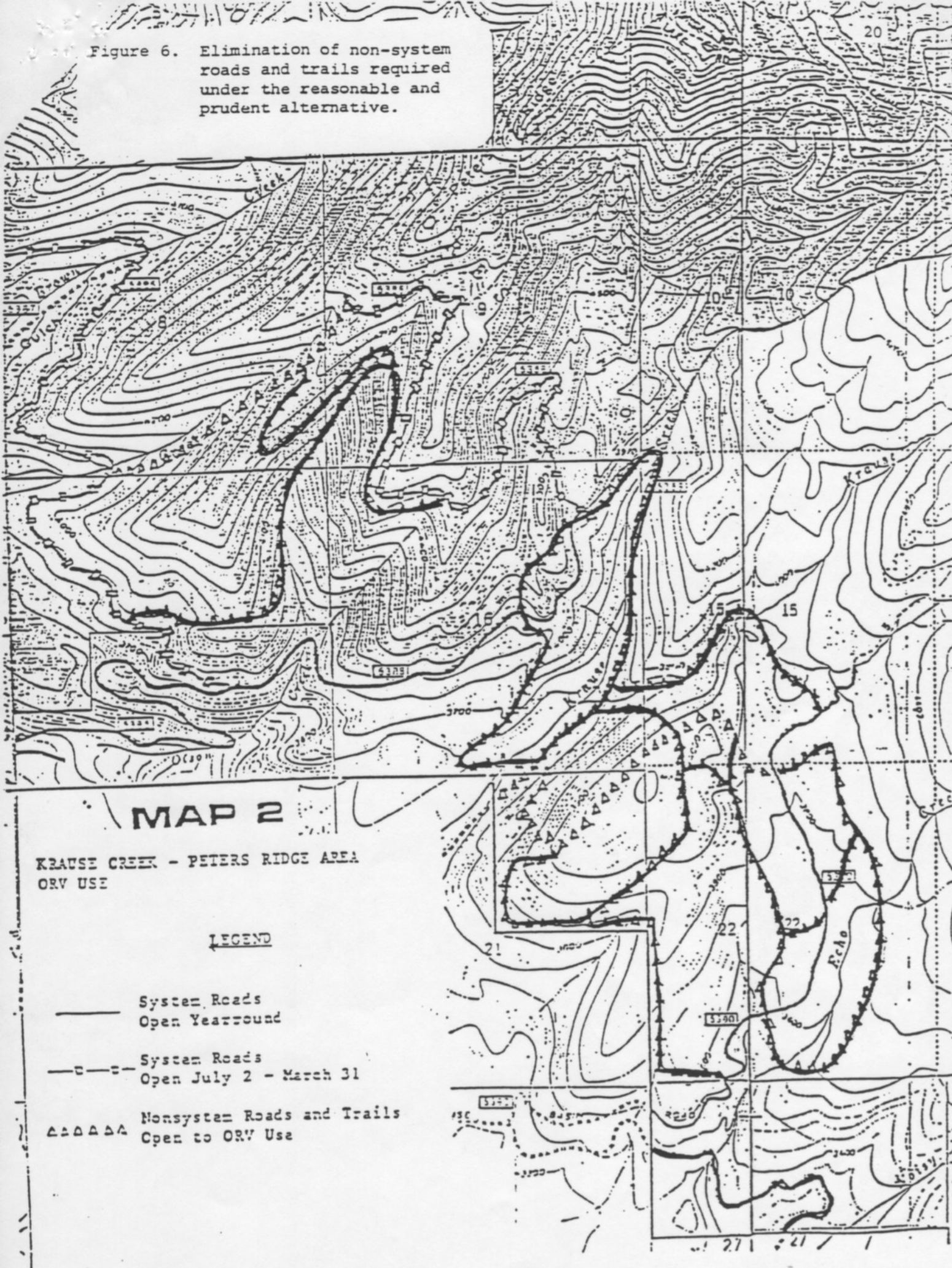
This biological opinion has concluded that the anticipated incidental take (harrassment and harming through displacement of bears) under the proposed alternative would be in violation of Section 7(a)(2). Implementation of the reasonable and prudent alternative outlined in this biological opinion is not expected to result in incidental taking that would violate Section 7(a)(2).

Taking other than that described in this opinion must be in conformance with 50 CFR S17.40(b) and shall be in accordance with the Interagency Grizzly Bear Guidelines (51 FR 42863).

CONCLUSION

This completes the Service's biological opinion on the preferred alternative for recreation management direction for the Noisy Face Geographic Unit located on the Flathead National Forest. Formal consultation will be completed when the Forest Service has responded to the Service with a written notice stating its final decision on the proposed action. This opinion is based on the information contained in the Proposed Decision Notice, Recreation Management Direction for the Noisy Face Geographic Unit. If new information reveals effects of the action or if the proposed action is modified in any way which may affect the grizzly bear in a manner or to an extent not considered in this opinion, formal Section 7 consultation should be reinitiated. Section 7 consultation should also be reinitiated if the amount or extent of incidental

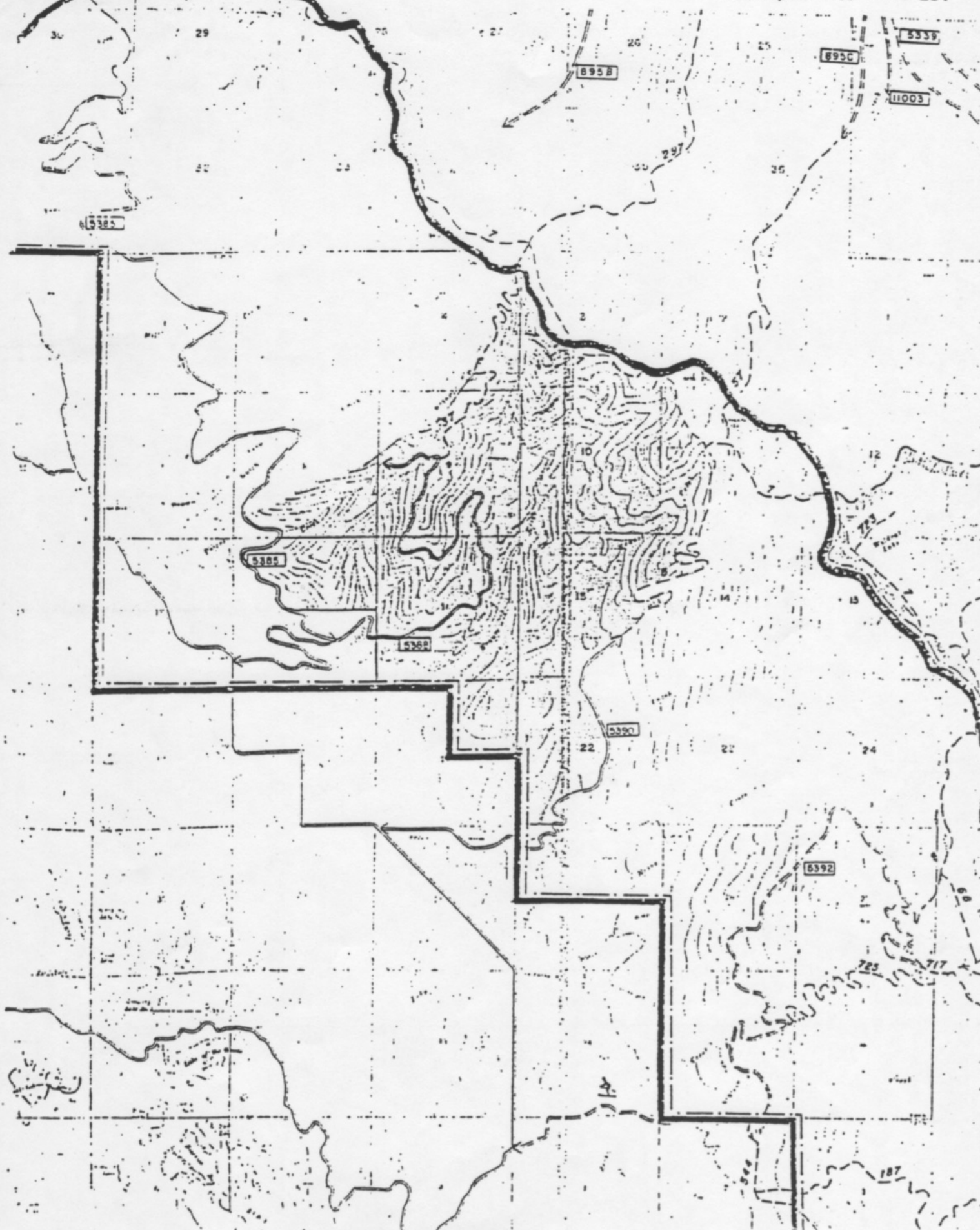
Figure 6. Elimination of non-system roads and trails required under the reasonable and prudent alternative.



KRAUSE CREEK - PETERS RIDGE AREA CLOSURE

Figure 7.

Closed to motorized use from April 1 to June 15.



take should exceed that identified in this opinion or if new species should be listed that may be affected by the proposed action.

Sincerely,

Regional Director

bcc: Director (OES), FWS, Washington, DC
Grizzly Bear Recovery Coordinator, Missoula, MT
Forest Supervisor, Flathead NF, Kalispell, MT
State Supervisor, Montana State Office, FWS, Helena, MT

DRHarms/lal/clh
ROReview:KNemec:11/09/87

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