

ENVIRONMENTAL ASSESSMENT

Proposed
OVERSNOW VEHICLE USE
at
GLACIER NATIONAL PARK
MONTANA

NO 71421
LIBRARY OF
GLACIER NATIONAL PARK
WEST GLACIER, MONTANA
Date Rec'd 9/27/89

719.82

Prepared by
Glacier National Park
Rocky Mountain Region
National Park Service
Department of the Interior

9/18/75
Date

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TABLE OF CONTENTS

	<u>Page</u>
1. Statement of Policy and Management Problem	1
2. Description of the Environment	2
Exhibit A	3
Exhibit B	2a
3. Past Snowmobile Routes in Glacier and Alternatives for the Future	3
Exhibit C	6
Regional Aspects	8
4. Environmental Impacts of Snowmobile Use within Glacier National Park	9
Exhibit D	12
5. Non-environmental Benefits and Impacts	14
Restrictions and Regulations Relating to Proposals A and C	15
6. Mitigating Measures	15
7. Any Adverse Effects Which Cannot Be Avoided Should Proposals A or C Be Implemented	16
8. Relationship Between Local Short-term Use of Man's En- vironment and the Maintenance and Enhancement of Long-term Productivity	16
9. Irreversible and Irretrievable Commitments of Resources which would be Involved in Proposals A and C should either be implemented	16
Alternative Proposals	
Alternative A	17
Alternative B	17
Alternative C	17
Consultation and Coordination with Others	18
Literature Cited	20

	<u>Page</u>
Exhibit E	21
Exhibit F	22
Exhibit G	23
Appendix A	24
Appendix B	26

1. Statement of Policy and Management Problem

The policy for management of Glacier National Park is to conserve the scenery, the natural ecology and wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of present and future generations.

The purpose of this environmental assessment is to analyze environmental impacts expected to be associated with alternative courses of action that might be taken in the future and to provide the public an opportunity to review potential courses of action, and comment on proposals and associated environmental impacts.

The use of snowmobiles in Glacier National Park is prohibited except in areas or routes designated by the Superintendent by posting of appropriate signs or by marking on a map which shall be available at the office of the Superintendent or both.

Following is the regulation as published in the "Federal Register", April 1, 1974:

§2.34 Snowmobiles

* * * * *

(c) Use in designated areas. (1) The use of snowmobiles is prohibited, except in areas and on routes designated by the Superintendent by posting of appropriate signs or by marking on a map which shall be available at the Office of the Superintendent or both. In determining whether to designate an area or route for snowmobile use the Superintendent shall be guided by the criteria contained in Sections 3 and 4 of E. O. 11644 (37 FR 2877) and shall also consider factors such as other visitor uses, safety, wildlife management, noise, erosion, geography, weather, vegetation, resource protection, and other management considerations. Prior to making a final decision to designate an area or route for such use, notice of such intention shall be published in the "Federal Register" and the public shall be provided a period of 30 days to comment on the proposed designation.

(2) Even though an area or route has been designated as open for snowmobile use in accordance with paragraph (c) of (1) of this section, the Superintendent may temporarily or permanently close or restrict the use of the areas and routes designated for use of snowmobiles by the posting of appropriate signs or by marking on a map which shall be available at the Office of the Superintendent, or both. In determining whether to close or restrict the use of areas and routes under this paragraph, the Superintendent shall be guided by the criteria contained in Sections 3 and 4 of E. O. 11644 (37 FR 2877), and shall also consider factors such as

other visitor uses, safety, wildlife management, noise, erosion, geography, weather, vegetation, resource protection, and other management considerations. Prior to making a final decision on permanent closure of an area, or route, notice of such intention shall be published in the "Federal Register" and the public shall be provided a period of 30 days to comment.

2. Description of the Environment

General

Glacier National Park is a 1,013,100 acre natural area of the National Park System and related areas in northwestern Montana that forms part of the Waterton-Glacier International Peace Park established May 2, 1932. Waterton National Park is in Canada (Exhibit A, page 3).

Glacier National Park contains superb Rocky Mountain scenery, with numerous glaciers and lakes among the highest peaks. The park was established May 11, 1910, and boundaries were modified in 1939 and 1944.

Visitation to the park exceeded 1,000,000 for the first time in 1969, and increased to 1,406,643 in 1974. Visitation has increased about 3 percent annually since 1959, when 722,338 visited the park. About 80 percent of the visitors come during summer months.

Land in the park is classified for general outdoor recreation (4.4 percent), natural environment (5.0 percent), outstanding natural area (24.2 percent), primitive area (66.3 percent) and historical and cultural (0.1 percent), Exhibit B. This land classification system corresponds to the system described by the Outdoor Recreation Review Commission.

Wilderness Recommendation

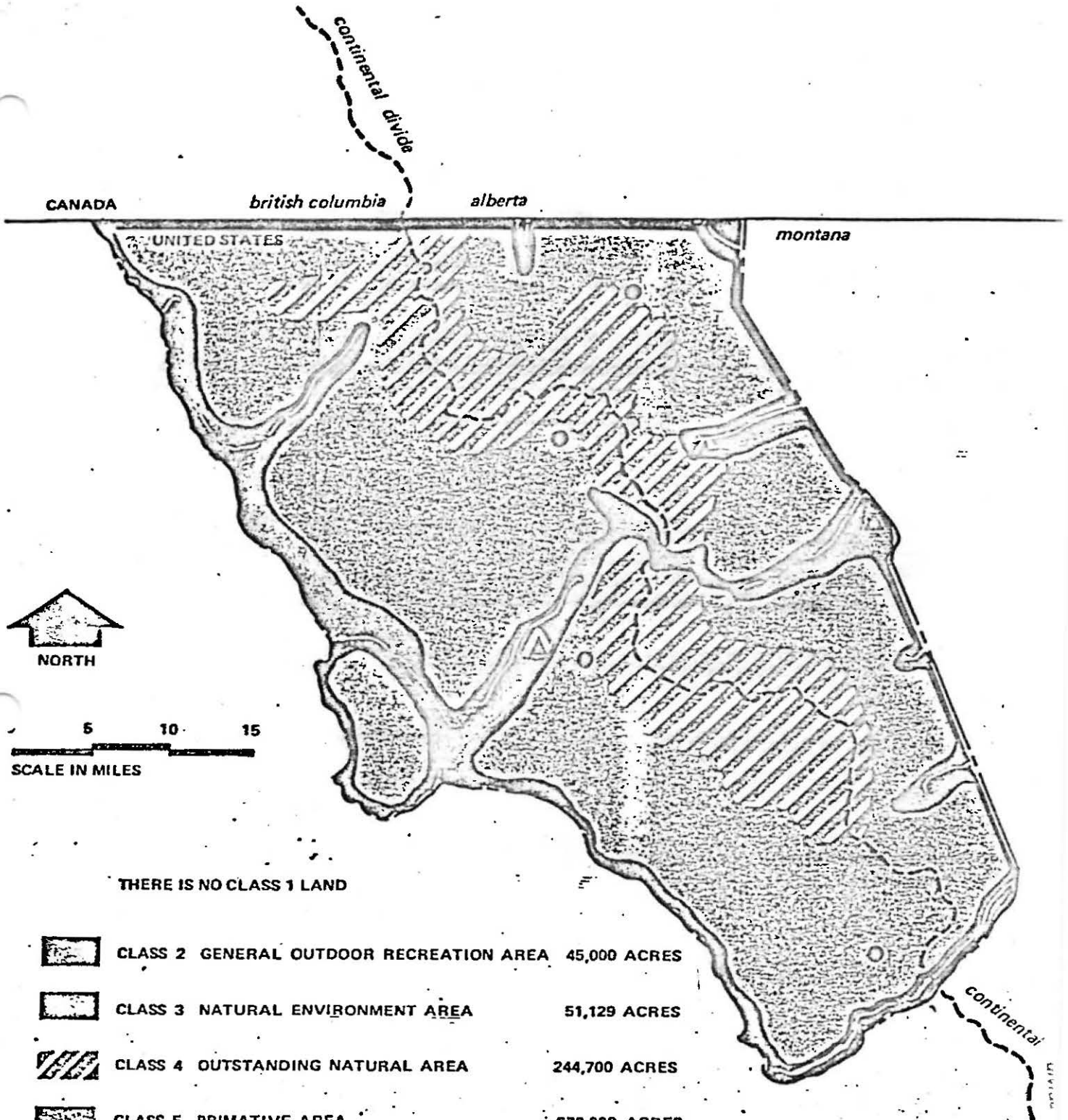
A report to the Congress recommended 927,550 acres (91.6 percent) within the park be designated as wilderness in accordance with the Wilderness Act of 1964, and that 3,360 acres (3.3 percent) be designated as potential wilderness addition and designated as wilderness by the Secretary of the Interior at such time as he determines it qualifies.

International Biosphere Reserve

Glacier National Park is one of 20 areas in the United States designated an International Biosphere Reserve by the United Nations Educational, Scientific and Cultural Organization. These areas are used to study environmental changes, provide havens for plant and animal communities and protect gene pools.

Roads

One major paved road transects the park and several paved roads lead into major valleys of the park. Unpaved roads extend along a portion of the west side of the park. (Exhibit C, page 6).



THERE IS NO CLASS 1 LAND

	CLASS 2 GENERAL OUTDOOR RECREATION AREA	45,000 ACRES
	CLASS 3 NATURAL ENVIRONMENT AREA	51,129 ACRES
	CLASS 4 OUTSTANDING NATURAL AREA	244,700 ACRES
	CLASS 5 PRIMITIVE AREA	672,000 ACRES
	CLASS 6 HISTORICAL & CULTURAL SITE	150 ACRES

TOTAL 1,013,129 ACRES

Exhibit B

land classification

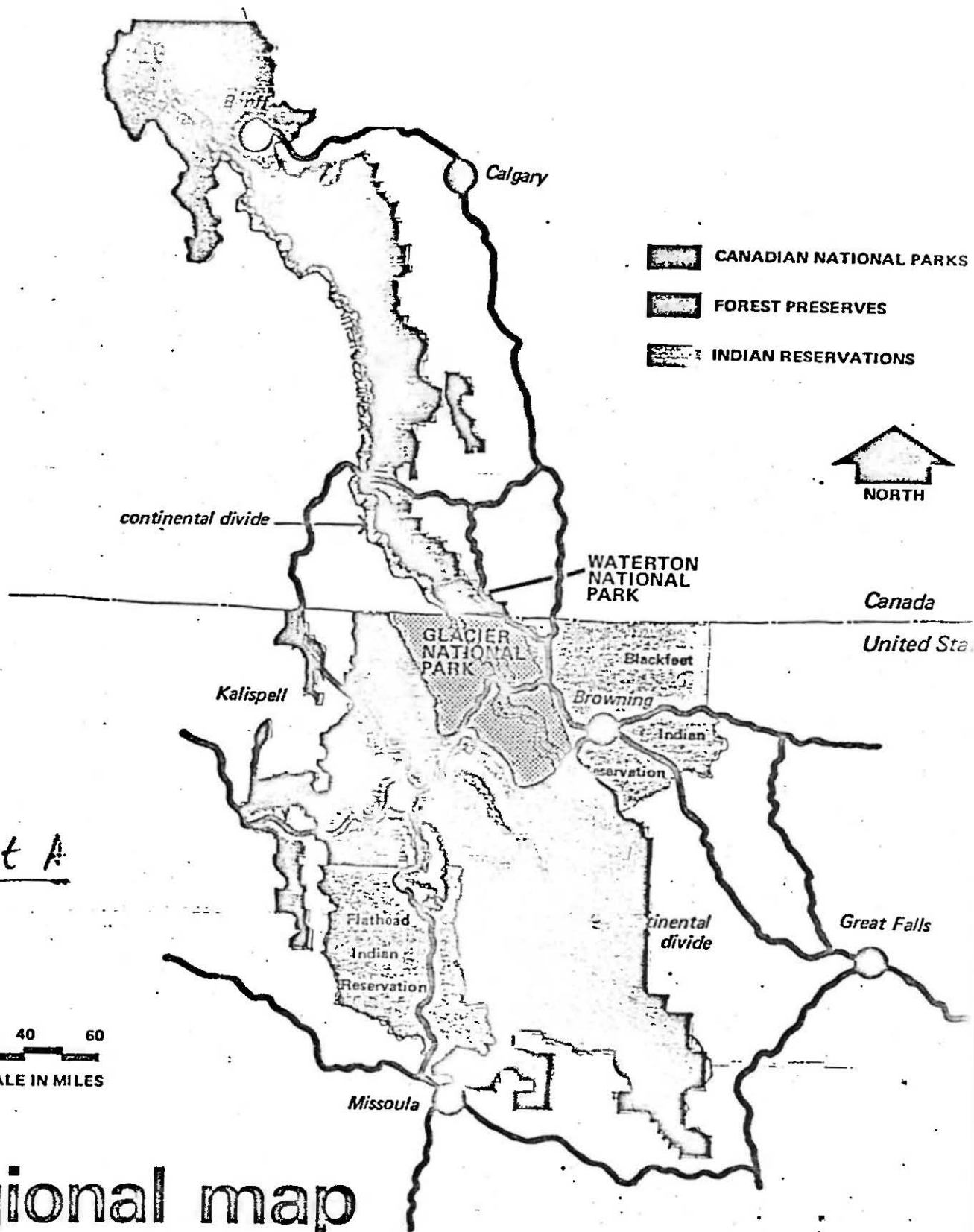


Exhibit A

0 20 40 60
SCALE IN MILES

regional map

Climate

Climate of the park varies greatly from the west slope of the Continental Divide to the east slope within the park. Most precipitation falls west of the Divide. Moisture-laden air from the west is forced upward by the mountains, resulting in 25-30 inches of precipitation at lower elevations and 80-100 inches at upper elevations, mostly as snow. Snowfall ranges from 70 to 1,000 inches annually with accumulation depths of 2 to 4 feet in lower elevations and about 10 feet or more on most mountain slopes. Drifts up to 80 feet will occur near the Continental Divide.

Continental air masses influence the climate east of the Divide with colder temperatures and less precipitation. The eastern slopes are almost constantly buffeted by winds, frequently of high velocity, while the western valleys enjoy a comparatively gentle climate.

Temperatures fluctuate seasonally between -50 degrees and 100 degrees Fahrenheit.

Snowdepths are suitable for snowmobile travel from late December to March 31 each year in the park, except in some wind scoured areas.

Wildlife Concentrations in Winter

Winter elk range east of the Divide is primarily located on stable grassland meadows and contiguous coniferous forests ranging in elevation between 4,400 and 5,500 feet. These meadows stretch as finger-like extensions up each valley. Elk and deer tend to congregate on the limited acreage of low elevation snow-free areas termed winter range.

Elk are generally found in every drainage in the park, but avoid the deep snow areas. Moose are generally found in stream drainages in most areas of the park. Bighorn inhabit the Many Glacier Valley during the winter months.

Winter Recreational Use

There are no visitor accommodations within the park during the winter months. Motel accommodations and dining facilities are available in nearby communities.

Essentially, all snowmobile travel in Glacier National Park consists of families or small groups using personally owned equipment. There are not guided tours at present. No rentals are available in the park.

Ski touring and snowshoeing in Glacier National Park are becoming increasingly more popular every year. During the winter season of 1972-73 a total of 877 skiers and snowshoers registered for trips into the park. They increased in number to 2,998 persons during the 1974-75 winter season.

The most popular area for this type of activity was at the head of Lake McDonald to the McDonald Falls and longer trips to Avalanche Campground. Many Glacier and Two Medicine are popular areas for skiers. Other popular ski trails include the Autumn Creek and Red Eagle Valley trails. Several extensive trips were made by skiers during the winter of 1974-75 where the skiers stayed out overnight for several nights.

Snowmobiling started appearing in very limited numbers at Glacier in early 1960s. As the machines improved and became lighter in weight, the use in the park increased. Calendar year snowmobile visitor use was as follows:

1967 - 153 visitors	1971 - 1,393 visitors
1968 - 307 "	1972 - 877 "
1969 - 571 "	1973 - 502 "
1970 - 979 "	1974 - 528 "

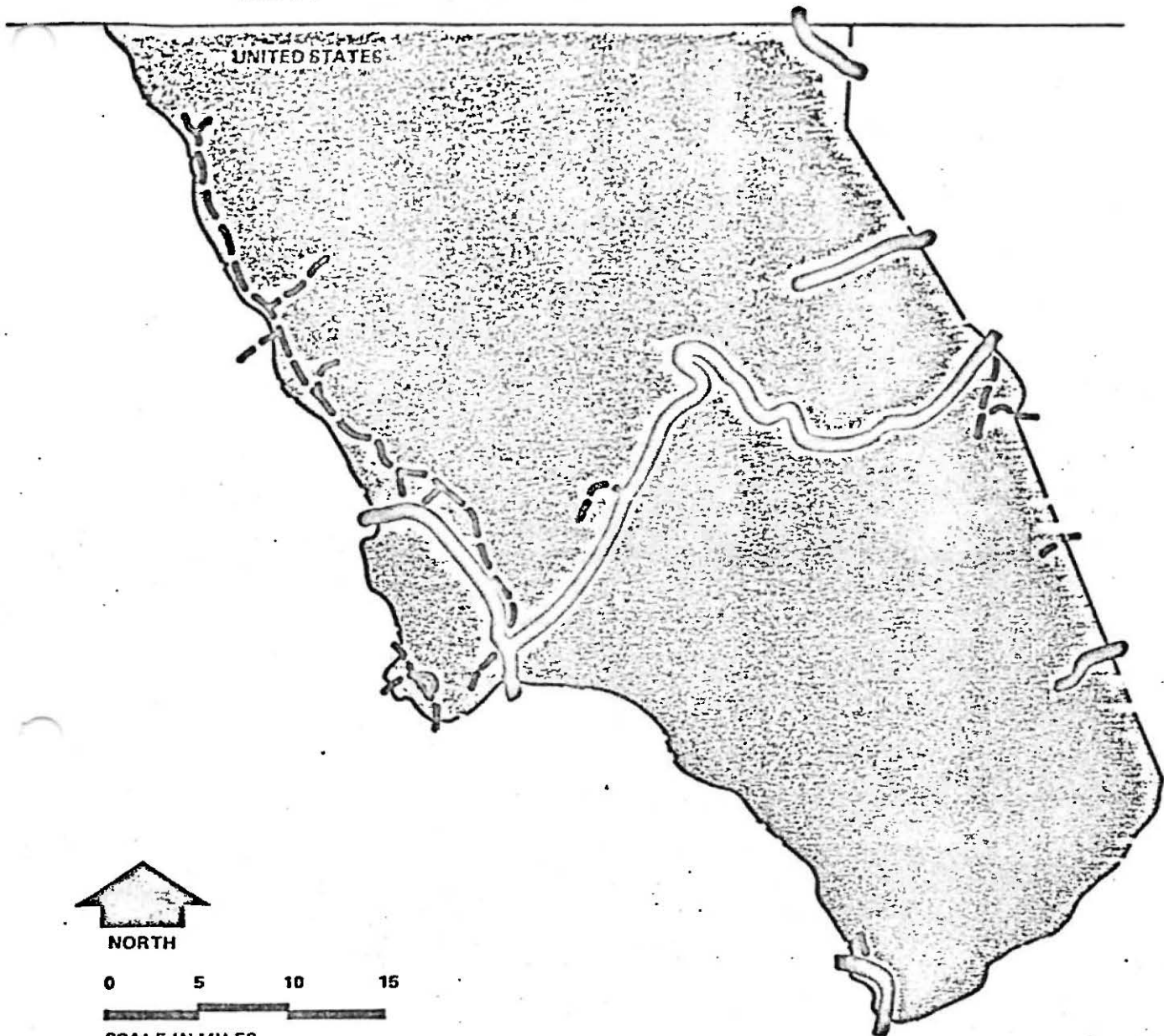
It is interesting to note that snowmobile use built up and peaked during the 1971 calendar year and commenced dropping to less than half the peak year. Use in the park is effected by the availability of snow cover in the outside areas in Flathead and Glacier counties.

3. Past Snowmobile Routes in Glacier and Alternatives for the Future

The park has always been open to snowmobile use. Use has been restricted to the unplowed roadways. In the mid-60s, all unplowed roads were open to this use except for the Going-to-the-Sun Road between Packers Roost turn-off on the west side to the Jackson Glacier View turn-out on the east side. This closure was due to the extreme avalanche hazards on this section of the road. The following described routes were open to snowmobile use in the mid-1960s. (See also Exhibit D, page 12).

- a. North Fork Road - This entire road system from Fish Creek turn-off to Polebridge, Bowman Lake and Kintla Lake was open to snowmobiles, including the old cut-off road to the Camas Road across McGee Meadows. Starting points were near the Lower McDonald Creek Bridge at Apgar and Polebridge Ranger Station. This route is a narrow, dirt road which traverses through heavy stands of forests with meadows interspersed between. It ranges in elevation from 2100 feet to slightly over 4,000 feet. This is the longest route consisting of about 45 miles from one end to the other. Large mammals including elk, deer and moose, winter in areas traversed by this road especially from Sullivan Meadows on north to Ford Creek. The wolf, which is an endangered species, has been seen in the North Fork and near the Canadian border. The present snowmobile route crosses wolf runways. (Singer 1975).
- b. Camas Road - This route was open from near the McDonald Creek Bridge at Apgar to the end of the road on the North Fork River, a distance of ten miles. It traverses primarily through forested areas with interspersed meadows. The spur road connecting with the old North

CANADA



NORTH

0 5 10 15

SCALE IN MILES

MAJOR ROADS.
UNPAVED ROADS

existing circulation

Exhibit C

Fork Road is located near McGee Meadows. It ranges in elevation from 3100 feet to 3920 feet. This road is broad in width and paved. The interconnecting spur at McGee Meadows is extremely narrow with a dirt surface. Elk, deer and moose are seen in this area and along this route.

- c. The Going-to-the-Sun Road between the Head of Lake McDonald and Packer's Roost - This route over a paved road extends for a distance of about ten miles. As this route traversed through an important wintering area for moose, elk, white-tail deer, cougar, lynx and other animals, it was closed to snowmobile use during the winter of 1968-69.
 - d. Flathead Ranger Station Road - This route extends from the unplowed road near the Quarter Circle Bridge on McDonald Creek to the end of the narrow, winding, dirt road for a distance of about five miles. It parallels the Middle Fork of the Flathead River. As there was extremely limited use of this route, it was discontinued as a designated route during the winter of 1973-74. The area is also a sensitive wildlife area. Grizzly bear, bald eagles, wolverine, deer, elk, moose, and ducks frequent this area.
 - e. Two Medicine Road - This route extends from its intersection with Highway 49 to Two Medicine Lake over an unplowed paved road for a distance of about seven miles. It has been the most popular designated route for snowmobiles on the eastside. Sections of this route often blow bare from strong winds which tend to entice snowmobilers to detour around bare areas onto vegetation which results in damage. The scenic winter views are considered excellent. This valley is subject to frequent adverse weather and blizzard conditions. An avalanche hazard exists at the north end of the Two Medicine Campground.
- The campground loop roads are indiscernible under snow cover, therefore, the campground was closed to snowmobiling during the 1974/75 season to avoid off-road vegetation damage.
- f. Cut Bank Road - This route extends from Highway 89 to Cut Bank Campground over a winding, unplowed, narrow, dirt road for a distance of seven miles. As there was extremely limited use of this route, it was discontinued as a designated route during the winter of 1973-74. Also, the Blackfeet Tribe closed the portion of the Cut Bank Road on the Reservation which prevents snowmobiling on the road outside the park.
 - g. St. Mary to Jackson-Glacier Overlook - This route over the Going-to-the-Sun Road traversed through meadows and forested areas for distance of about 12 miles over an unplowed, paved road. As drifting and snowslides occurred, it was subsequently closed as the winter progressed to Dead Horse Point and Rising Sun due to hazardous conditions. Since many large areas of this road were blown free of snow

resulting in extremely limited use, and passed through a prime wintering elk range, this was discontinued as a designated route during the winter of 1973-74.

- h. Many Glacier Road - This route begins near the park boundary and extends to the Many Glacier developed area over an unplowed paved road for about six miles. The road traverses through meadows and forested areas. This route is popular because of the scenic views during the winter, but large patches of bare road blown free of snow do occur which impedes the use of snowmobiles and tends to entice snowmobilers onto vegetation where damage occurs. This road terminates in an important Rocky Mountain sheep wintering area.
- i. Red Eagle Road - This route extends from St. Mary to the end of this narrow, winding, unplowed, dirt road for a distance of about four miles. As it received extremely limited use and is on a prime elk wintering range, it was discontinued as a designated route during the winter of 1973-74.
- j. Chief Mountain Road - This route begins near Highway 89 and extends to the U. S. - Canadian boundary over an unplowed, paved, winding road for a distance of about 15 miles. It traversed through range land, aspen thickets and forested areas. As cross-border travel is not permitted by Customs during the winter and very limited use was made of this trip, it was discontinued as a designated route during the winter of 1973-74. It is also an important wildlife habitat.
- k. Apgar Campground and designated trail connection with Camas Road.

This route includes the campground loop roads which are unplowed, and a connecting trail route to the Camas Creek Road across the McDonald Creek Bridge at Apgar. Its use was discontinued in the 1971 winter season.

Wildlife is associated with all snowmobile routes in Glacier National Park; however, some habitats are more critical than others and some routes have been closed in the past based on the critical nature of some winter elk habitats.

Regional Aspects

The park is bordered by the Lewis and Clark National Forest east of the Continental Divide to the Blackfeet Indian Reservation, Flathead National Forest west of the Continental Divide to the Canadian border, portions of British Columbia province and Waterton Lakes National Park to the north and the Blackfeet Indian Reservation along the eastern

border of the park. Snowmobiling is permitted in designated areas of the Flathead and Lewis and Clark National Forests, Canadian areas to the north and on the Blackfeet Indian Reservation but with restricted areas adjacent to the park along the east park boundary.

The Hungry Horse and Glacier View Districts of the Flathead National Forest are open to snowmobiling except for some big game wintering areas and on plowed roads. Snowmobile use in these two districts was estimated to be 14,600 snowmobile user days during the winter of 1973-74. The Lewis and Clark National Forest bordering the south boundary of the park also has extensive snowmobile activity except on plowed roads.

Snowmobilers in the park consist almost entirely of local visitors within a 150 mile radius of the park. Thus, the prohibition of snowmobiling would effect primarily local people.

4. Environmental Impacts of Snowmobile Use within Glacier National Park

Wildlife Considerations

A wide range of animal species including elk, deer, moose, bighorn sheep, mountain goat, coyote, mountain lion and other smaller mammals inhabit the areas where the present road system exists for the park. Wildlife poaching has occurred on the east side of the park using snowmobiles.

Snowmobile routes in Glacier National Park are limited to unplowed roadways which precludes the chasing of wildlife to a great degree; however, there are indications that the presence of snowmobiles and the associated noise may have an effect on wildlife if routes are near wildlife areas during winter. Studies made on white-tailed deer in Minnesota indicate deer are displaced from areas adjacent to trails and that their home ranges increase following successive days of snowmobiling, (M. Dorrance, P. Savage, and D. Huft 1973/74). Disturbances cause loss in body weight, weaken the animals and increase susceptibility to diseases and may cause emphysema if animals are forced to exert themselves in very cold weather. Disturbance may also cause abortions of embryos if maternal body weight loss exceeds 17 percent, or precipitate abortions if pregnant does are exerted or excited to movement over crusted snow where the abdomen hits against the hard surface or covered obstacle. (V. Geist 1971).

The full extent of adverse effects on animals from the presence of snowmobiles has not been determined in Glacier National Park. Ranger patrol reports during the 1974/75 season indicated 22 wildlife observations on snowmobile routes. Ranger patrols are able to monitor only a very small part of total snowmobile use in the park, therefore, these observations are not indicative of the total impact that snowmobiling may or may not have on wildlife under winter stress conditions. Sixteen of the animals in the ranger observations appeared to be spooked and excited from the presence of snowmobiles.

Wildlife along the North Fork River routes were more readily excited than animals deeper in the interior probably because of hunting pressure and other activity near the park boundary along the river.

Studies by Frank Singer indicate the North Fork River flood plain area is more important to wintering ungulates, predators, and raptors than had been previously known.

A mountain lion was observed returning to an elk kill 70 feet from a snowmobile route which had been traveled on two consecutive weekends.

Deer were observed using snowmobile tracks to move from one feeding area to another.

On several occasions, warm, fresh "bedded down" areas in the snow indicated animals had been spooked from the area just prior to arrival of snowmobiles. (Singer 1975).

Elk have been observed to maintain about a half-mile buffer zone between themselves and snowmachines. They were frightened and caused to move as much by the noise as by the sight of the machines and man. The animals headed for more adverse, timbered areas to conceal themselves. Deer displayed identical tendencies but did not move as fast or as far. (Hollenbaugh 1974).

Mechanical compaction of snow by snowmobiles alter the subnivean microclimate and promotes densification of snow. Studies show that snow roosting by birds is prevented and the movement of small mammals is curtailed. There is evidence that carbon dioxide accumulations in packed snow could make the air toxic to mammals. (Schmidt 1971).

Intermittent travel by snowmobiles such as occurs on Glacier routes has a greater effect on wildlife than constant activity where the wildlife tend to become used to snowmobiles. (Wanek 1971).

What is known of the effects of disturbance studies in other areas is disquieting. (J. Bollinger, O. Rongstad, A. Soom, Wisconsin; and M. Dorrance, P. Savage and D. Huff, Minnesota). Excitation is costly because it elevates metabolism (Graham in Geist 1970) and raises the energy cost of living, thus competing directly with energy otherwise available for reproduction and growth. This energy cost becomes extremely critical within the limited habitats of the narrow valleys of Glacier National Park during the severe winter months when snowmobile activity occurs. It may be generally concluded for Glacier National Park that winter stress is an important factor in determining population levels for many, if not most, wildlife species.

The presence of both snowmobiles and humans appears to contribute to winter stress of wildlife species through behavioral responses. The specific mechanisms and quantitative effects of these responses have not

been determined for wildlife of Glacier National Park but disturbance and increased activity are known to be important factors contributing to wildlife stress in winter.

Noise

Snowmobile motors are more noisy, in general, than the average automobile. This is, undoubtedly, disturbing to the visitor who is snowshoeing, or skiing in the park. Unnatural noise, such as a snowmobile motor, is a factor which probably disturbs wildlife; however, a study on white-tailed deer in Wisconsin (Bollinger 1973), indicated snowmobiles have to be within sight of deer before they react by moving away. These deer were not under severe winter stress and were accustomed to snowmobiles. Elk, moose, wolf, etc. are more sensitive to noise.

Vegetative Concerns

Designated snowmobile routes are on unplowed roadways; however, regulation compliance problems have occurred. The 1974/75 season ranger patrols reported 32 violations where vegetation was damaged. Occasional users will leave the designated route and traverse on the road banks, enter meadows, cross lakes or just take off across country. Sections of routes on the east side of the park are often blown bare which tends to entice snowmobilers to go onto vegetated areas to get around bare areas, where damage occurs.

Scientific knowledge on the effects of snowmobiles on vegetation is limited; especially natural forest vegetation. It is well-known, of course, that snowmobiles damage the tops of small trees and shrubs that are not covered with deep snow. Studies on non-forest vegetation have shown reduced yields from snowmobile compaction. (Foresman, Ryerson 1973). Temperatures are reduced as much as 12° under compacted snow resulting in vegetative mortality and delayed flowering, especially in perennials. Snowmobiles do this by changing the snow itself. Snow is filled with air pockets which insulate, like the airspace in goose down. These trap heat which radiates from the earth, keeping sub-snow temperatures near or above freezing. (Wanek, 1971, 1972).

Flora and fauna are of greatest cultural value in national parks if they reflect variables operating under pristine conditions.

Solid Wastes

As with all visitor use, litter is always a potential problem which can result from snowmobilers using the park. Prevention is a matter of educating snowmobile users and enforcement of litter regulations.

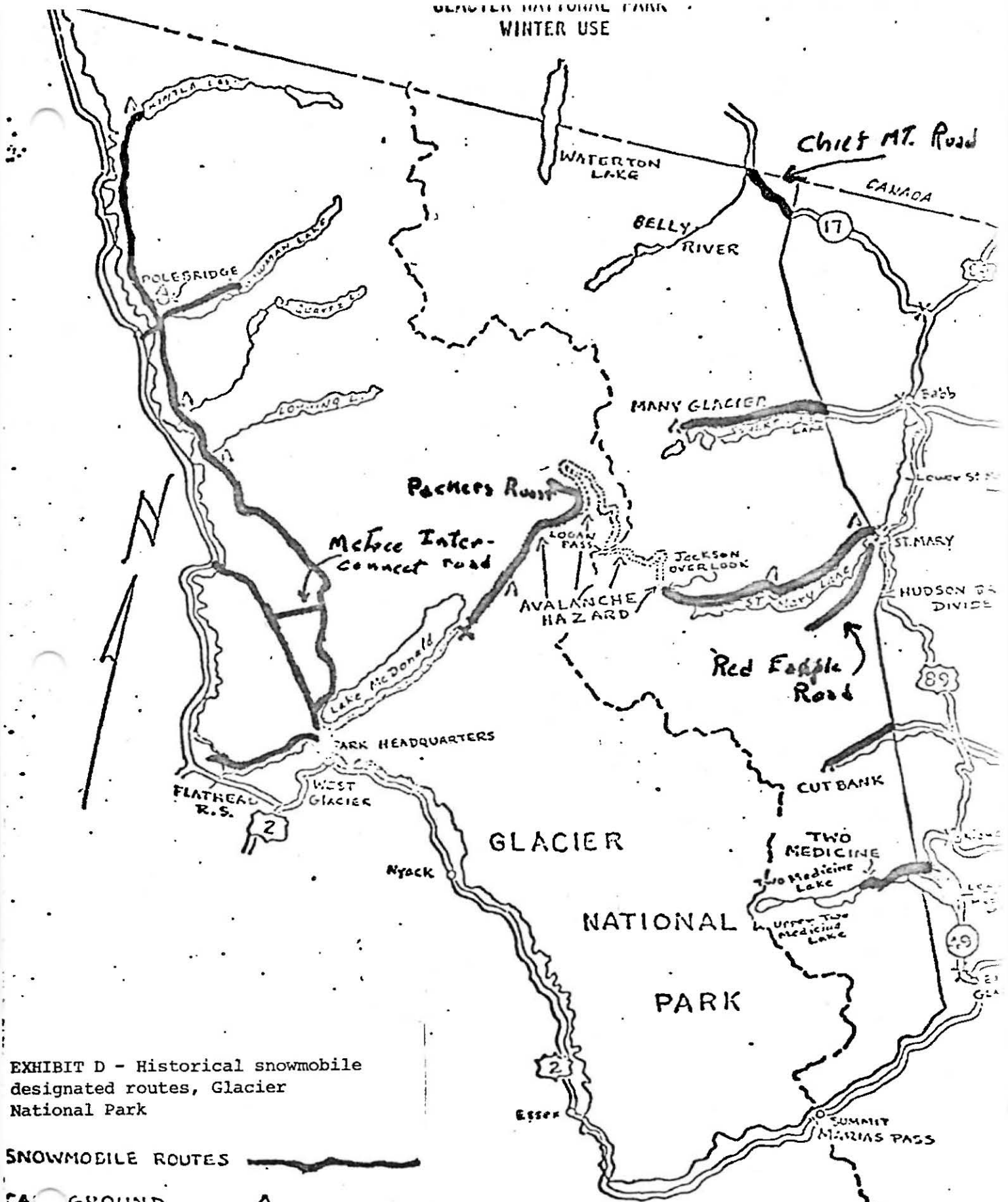


EXHIBIT D - Historical snowmobile designated routes, Glacier National Park

SNOWMOBILE ROUTES

CA GROUND

ROAD PLOWED ONLY TO-X

PLOWED FOR PUBLIC TRAVEL

Snowmobile routes used from 1964 through spring of 1973

Exhibit D.

Glacier National Park
West Glacier, Montana

Areas Open To Snowmobile Use - X
Winter Seasons

Area	Year '68 - 69	Year '69 - 70	Year '70 - 71	Year '71 - 72	Year '72 - 73	Year '73 - 74	Year '74 - 75
Red Eagle Road	X	X	X	X	X		
Chief Mountain Road	X	X	X	X	X		
Many Glacier Road	X	X	X	X	X	X	X
St. Mary - Jackson Glacier Overlook	X	X	X	X	X		
Cut Bank Road	X	X	X	X	X		
Excluding campground area Two Medicine Road	X	X	X	X	X	X	X
Flathead River Ranger Station	X	X	X	X	X		
North Fork Road	X	X	X	X	X	X	X
Camas Creek Road	X	X	X	X	X	X	X
McGee Meadow Road	X	X	X	X	X	X	X
Apgar Campground	X	X	X				

Aesthetics

Snowmobilers enjoy the aesthetics of the park while covered with snow. To some other visitors the tracks of snowmobiles in the snow will detract from the overall aesthetics of the area traversed. Generally, ski and snowshoe tracks don't seem to bother snowmobilers.

Air

Snowmobiles use an internal combustion motor which operates primarily on gasoline. This results in the release of hydrocarbon gases in the atmosphere. The smell of these gases linger on a cold, quiet day and may be offensive to skiers and snowshoers and foreign scents tend to excite wildlife.

5. Non-environmental Benefits and Impacts

Outdoor Recreation

Snowmobiles make it possible for people to enjoy the winter scenery of the park with very little physical effort. The old, very young and in some cases, those with physical handicaps, are able to see the park along the routes who may not normally be able to participate in the more rigorous crosscountry trips using skis or snowshoes. Thus, a certain segment of the population is afforded the opportunity to visit the park in the winter months by using the snowmobile. This type of activity, however, does conflict in varying degrees with other park users such as skiers and snowshoers.

Safety

Safety is an individual matter by persons using snowmobiles. As in the case with any type of motor-driven equipment, there are safety hazards which confront the users of snowmobiles and persons using skis and other similar equipment. Considerable caution and courtesy must be exercised to prevent accidents and injuries. There have been a total of four injuries and one death resulting from the use of snowmobiles in the park. One of the injured suffered a broken leg. The other three were of a minor nature.

Maintenance of the roads

Snowmobile use does result in compaction of the snow. This can at times result in some major problems in the case of the snowplows opening the roads in the spring. The amount of compaction under present usage is of little consequence. However, a great increase in usage could make spring opening much more expensive and can damage the road surfacing. Presently, no resulting damage to the road surface has been determined from the use of snowmobiles provided the roads are snowcovered. If greatly increased usage of snowmobiles develops, maintenance of the snowmobile trails is required to remove the roller-coaster surface.

Restrictions and Regulations Relating to Proposals A and C

Snowmobiling is currently a recreational activity only in certain areas of Glacier National Park as designated in Alternate Proposal A, Exhibit E, page 17. In order to provide for the safety of the snowmobiling park visitor, and to protect park values and to conserve, as much as possible, the wilderness atmosphere of the national parks, special restrictions and regulations will be imposed for Alternate Proposals A and C. Alternate Proposal C routes are designated in Exhibit F, page 22. Alternate Proposal B eliminates snowmobiling within Glacier National Park.

The unplowed roadway designation includes the surface, shoulder, and ditch, but not the banks.

All snowmobiles being used in the park must have mufflers, taillights, and headlights. Lights must be on when visibility is less than 500 feet. It is recommended that users carry spare parts and tools. Racing of snowmobiles or the carrying of firearms is prohibited. For additional information please see Appendix A for details. Snowmobiles may be used when sufficient snow is on the roadways beginning in the fall and extending into the spring of each year. The park will be closed to snowmobiling as the roadways become free of snow in Alternate Proposals A and C.

Snowmobile users are required to fill out a card permit available at park entrances on designated routes and must have this card permit in their possession while traveling on a snowmobile in the park. See Exhibit G, page 23.

6. Mitigating Measures

To reduce adverse effects on wildlife from Proposals A or C, there are controls which could be imposed to lessen the adverse effects. Certain areas of known concentrations of large animals such as elk and deer could be closed to snowmobiles during such stress periods. Some routes have already been eliminated in recent years. More studies should be conducted to determine the effects of stress on animals due to snowmobile and other winter use. The results of the studies could be the basis for further restrictions of Proposals A and C, should either be adopted, to protect the wintering mammals in the park.

A pamphlet could be distributed explaining adverse impacts of off-road snowmobiling, safety, etc.

The Two Medicine Campground area of Alternative Proposals A and C has been excluded because the unplowed campground road system is indiscernible under snow-cover and the area is prone to severe avalanches. Snowmobilers could negotiate with rangers to drive into the first few sites in Loop A for over-night camping.

7. Any Adverse Effects Which Cannot Be Avoided Should Proposals A or C Be Implemented

Refer to page 9 , section 4, Environmental Impacts of Snowmobile Use on Wildlife in Glacier National Park.

Refer to page 11, section 4, Vegetative Concerns.

Some damage to vegetation will occur from off-trail use, because there presently is not enough manpower to control all violations.

8. Relationship Between Local Short-term Use of Man's Environment and the Maintenance and Enhancement of Long-term Productivity

Snowmobiling on the designated routes included under Proposal A and C could result in excessive cumulative short-term undesirable effects on wildlife based on present scientific knowledge. The short-term effect will be the improvement of visitor access to a certain segment of the public to visit and enjoy the portions of the park while snow-covered. Short-term use will involve scenic snowmobiling, photography and nature study. The short-term aesthetic character of the route areas will be the unnatural noise, tracks, and exhaust gases and increased visitor use impact on wildlife and vegetation as noted in section 4, pages 9, and 11.

9. Irreversible and Irretrievable Commitments of Resources which would be Involved in Proposals A and C should either be Implemented

Visitor use for the most part will be nonconsumptive since there will be no extraction of resources through the use of the designated routes over snow-covered, unplowed roadways.

In this day and age, space for solitude and quiet can be considered a valuable resource and in this context snowmobile activities are somewhat consumptive of this space.

Education of users and the regulation of the use of snowmobiles will help to eliminate some irreversible commitments of the resources, and rigid enforcement patrols would reduce and possibly eliminate the occasional violation of snowmobile operators. Ranger patrol reports during the 1974-75 winter indicate this has not been successful and vegetative damage has occurred off unplowed roads.

The impact of the snowmobiles in areas of wintering wildlife in Glacier is not fully known at this time. Undue stress on the wintering animals as indicated by studies conducted in other areas is disquieting and indicates the management of Glacier National Park should consider Proposal B to avoid irreversible commitments of the wildlife resources in the future.

Adoption of proposal A or C may establish a precedent of recreational use which may preclude establishing in the future a place for quiet, and solitude which presently is the normal status of Glacier National Park in winter. Areas of solitude are becoming increasingly rare and more important to the welfare of modern society.

Alternative Proposals

Alternative A

Designated the Two Medicine Road, excluding the campground area; Many Glacier Road, North Fork Road, Camas Road, and interconnecting road in McGee Meadows, between Camas and North Fork Roads, for snowmobile routes. Snowmobiles will be restricted to these designated routes as shown on Exhibit E with a permit required on each trip. (See Exhibit G). These are the routes that were designated during the 1974/75 season.

Permits may be obtained at self-registers at the West Entrance, Polebridge Ranger Station, Two Medicine Entrance and Sherburne Entrance Stations. See section 4, page 9, Environmental Impacts of Snowmobile Use within Glacier National Park.

Alternative B

1. Proposed Action

Eliminate all public use of snowmobiles in the park, by not designating any snowmobile routes.

2. Environmental Impacts

There would be reduced environmental impact within the park if public snowmobiling were eliminated. For those persons who do enjoy snowmobiling, they would then be deprived of this opportunity to visit the park. Snowmobile users would be forced to use the adjoining lands outside the park, thus use of the U.S. Forest Service and other lands outside would probably increase. The present level of 528 snowmobile days for the entire park should not have much impact on adjacent areas under Alternative B.

3. Mitigating Measures

No measures would have to be taken since public snowmobiling would not be allowed in the park. One mitigating fact to be noted is the ample opportunity for snowmobilers to enjoy this activity in surrounding areas outside Glacier National Park.

4. Unavoidable Adverse Impacts

There would be reduced adverse impact on resources in the park. Previous park snowmobile use would probably be shifted to areas outside the park which may result in some adverse impact on adjacent areas.

5. Relationship between Local Short-term Use of Man's Environment and the Maintenance and Enhancement of Long-term Productivity

As no public snowmobile use is permitted under this alternative, it will mean that visitor access to the park will be limited to skis, snowshoes and other similar devices during winter months. The present and long-term aesthetic character of the previous snowmobile areas will be improved. There will be no short-term losses of the environment.

6. Irreversible and Irretrievable Commitments of Resources which would be Involved in Proposal B

There would not be any irreversible and irretrievable commitments of the resources in this proposal. Refer to page 9, section 4, Environmental Impacts of Snowmobile Use within Glacier National Park.

Alternative C

Designate Two Medicine Road, excluding the campground area, Camas Road, and the North Fork Road from the vicinity of McDonald Creek Bridge at Apgar to the interconnect road to the Camas Road via McGee Meadows. (See Exhibit F). Snowmobiles will be restricted to these designated routes as shown on Exhibit F, with a permit required on each trip. (See Exhibit G). These permits may be obtained at self-registers at the West Entrance and Two Medicine Entrance.

See also section 4, page 9, Environmental Impacts of Snowmobile Use within Glacier National Park. Note especially the Rocky Mountain sheep wintering area, wind blown roads and lack of past use of the Many Glacier route.

Consultation and Coordination

Notices were circulated through the local news media last fall regarding public meetings to be held on snowmobile use in Glacier National Park. Eighty-seven people attended the meeting held at West Glacier, November 12, and over 50 attended the meeting held in Cut Bank, November 14, 1974.

Comments at the hearings related to impacts on park wildlife, vegetative damage, noise and aesthetics.

Those in favor of continuing snowmobile routes in the park referred to the recreational value of snowmobiling and many club members offered to assist rangers in enforcing regulations to avoid environmental damage. Several pointed out that they thought parks were for everyone and that snowmobilers should not be discriminated against.

Four petitions, totalling 521 names, were received favoring snowmobiling in the park. Eleven petitions, totalling 819 names, were received against any snowmobiling in the park.

Twenty-two individual letters were received favoring snowmobiling in the park.

Those favoring snowmobiling expressed their enjoyment from trips into the park. Several stated they would assist Park Rangers in policing snowmobilers who did not abide by park regulations. Several also commented that they had observed wildlife from snowmobiles and that most wildlife did not appear to be affected by the passing of the machines. Several also stated that parks were for everyone and snowmobilers should not be discriminated against.

There were 439 individual letters that were received stating they were opposed to any snowmobiling in Glacier National Park. An analysis of comments made in these letters, other than just "being against" snowmobiling in Glacier is as follows:

Wildlife Impact	121
Vegetation damage	38
Noise concern related to the peaceful tranquility of Glacier in winter	125
Snowmobile tracks in wilderness	21
Aesthetics in general	51
Skier/Snowmobile Conflicts	65
Air Pollution	28
Over-consumptive life-style (energy)	6
Environmental damage in general	31

The President of the Montana Snowmobile Association represented this organization in favoring snowmobile routes in Glacier National Park.

The President of the Noxon Snowcatters represented this organization in favoring snowmobile routes in the Park.

The Flathead Wildlife Association stated they were against snowmobiling in the park.

The three organizations above did not list members or specify number of members in the organizations.

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9. Minutes of public meetings held at West Glacier, November 12, 1974 and Cut Bank, November 14, 1974.

GLACIER NATIONAL PARK WINTER USE

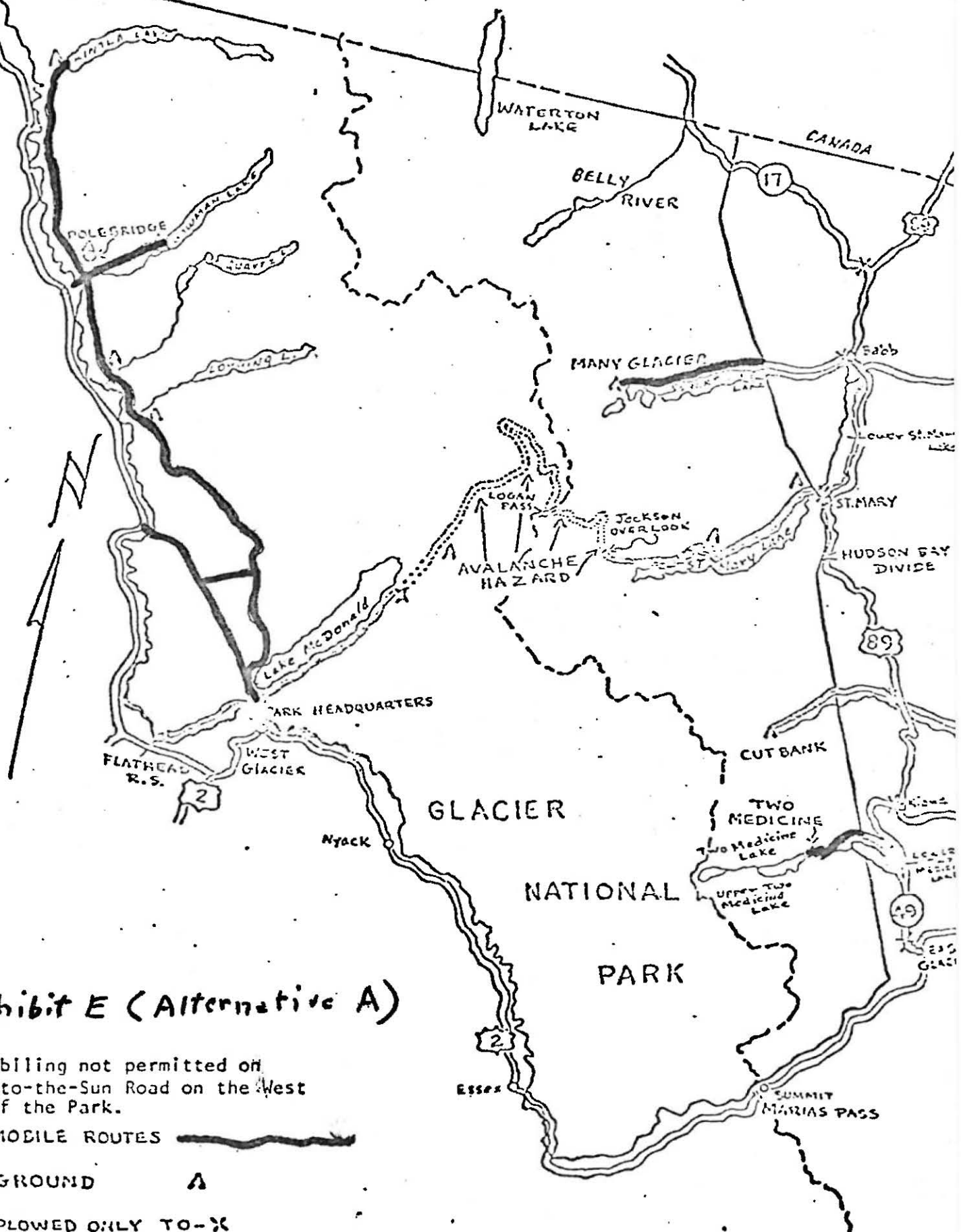


Exhibit E (Alternative A)

NOTE:

Snowmobiling not permitted on
Going-to-the-Sun Road on the West
side of the Park.

SNOWMOBILE ROUTES



GROUND



ROAD PLOWED ONLY TO-X

LOWED FOR PUBLIC TRAVEL

GLACIER NATIONAL PARK WINTER USE

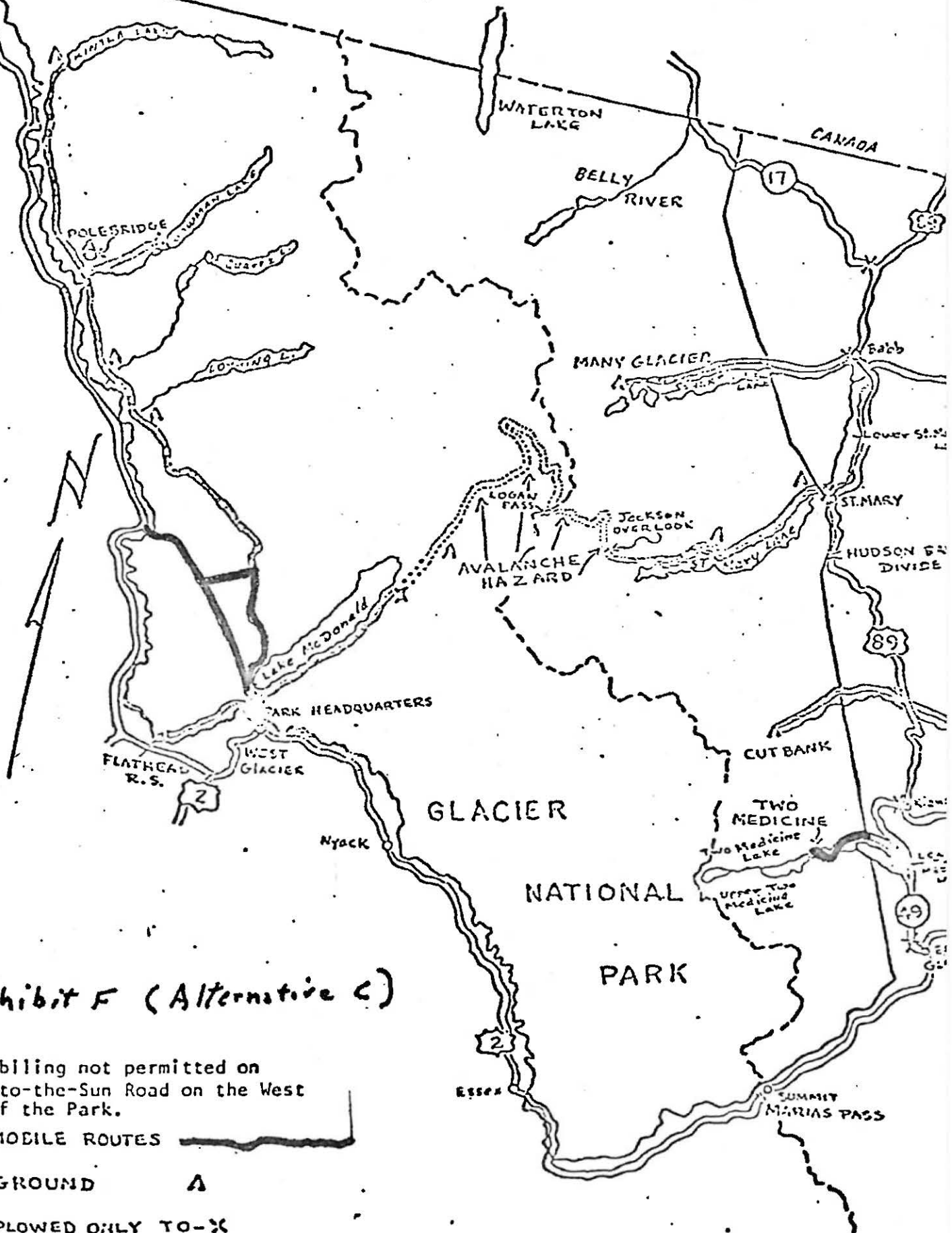


Exhibit F (Alternative C)

NOTE:

Snowmobiling not permitted on
Going-to-the-Sun Road on the West
Side of the Park.

SNOWMOBILE ROUTES

CA. (CAMP) GROUND

ROAD PLOWED ONLY TO-X

LOWED FOR PUBLIC TRAVEL

GLACIER NATIONAL PARK

Snowmobile Permit

Date _____ 19____

Name _____

Address _____

See other side for important information

CARRY THIS PART WITH YOU WHILE IN THE
PARK. DEPOSIT IT IN THE BOX BEFORE
LEAVING THE PARK.

Good for 1 trip only

GLACIER NATIONAL PARK

Record of Snowmobile Use

Date _____ 19____

Make of Machine _____ No. using
this machine _____

Automobile or Truck License No. _____

Carrier vehicle will be parked at: _____

Destination and route _____

Expected time of return _____

Your name _____

Address _____

Leave this part in box

(front)

Please Remember:

COMMENTS

1. Snowmobile use is permitted on designated routes only. Trails, lakes and meadows are NOT open to snowmobile use.
2. Mufflers must be installed and utilized at all times.
3. A white headlight and a red taillight must be lighted at night, or when visibility is less than 500 feet.
4. An operator under the age of 16 years must be directly supervised by a person at least 21 years of age.
5. Racing is prohibited.
6. Fires are permitted only at camping sites.
7. Possession of firearms is prohibited.
8. Report all accidents to a Park Ranger.
9. Carry out all trash and litter.
10. Carry spare parts and tools.

(back)

THINGS TO KNOW

1. Federal regulations, in addition to State laws, govern snowmobile use in Glacier National Park. Section 2.34, Title 36, Code of Federal Regulations states:

- a. Definition. The term "snowmobile" shall include any device propelled by a motor that is designed for oversnow travel.
- b. Registration. By the posting of appropriate signs or notices, the Superintendent may require registration prior to the operation of a snowmobile. The posting shall state how and where to register and may include a requirement that the registrant shall sign out upon trip completion.
- c. Use in designated areas. Snowmobile use is permitted only in snowmobile areas and on snowmobile routes designated by the Superintendent. A map or description of the designated areas and routes will be available in the Superintendent's office.
- d. Vehicle suitability. (1) A snowmobile shall at all times be equipped with a muffler in good working order to prevent excessive or unusual noise and annoying smoke. No person shall use a muffler cut-out, bypass, or similar device upon a snowmobile. (2) A snowmobile shall be equipped with a forward-facing white headlight and a red taillight. These lights must be lighted, during its operation from a half hour after sunset to a half hour before sunrise and at any other time when persons and vehicles are not clearly discernible for a distance of 500 feet. (3) A snowmobile that is a snowplane shall be equipped with an adequate propeller guard.
- e. Prohibited operations. (1) No person under the age of 16 shall operate a snowmobile unless under the direct supervision of a person 21 years of age or older who may not supervise the snowmobile use of more than one person under 16 years of age at any one time. (2) Racing and other competitive uses are prohibited.
- f. Alcoholic beverages, reckless driving, collision or upset, registration. Sections 4.6, 4.14, 4.15, and 4.20, of this chapter shall apply to snowmobiles and are incorporated by reference into this section.
- g. Speed. (1) The maximum speed limit is 45 m.p.h. subject to further limitation as required under § 4.14 of this chapter, unless changed by special regulations or posting in an individual park area.
- h. Right-of-way. The operator of a snowmobile shall slow his vehicle to a reasonable and prudent speed and shall yield the right-of-way, when overtaking or traveling near any person who is not within a snowmobile.

2. Each person or group operating snowmobiles in Glacier National Park must register prior to each trip.
3. All snowmobiles must remain on designated routes (see map). Off road travel is not permitted. In the interest of public safety, snowmobiles are excluded from regularly plowed roadways.
4. Fires are permitted only at camping sites. Overnight camping is permitted only in established campgrounds and at other designated campsites, for which the regular Camping Permit is not required.
5. Possession of firearms is prohibited.
6. The hunting, killing, wounding, frightening, capturing, or the feeding, touching, molesting, teasing, or intentionally disturbing any wildlife is prohibited.
7. Dogs and other domestic animals are not permitted without special authorization.
8. Dog teams will be confined to the same route of travel as snowmobiles.
9. All accidents to persons or property must be reported to a Park Ranger.
10. Public use of oversnow equipment will not be permitted in the vicinity of Government and privately owned buildings along the shore of Lake McDonald.
11. All trash and refuse must be removed from the area.
12. So that you will have a safe, enjoyable trip, we make the following recommendations.
13.
 - a. Never travel alone. Try to take a minimum of three persons and two machines.
 - b. Know your machine. Keep it well-maintained and carry spare parts and tools with you.
 - c. Be prepared for emergencies. Carry a first aid kit, axe, matches, extra fuel and rations. Each party should take snowshoes or skis.
14. All snowmobiles must bear valid registration sticker.

Title 36—Parks, Forests, and Memorials

Chapter I—National Park Service, Dept. Interior

§ 2.34

§ 2.34 Snowmobiles.

(a) *Definition.* The term "snowmobile" shall include any device propelled by a motor that is designed for oversnow travel.

(b) *Registration.* By the posting of appropriate signs or notices, the Superintendent may require registration prior to the operation of a snowmobile. The posting shall state how and where to register and may include a requirement that the registrant shall sign out upon trip completion.

(c) *Use in designated areas.* (1) The use of snowmobiles is prohibited, except in areas and on routes designated by the Superintendent by posting of appropriate signs or by marking on a map which shall be available at the office of the Superintendent, or both. In determining whether to designate an area or route for snowmobile use the Superintendent shall be guided by the criteria contained in sections 3 and 4 of E.O. 11644 (37 FR 2877), and shall also consider factors such as other visitor uses, safety, wildlife management, noise, erosion, geography, weather, vegetation, resource protection, and other management considerations. Prior to making a final decision to designate an area or route for such use, notice of such intention shall be published in the Federal Register and the public shall be provided a period of 30 days to comment on the proposed designation.

(2) Even though an area or route has been designated as open for snowmobile use in accordance with paragraph (c) (1) of this section the Superintendent may temporarily or permanently close or restrict the use of the areas and routes designated for use of snowmobiles by the posting of appropriate signs or by marking on a map which shall be available at the office of the Superintendent, or both. In determining whether to close or restrict the use of areas and routes under this paragraph, the Superintendent shall be guided by the criteria contained in sections 3 and 4 of E.O. 11644 (37 FR 2877), and shall also consider factors such as other visitor uses, safety, wildlife management, noise, erosion, geography, weather, vegetation, resource protection, and other management considerations. Prior to making a final decision on permanent closure of an area or route, notice of such intention shall be published in the Federal Register and the public shall be provided a period of 30 days to comment.

(d) *Vehicle suitability.* (1) Every snowmobile shall be equipped with a muffler in good working order any time the snowmobile is operating. Operating a snowmobile equipped with a muffler cutout, bypass, or similar device is prohibited.

(2) A snowmobile shall be equipped with a forward-facing white headlight and a red taillight. These lights must be lighted, during its operation from a half hour after sunset to a half hour before sunrise and at any other time when persons and vehicles are not clearly discernible for a distance of 500 feet.

(3) A snowmobile that is a snowplane shall be equipped with an adequate propeller guard.

(e) *Prohibited operations.* (1) No person under the age of 16 shall operate a snowmobile unless under the direct supervision of a person 21 years of age or older who may not supervise the snow-

mobile use of more than one person under 16 years of age at any one time.

(2) Racing and other competitive uses are prohibited.

(f) *Alcoholic beverages, reckless driving, collision or upset, registration.* Sections 4.6, 4.14, 4.15, and 4.20, of this chapter shall apply to snowmobiles and are incorporated by reference into this section.

(g) *Speed.* (1) The maximum speed limit is 45 m.p.h. subject to further limitation as required under § 4.14 of this chapter, unless changed by special regulations or posting in an individual park area.

(h) *Right-of-way.* The operator of a snowmobile shall slow his vehicle to a reasonable and prudent speed and shall yield the right-of-way, when overtaking or traveling near any person who is not within a snowmobile.

[35 FR. 11553, July 18, 1970, as amended at 36 FR. 685, Jan. 16, 1971]

EXECUTIVE ORDER 11644

Use of Off-Road Vehicles on the Public Lands

An estimated 5 million off-road recreational vehicles—motorcycles, minibikes, trail bikes, snowmobiles, dune-buggies, all-terrain vehicles, and others—are in use in the United States today, and their popularity continues to increase rapidly. The widespread use of such vehicles on the public lands—often for legitimate purposes but also in frequent conflict with wise land and resource management practices, environmental values, and other types of recreational activity—has demonstrated the need for a unified Federal policy toward the use of such vehicles on the public lands.

NOW, THEREFORE, by virtue of the authority vested in me as President of the United States by the Constitution of the United States and in furtherance of the purpose and policy of the National Environmental Policy Act of 1969 (42 U.S.C. 4321), it is hereby ordered as follows:

SECTION 1. Purpose. It is the purpose of this order to establish policies and provide for procedures that will ensure that the use of off-road vehicles on public lands will be controlled and directed so as to protect the resources of those lands, to promote the safety of all users of those lands, and to minimize conflicts among the various uses of those lands.

SEC. 2. *Definitions.* As used in this order, the term:

(1) "public lands" means (A) all lands under the custody and control of the Secretary of the Interior and the Secretary of Agriculture, except Indian lands, (B) lands under the custody and control of the Tennessee Valley Authority that are situated in western Kentucky and Tennessee and are designated as "Land Between the Lakes," and (C) lands under the custody and control of the Secretary of Defense;

(2) "respective agency head" means the Secretary of the Interior, the Secretary of Defense, the Secretary of Agriculture, and the Board of Directors of the Tennessee Valley Authority, with respect to public lands under the custody and control of each;

(3) "off-road vehicle" means any motorized vehicle designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swampland, or other natural terrain; except that such term excludes (A) any registered motorboat, (B) any military, fire, emergency, or law enforcement vehicle when used for emergency purposes, and (C) any vehicle whose use is expressly authorized by the respective agency head under a permit, lease, license, or contract; and

(4) "official use" means use by an employee, agent, or designated representative of the Federal Government or one of its contractors in the course of his employment, agency, or representation.

SEC. 3. Zones of Use. (a) Each respective agency head shall develop and issue regulations and administrative instructions within six months of the date of this order, to provide for administrative designation of the specific areas and trails on public lands on which the use of off-road vehicles may be permitted, and areas in which the use of off-road vehicles may not be permitted, and set a date by which such designation of all public lands shall be completed. Those regulations shall direct that the designation of such areas and trails will be based upon the protection of the resources of the public lands, promotion of the safety of all users of those lands, and minimization of conflicts among the various uses of those lands. The regulations shall further require that the designation of such areas and trails shall be in accordance with the following—

(1) Areas and trails shall be located to minimize damage to soil, watershed, vegetation, or other resources of the public lands.

(2) Areas and trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats.

(3) Areas and trails shall be located to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors.

(4) Areas and trails shall not be located in officially designated Wilderness Areas or Primitive Areas. Areas and trails shall be located in areas of the National Park system, Natural Areas, or National Wildlife Refuges and Game Ranges only if the respective agency head determines that off-road vehicle use in such locations will not adversely affect their natural, aesthetic, or scenic values.

(b) The respective agency head shall ensure adequate opportunity for public participation in the promulgation of such regulations and in the designation of areas and trails under this section.

(c) The limitations on off-road vehicle use imposed under this section shall not apply to official use.

SEC. 4. *Operating Conditions.* Each respective agency head shall develop and publish, within one year of the date of this order, regulations prescribing operating conditions for off-road vehicles on the public lands. These regulations shall be directed at protecting resource values, preserving public health, safety, and welfare, and minimizing use conflicts.

SEC. 5. *Public Information.* The respective agency head shall ensure that areas and trails where off-road vehicle use is permitted are well marked and shall provide for the publication and distribution of information, including maps, describing such areas and trails and explaining the conditions on vehicle use. He shall seek cooperation of relevant State agencies in the dissemination of this information.

SEC. 6. *Enforcement.* The respective agency head shall, where authorized by law, prescribe appropriate penalties for violation of regulations adopted pursuant to this order, and shall establish procedures for the enforcement of those regulations. To the extent permitted by law, he may enter into agreements with State or local governmental agencies for cooperative enforcement of laws and regulations relating to off-road vehicle use.

SEC. 7. *Consultation.* Before issuing the regulations or administrative instructions required by this order or designating areas or trails as required by this order and those regulations and administrative instructions, the Secretary of the Interior shall, as appropriate, consult with the Atomic Energy Commission.

SEC. 8. *Monitoring of Effects and Review.* (a) The respective agency head shall monitor the effects of the use of off-road vehicles on lands under their jurisdictions. On the basis of the information gathered, they shall from time to time amend or rescind designations of areas or other actions taken pursuant to this order as necessary to further the policy of this order.

(b) The Council on Environmental Quality shall maintain a continuing review of the implementation of this order.



THE WHITE HOUSE,
February 8, 1972.

(1) Areas and trails shall be located to minimize damage to soil, watershed, vegetation, or other resources of the public lands.

(2) Areas and trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats.

(3) Areas and trails shall be located to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors.

(4) Areas and trails shall not be located in officially designated Wilderness Areas or Primitive Areas. Areas and trails shall be located in areas of the National Park system, Natural Areas, or National Wildlife Refuges and Game Ranges only if the respective agency head determines that off-road vehicle use in such locations will not adversely affect their natural, aesthetic, or scenic values.

(b) The respective agency head shall ensure adequate opportunity for public participation in the promulgation of such regulations and in the designation of areas and trails under this section.

(c) The limitations on off-road vehicle use imposed under this section shall not apply to official use.

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THE WHITE HOUSE,
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