

By

Robert Delk 1/

### Introduction

Holbrook Snow Course is located within the Bob Marshall Wilderness on the Flathead National Forest in northwestern Montana. The course, measured three times a year with travel accomplished by "primitive" means, is the focal point of controversy concerning travel methods within Wilderness. The very existence of the snow course has created additional controversy. Management direction by the Forest Service, based on the 1964 Wilderness Act (PL88-577), resulted in traveling to the snow course by primitive means and an attempt to establish a new site at Big Prairie, 8 miles away. The plan is to abolish the Holbrook site after five years if the Big Prairie site can be substituted.

### The Study Area

The Bob Marshall has an inherent character which makes it unique among Wildernesses. Among the distinctive features is a variety of fish and wildlife, including grizzly bear, westslope cutthroat trout, timber wolf, osprey, bald eagle, and golden eagle, all of which are considered rare and endangered. Other wildlife species which add character are lynx, wolverine, cougar, fisher, mink, and bighorn sheep. Deer, elk, moose, mountain goat, black bear, and numerous other small animals also inhabit the area (U.S. Forest Service, 1971).

Geology and size add to the character of the Bob Marshall. The approximate 950,000 acre wilderness ranges in elevation from 4,000-foot valley floors to 9,000-foot high rocky mountain peaks. The Continental Divide bisects the Wilderness into two distinct habitat zones. Climate varies from moist, cool western slopes, to drier eastern slopes. Major tributary valleys are mostly broad and gentle. Surrounding divides are rugged, rocky mountain peaks characterized by huge limestone cliffs such as the Chinese Wall. Vegetation varies from scattered timber and open parks in the valley bottoms to heavily timbered slopes radiating into alpine areas. Large fires in the early 1900's resulted in extensive stands of lodgepole pine.

Approximately 625,000 acres of the Wilderness lie within the South Fork of the Flathead watershed. Hungry Horse Dam is located just above the mouth of the South Fork and forms Hungry Horse Reservoir. Holbrook Snow Course is located within the South Fork drainage, approximately 45 miles above the Reservoir.

Holbrook is a particularly important snow course for four reasons: (1) At an elevation of 4,530 feet, it is one of the few valley stations in the Flathead drainage basin; (2) location within the Wilderness keeps it free from outside disturbance such as road construction, logging, snow machines, etc.; (3) proximity to Hungry Horse Reservoir; (4) the snow course lies within a cloud-seeding project area. While cloud seeding was discontinued during the winter of 1971-72, there are possibilities that the project could be renewed, and it is important that the record at Holbrook remain unbroken in order to provide base data for the seeding project.

### Field Measurements

Measurements were begun at Holbrook by the Soil Conservation Service in February 1951. Travel to the area was by fixed wing aircraft and helicopter until 1969. A history of measurements is as follows: January - from 1952 to 1954, fixed wing aircraft landed and ground measurements were taken; 1955 to 1964, no measurements were made; 1965 to present, aerial observation only. February - 1951 to 1964, fixed wing aircraft landed and ground measurements were taken; 1965 to present, aerial observation only. March-April-May - 1951 to 1958, fixed wing aircraft landed and ground measurements were taken; 1959 to 1969, helicopter landed and ground measurements were taken; 1970 to present, travel by skis, snowshoes, or horse (Farnes, 1972).

1/ Hydrologist, Flathead National Forest, Kalispell, Montana

## The Wilderness Act

An Act "to establish a National Wilderness Preservation System for the permanent good of the whole people and for other purposes" was passed by the Congress of the United States on September 3, 1964. The Act has since been referred to as the "Wilderness Act". Section 2(a) of the Act identifies the objectives and the policy of the Act. The objective is "...to assure that an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas within the United States..." The policy set forth by Congress to meet this objective: "...it is hereby declared to be the policy of the Congress to secure for the American people of present and future generations the benefits of an enduring resource of wilderness..."

Management direction is established by Congress in Section 2(a) - Wildernesses: "...shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness..." Section 2 also stipulates that wilderness areas will be managed by the agency having jurisdiction over the area immediately preceding its inclusion into the National Wilderness Preservation System (U. S. Congress, 1964).

Section 2(c) defines the term Wilderness. "A Wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value."

Use of aircraft and other motorized equipment, "except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act" is prohibited under Section 4 of the Act. The above quote is usually referred to as the administration exception. There are also in Section 4, however, special provisions allowing aircraft and motorboat use. Interpretation of the special provisions has led to some disagreement concerning methods of travel to the snow course. For example, Section 4(c) clearly states that there shall be no use of motor vehicles, motorized equipment, or motorboats, no landing of aircraft, no other form of mechanical transport and no structure or installation within any such area. Section 4(d), however, lists special provisions whereby the use of aircraft or motorboats, where these uses have already become established, may be permitted to continue.

### Discussion

A Region Supplement to the Forest Service Manual identifies key language which guides administrative use of motorized and mechanical equipment in Wilderness areas. This key language is found in Section 4(c) of the Act and refers to no use of motorized equipment except as necessary to meet minimum requirements for the administration of the area for the purpose of the Act (including emergencies). The Regional management direction is that motorized equipment and mechanical transport will not normally be used in the Wilderness (U. S. Forest Service, 1970).

The administrative exception, introduced above, has caused considerable discussion. William A. Worf, Chief, Division of Recreation & Lands, Northern Region, U. S. Forest Service, discussed this topic in a talk presented to the Montana Wilderness Assoc. (Worf, 1970). Worf commented that "some administrators, miners, outfitters, livestock operators, water users, and others have wanted to read this exception as follows: 'except for the administration of the area'. It is very important, however, to recognize that Congress added some very significant and restrictive modifiers, and perhaps the most

significant of these were the words 'for the purposes of this Act.' These words alone rule out administrative use of nonconforming equipment or structures for water management, wildlife management, etc."

The draft copy of the Bob Marshall Wilderness Plan (U. S. Forest Service, 1971), identifies water as a resource within the Wilderness area. Management direction is to take necessary measures to prevent water pollution by human or recreation stock; curtail the cloud-seeding project designed to increase snowpack in any part of the Wilderness; control activities which would alter the natural quality of the water resource.

Management direction concerning aircraft landings is to allow no landings except for emergencies within the area. The U. S. Geological Survey has been permitted helicopter use until the mapping and mineral studies are completed. Generally, no other motorized equipment will be allowed within the Wilderness except for emergency use.

Administrative cabins and other existing permanent structures that are not necessary for administration of the area or of no historical value, will be considered for removal at some later time. The District Ranger, Condon Ranger District, would like to establish a new course at Big Prairie and phase out Holbrook. The rationale behind this decision is an attempt to consolidate all administrative activities at Big Prairie. This would allow the elimination of the Holbrook Cabin, which is not necessary to meet minimum administrative requirements for the purpose of the Act. It would also permit removal of snow-course markers at Holbrook.

The decision to travel to Holbrook on foot created administrative and logistic problems. The Soil Conservation Service did not have adequate funding or personnel to accomplish the task. In order to get the desired information, Forest Service personnel were made available and special funding was provided to the forest.

Results to Date

To date, there have been nine ski trips into Holbrook, which includes March, April and May of 1970, 1971 and 1972. The size of the party ranged from two to four men. Four of the trips utilized a helicopter for travel to the Wilderness boundary. Average duration per trip was approximately 8 days and cost approximately \$1300 including salary, subsistence in lieu of per diem, and helicopter. By comparison, cost of travel to the snow course by helicopter is approximately \$100 to \$200 per trip (Farnes, 1972).

Two snow courses were established at the Big Prairie site with measurements taken in 1971 and 1972. Results are presented in Table 1.

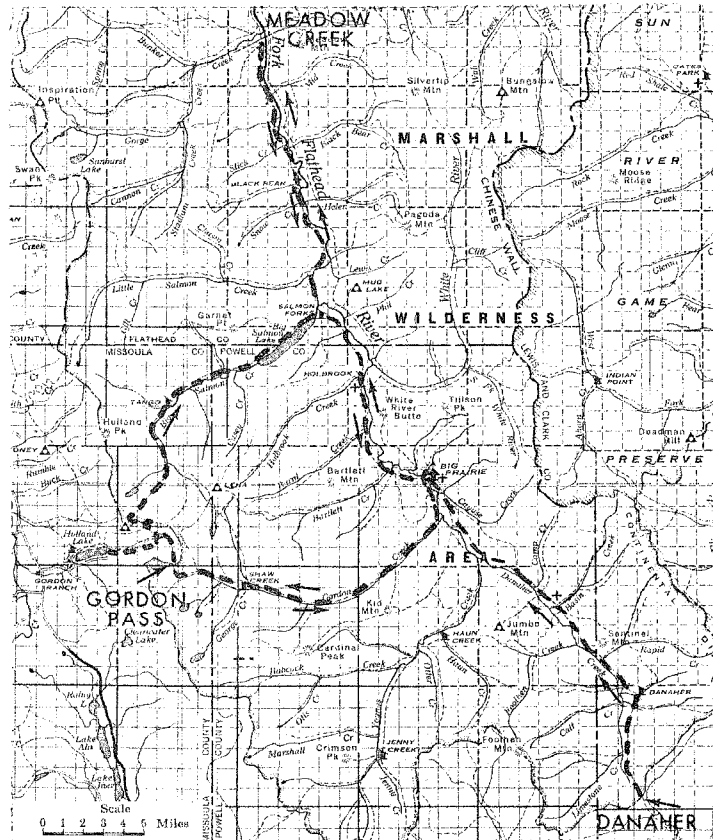
TABLE 1 - Snow depth and water content in inches for Holbrook and Big Prairie #1 and #2 for 1971 and 1972.

	<u>3/1/71</u>		<u>4/1/71</u>		<u>5/1/71</u>	
	<u>Depth</u>	<u>Water Content</u>	<u>Depth</u>	<u>Water Content</u>	<u>Depth</u>	<u>Water Content</u>
Holbrook	36	11.8	41	13.5	6	2.2
Big Prairie #1	20	6.0	24	7.1	0	0
Big Prairie #2	25	7.5	28	8.0	0	0
	<u>3/1/72</u>		<u>4/1/72</u>		<u>5/1/72</u>	
Holbrook	52	17.7	34	13.7	8.3	3.6
Big Prairie #1	31	8.0	17	6.4	0	0
Big Prairie #2	35	10.2	24	9.0	Trace	0

While data from two years cannot necessarily be considered conclusive, it does suggest that the sites chosen at Big Prairie may not represent values obtained at Holbrook. Collection of additional data is needed to determine if Big Prairie can be successfully substituted for Holbrook.

Figure 1 is a map of a portion of the South Fork drainage showing the routes used to travel to Holbrook. Four of the trips required at least one crossing of Gordon Pass. These routes have since been eliminated due to moderate-to-severe avalanche hazard conditions both east and west of the Pass. Other approaches to Holbrook have been from Danaher to the south and Meadow Creek at the north end of the Wilderness.

FIGURE 1 Travel Routes



In March 1971, a party left from the southern end of the Wilderness. This group proceeded down the South Fork to Holbrook, back up river to Gordon Creek and then over Gordon Pass to lower Holland Lake. Aside from the avalanche hazard at Gordon Pass, the group encountered minor avalanching between Danaher and Big Prairie. This route, which rates low when compared to access from the north, has logistical limitations.

Based on knowledge from the 1970 and 1971 season, travel to Holbrook in March and April 1972, was from the Meadow Creek entrance to the Wilderness. Under favorable conditions a party entering from the north (Meadow Creek) can be at Holbrook in two days and back to Meadow Creek in four days. Allowing for motorized travel to and from Meadow Creek, the trip can be accomplished in five to six days. If the party travels to Big Prairie for the two supplemental courses, at least two days must be added to the total.

#### Summary

In order to protect the Wilderness environment, virtually no motorized travel is permitted within Wilderness. This has created some administrative, logistical, and economic problems relating to Holbrook Snow Course. Since the snow course is not necessary to meet minimum requirements for the administration of the area for the purposes of the Act, motorized travel to the snow course is not permitted. Cost of measuring the snow course by primitive means is five to ten times that of air travel. Monetary cost alone, however, cannot be the single criteria used to evaluate the situation. In view of this, the best action is proper funding and planning to ensure that the snow course is regularly read and the 20-year record kept intact.

#### References

- Farnes, P. E. 1972; Personal communication, Montana State Snow Survey Supervisor, U. S. Soil Conservation Service, Bozeman, Montana
- U. S. Congress 1964; "Wilderness Act," Public Law 88-577 88th Congress, S. 4, Sept. 3, 1964
- U. S. Forest Service 1970; Forest Service Manual, Region One Supplement No. 35, Title 2326, Sept. 1970
- U. S. Forest Service 1971; Bob Marshall Wilderness Plan, Review Draft, Flathead and Lewis and Clark National Forests, July 22, 1971
- Worf, W. A. 1970; The relationship of Wilderness to designated back country, presented at 13th Annual Meeting, Montana Wilderness Assn., Butte, Montana, Jan. 9-11, 1970