

RECREATION USE AND USER PREFERENCES  
AT BIG MEADOW CREEK RECREATION AREA,  
UNIVERSITY OF IDAHO EXPERIMENTAL FOREST

A Thesis

Presented in Partial Fulfillment of the Requirement for the  
DEGREE OF MASTER OF SCIENCE  
Major in Wildland Recreation Management

in the  
UNIVERSITY OF IDAHO GRADUATE SCHOOL  
by

JAMES JACKSON ATKINS

April, 1976

This thesis of James Jackson Atkins for the degree of Master of Science with major in Wildland Recreation Management and titled "Recreation Use and User Preferences at Big Meadow Creek Recreation Area, University of Idaho Experimental Forest" was received in rough draft form by each committee member as they indicated by the signatures and dates given below and permission was granted to prepare the final copy incorporating suggestions of the committee; permission was also given to schedule the final examination upon submission of two final copies to the Graduate School Office:

Major Professor James R. Payne Date April 12, 1976  
 Committee Members John H. Schomaker Date April 12, 1976  
Don F. Adams Date April 12, 1976  
William H. Hughes Date April 12, 1976

## REVIEW OF FINAL DRAFT:

College Dean W. C. Moolenaar Date April 15, 1976

FINAL EXAMINATION: By majority of the candidate's Committee at the final examination held on date of May 4, 1976 Committee approval and acceptance was granted.

Major Professor James R. Payne Date May 4, 1976

## GRADUATE COUNCIL FINAL APPROVAL AND ACCEPTANCE:

Graduate School Dean E. H. Laska Date 5-12-76



## ACKNOWLEDGEMENT

The author is deeply indebted to Dr. Ervin G. Schuster, Assistant Professor, School of Forestry, University of Montana for his guidance and counsel in the development of this study.

He also wishes to express sincere appreciation to his committee for their time, patience and constructive criticism in the preparation of the thesis manuscript. Committee members were: Dr. James R. Fazio, Major Professor, and Assistant Professor of Wildland Recreation Management; Dr. John H. Schomaker, Assistant Professor of Wildland Recreation Management; Dr. David L. Adams, Professor of Forest Management; and William H. Snyder, Professor of Landscape Architecture.

Gratitude is extended to Franklin H. Pitkin, Professor of Forest Management, for his constructive comments in the development of a study methodology, as well as for financial support of this study.

Gratitude is also extended to Mr. James A. Davis, for the photographs that appear on pages 7 and 9 of this thesis.

Finally, Ms. Norene Blair deserves both special recognition and deepest appreciation for her unselfish contributions of encouragement, comments and advice throughout the lengthy and sometimes agonizing period of formalizing this study into a presentable thesis.

## ABSTRACT

Big Meadow Creek Recreation Area is a limited day-use public recreation area administered by the College of Forestry, Wildlife and Range Sciences of the University of Idaho, as part of the university experimental forest.

The area never received a formal management plan. Consequently, it received very little management input, beyond basic maintenance.

The purpose of this study was to provide estimates of present recreation use and user preferences for facilities, as a basis for future management decisions for the area. A stratified random sample of groups using the area during the study period extending from July 1, 1973 to June 30, 1974 formed the basis for the use and preference estimates.

Total estimated recreation use of Big Meadow Creek Recreation Area for the one-year study period was 14,628 visitor-hours. Over 90 percent of this use occurred in the intervals of July through September, and May and June. Approximately 80 percent of the use occurred on weekends. Use of the area was primarily day-use recreation, with activities being mainly picnicking, hiking, nature study, sports activities, and general leisure. Users were mostly families and organized groups from Pullman and Troy, Idaho. The area also received use for beer parties by college students from Moscow. This was confined to weekends in the spring and fall months.

User opinions on the quality and quantity of existing recreation facilities at Big Meadow Creek Recreation Area varied widely. By general consensus, both quality and quantity of drinking water at the site was considered inadequate. Certain other facilities, such as picnic tables and parking areas were considered adequate. Opinions on the quality and quantity of most facilities, however, were divided for different types of user groups.

User preferences for the inclusion of certain potential facilities at Big Meadow Creek Recreation Area also varied widely. Only the inclusion of piped water and overnight camping facilities at the area were favored by the majority of users sampled.



## CHAPTER I

### INTRODUCTION

#### Location and General Function

Big Meadow Creek Recreation Area covers 240 acres on the southern slopes of Moscow Mountain, approximately 3.6 miles northwest of the Village of Troy, in Latah County, Idaho. Administratively, it is part of the Big Meadow Creek Unit of the University of Idaho Experimental Forest.

The location of the area in relation to the experimental forest system and the Big Meadow Creek Unit is shown in Figures 1 and 2, respectively. The legal description of the area reads: Southeast Quarter of the Southwest Quarter ( $SE\frac{1}{4}, SW\frac{1}{4}$ ), Section 23; Northeast Quarter of the Northwest Quarter ( $NE\frac{1}{4}, NW\frac{1}{4}$ ), Section 26; and Northeast Quarter ( $NE\frac{1}{4}$ ), Section 26; all T40N, R4W, Latah County, Idaho, B.M.

The area serves three primary purposes. Originally developed as a recreation demonstration area, it currently receives only occasional use for such purpose. As part of the University of Idaho Experimental Forest, it provides a base for recreation research and instruction. Finally, it serves as a public day-use recreation area.

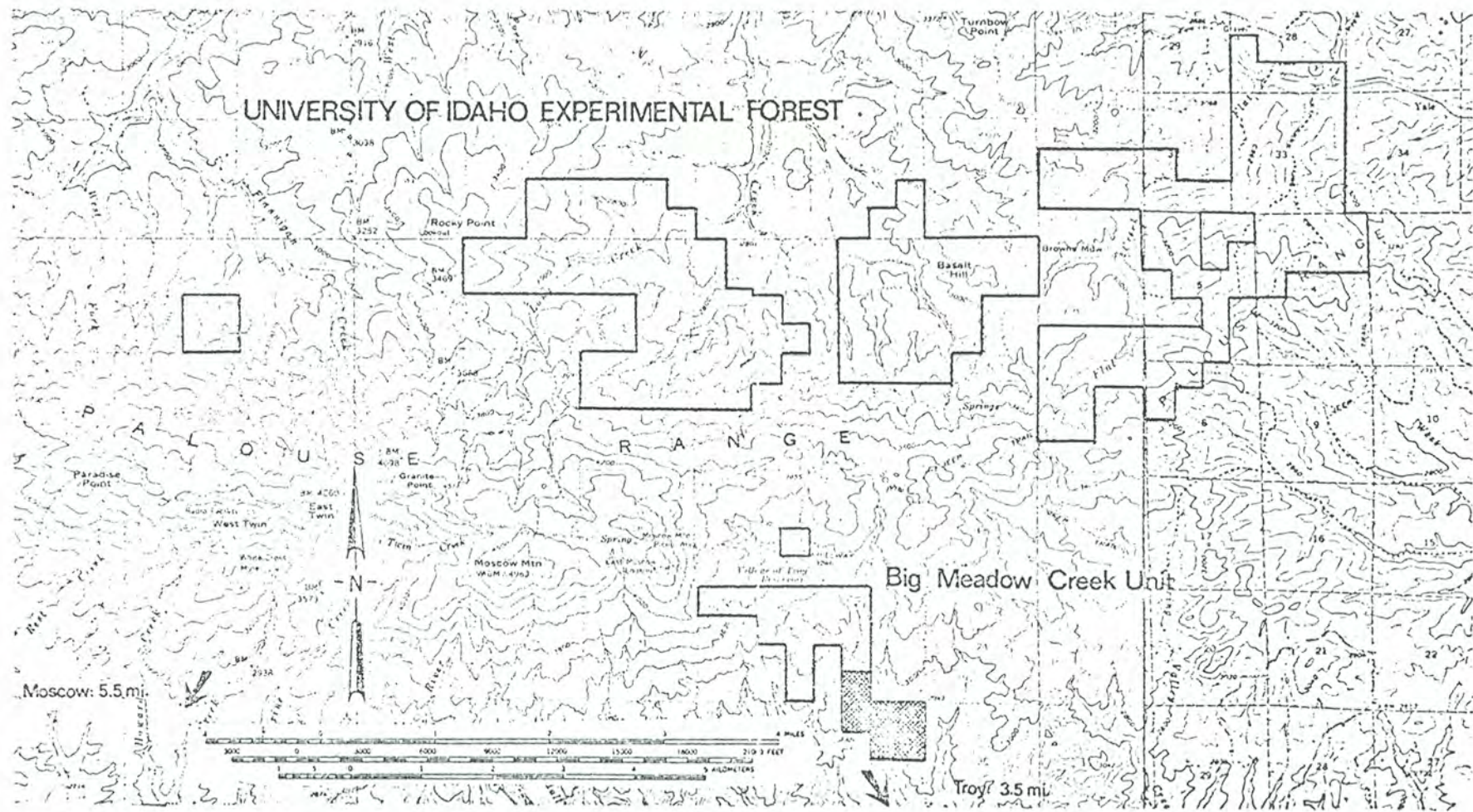
#### Physical Characteristics

Big Meadow Creek Recreation Area is situated on the lower southern slopes of Moscow Mountain, at elevations ranging from 2750 to 3100 feet (Figure 3).

The slopes and ridges form mature remnants of an eroded mass of granitic rock, distinguished as the Thatuna batholith, protruding above a plateau formed by basalt flows that later covered much of the region (34).



Figure 1. The University of Idaho Experimental Forest





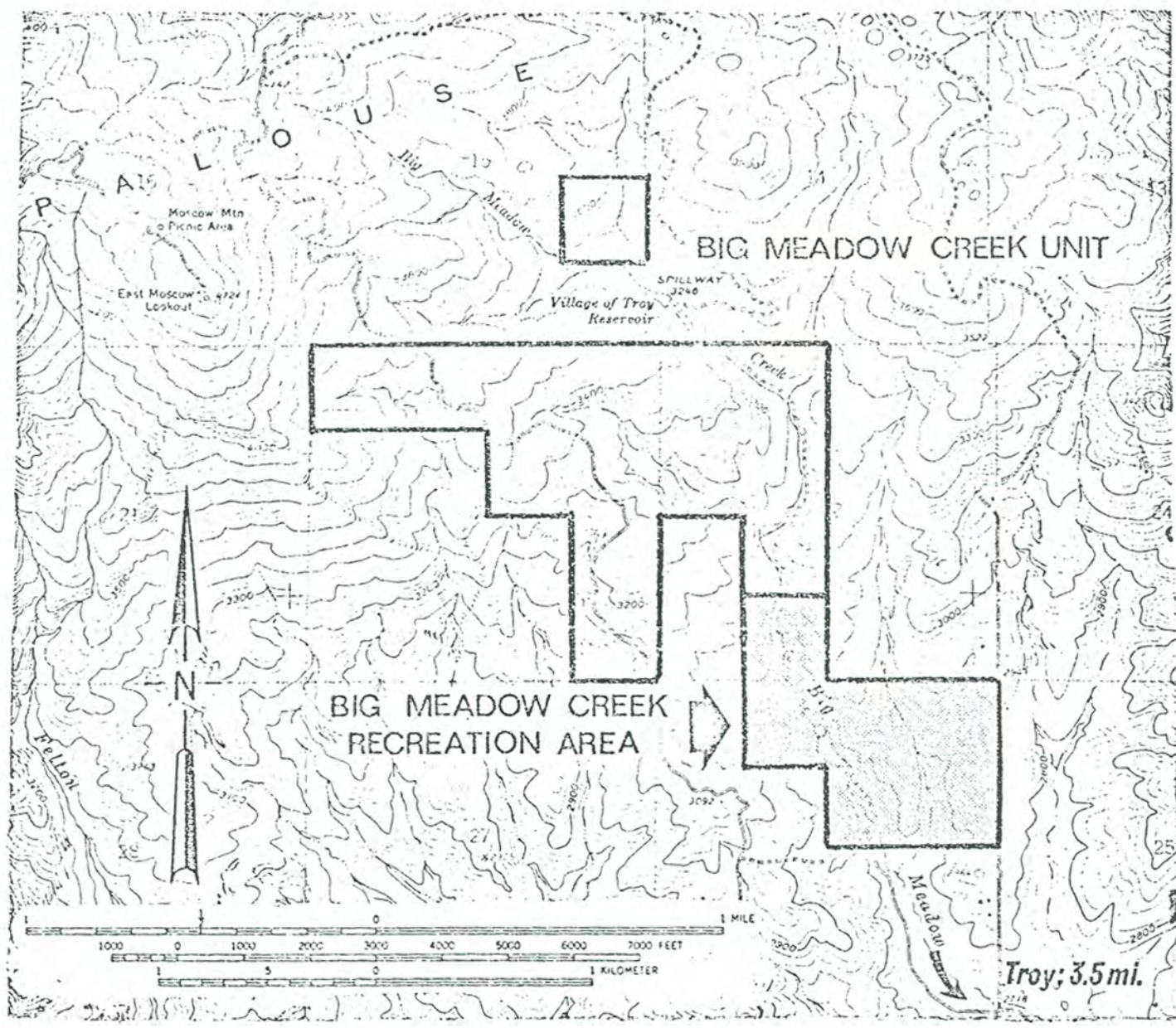


Figure 2. Big Meadow Creek Unit, University of Idaho Experimental Forest



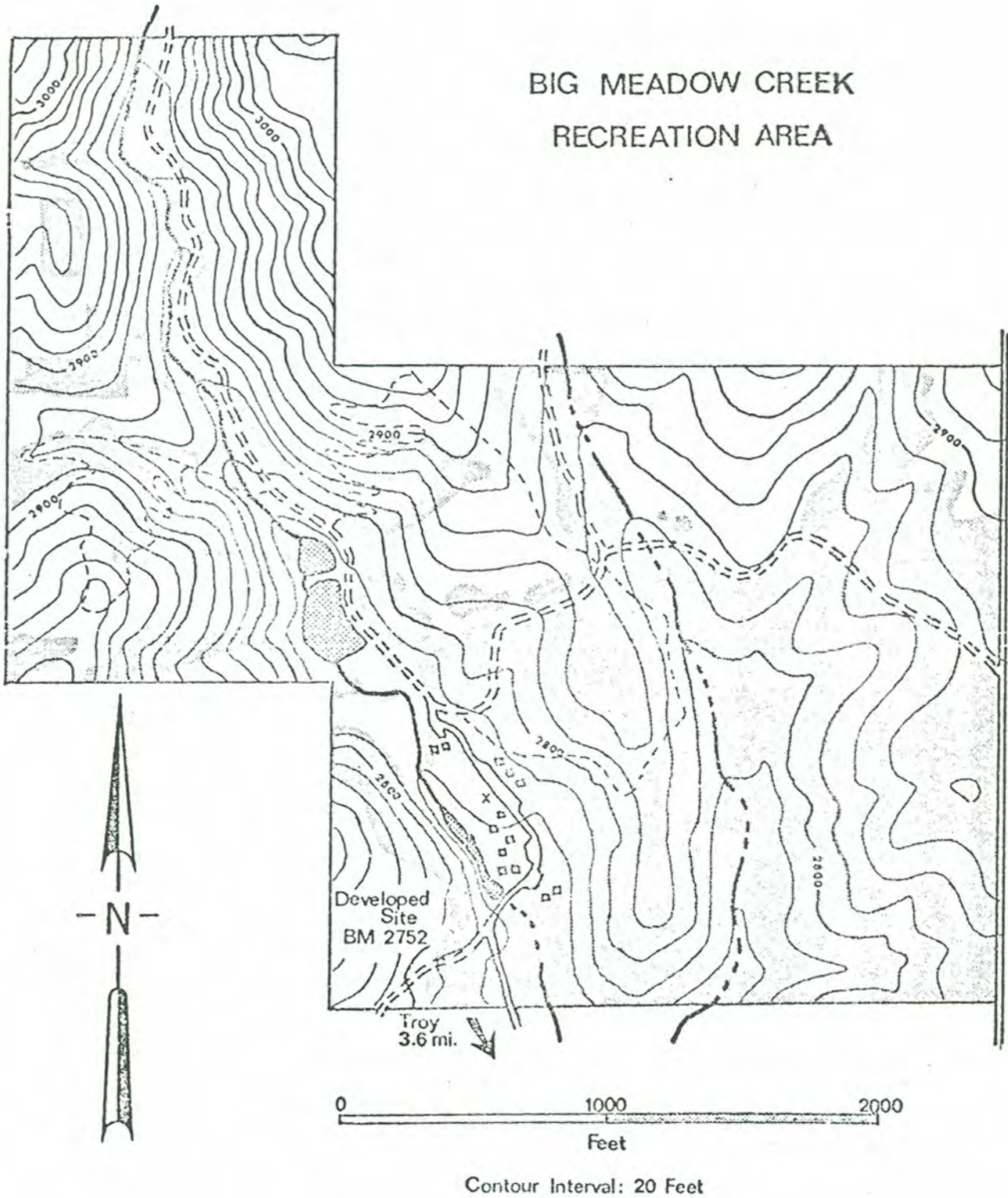


Figure 3. Big Meadow Creek Recreation Area, Idaho

A thick blanket of loessal soil covers the lower slopes, overlying residual granitic soils. Two minor streams, Big Meadow Creek and an intermittent tributary stream, carve the loess into mature topography.

A single tree species, ponderosa pine (Pinus ponderosa) dominates the area, forming open stands on the dry slopes and ridges. Beneath these open stands, a deciduous shrub community forms, with snowberry (Symphoricarpos rivularis) the dominant shrub. In exceptionally moist places in the ponderosa stands, the understory community forms a dense thicket with ninebark (Physocarpus malvaceus) the dominant shrub. In sheltered areas formed by the stream drainages, Douglas-fir (Pseudotsuga menziesii) is the dominant tree species, with associated trees including ponderosa pine, western larch (Larix occidentalis), lodgepole pine (Pinus contorta), and occasionally western white pine (Pinus monticola), and a shrub understory again dominated by ninebark, although reduced in stature.

The area's general climate is described as typical of the fringe of mountains that lie along the western edge of the Rocky Mountains. As such, the climate may be divided into two general seasons (26):

The spring-summer season includes mostly clear warm days and clear cool nights. This combination of high insolation and low precipitation makes the area susceptible to drought during the summer months.

The autumn-winter season begins usually around early October when low pressure areas form off the Pacific coast and progress eastward, with associated fronts extending southward into the region. Cold fronts, following warm sectors, bring masses of cold, unstable polar maritime air and may bring large amounts of rain and snow after their passing. At certain times during the winter, minor or entire invasions of polar continental air from the east may bring temperatures as low as minus 30 degrees, Fahrenheit.



Some observations on localized climatic effects in the region are also applicable (26). Precipitation usually increases and mean temperature decreases with an increase in elevation. Relative humidity on south-facing slopes may be up to 25 percent less than on north-facing slopes. Cold-air drainage down mountain ravines is also a common occurrence.

Climatological data collected on the Big Meadow Creek Unit of the University Experimental Forest for a single year, 1965-1966, is shown in Table 1.

Table 1  
Mean Temperature and Annual Rainfall,  
Big Meadow Creek Unit, University of Idaho Experimental Forest  
1965 - 1966

	Moscow 2600 ft.	Big Meadow Cr. 2860 ft.	E. Moscow Mtn. 4700 ft.
Mean Temp., degrees F	51.4	44.14	41.7
Avg. Annual Rainfall, inches	12.56	22.52	31.95

### Recreation Facilities

Big Meadow Creek Recreation Area contains a single developed recreation site, constructed in 1969 and located along Big Meadow Creek.

The site includes 13 picnic units with tables, fireplaces and trash cans, dispersed around a meadow and adjacent timbered areas (Figure 4). Other facilities include two pit toilets, centralized parking areas around the meadow, and a non-functional water supply system distributed to 5 individual outlets.





Figure 4. Developed Recreation Site,  
Big Meadow Creek Recreation Area, Idaho



Figure 5. Water Impoundment,  
Big Meadow Creek Recreation Area, Idaho



A system of three interpretive trails interconnects with the existing road system. <sup>1/</sup> Two water impoundments on Big Meadow Creek (Figure 5), constructed in the 1930's, are also included in the general area.

Access to the site is by gravel road from Troy, approximately 3.6 miles away.

Situated in the lower end of a ravine carved into the slopes of Moscow Mountain by Big Meadow Creek, the site is visually enclosed by timbered slopes and ridges surrounding the base plane of the meadow (Figure 6). The foreground view is highly restricted as a result. Middle ground view is similarly restricted and includes only a few isolated ridge tops. The background view is dominated by East Moscow Mountain, 2.5 miles away (Figure 7). It is the area's outstanding scenic feature.

#### Administrative History

In 1965, students in the College of Forestry, Wildlife and Range Sciences initiated research for recreational development of the northeast quarter of Section 26, on the Big Meadow Creek Unit of the University of Idaho Experimental Forest.

The following year, this research produced the Big Meadow Creek Report, proposing the development of a recreation site on the Big Meadow Creek Unit to fulfill the following management objectives (15):

1. To provide guidelines for the recreational development of forested areas;
2. To leave as an area for recreation research and student education;
3. To improve the recreation resource base for limited day use on a controlled basis.

---

<sup>1</sup>Two of the interpretive trails have been abandoned since the completion of this study.





Figure 6. Meadow Area,  
Big Meadow Creek Recreation Area, Idaho

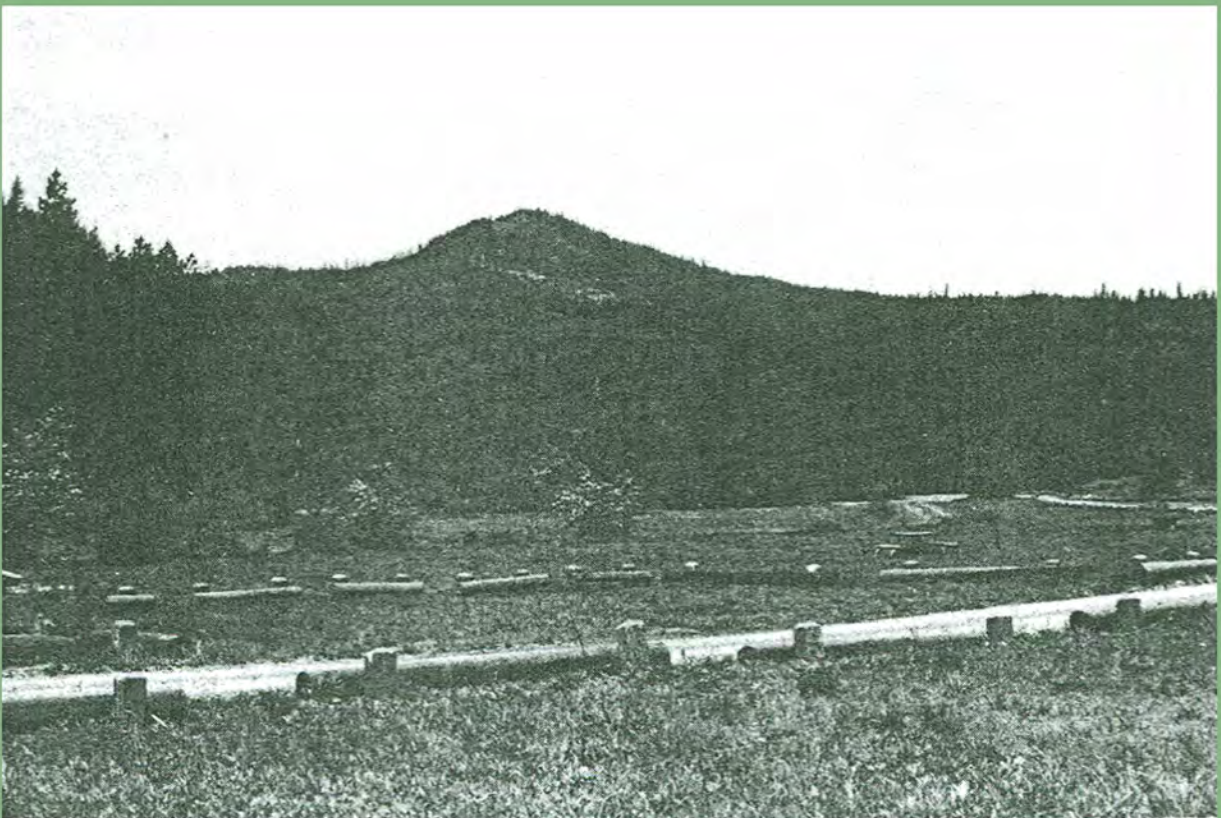


Figure 7. East Moscow Mountain, viewed from  
Big Meadow Creek Recreation Area, Idaho



The proposal was based on an investigation of soils, geology, climate, natural vegetation, water, and human traffic flow, all of which appeared to meet the requirements for the listed objectives. Existing access routes, grazing rights, and a fresh water supply were noted as potential limiting factors on the intensity of recreation use of the area.

In February, 1967, recommendations in the Big Meadow Creek Report became the basis of a project proposal submitted by faculty in the College of Forestry, Wildlife and Range Sciences for funding under Title I of the Higher Education Act of 1965. The proposal was designed to ".....provide a continuing education program for rural community and municipality officials who have the responsibility of planning and providing outdoor recreation opportunities (42)." Its central feature was the development of a recreation demonstration area for use in conjunction with a short course to be offered to community and municipality officials in Idaho. No stated provisions for use of the area for research/instruction or public recreation purposes were included in the proposal.

Following the proposal's approval, construction of the area's new facilities was initiated in May, 1967, and completed, following a fifteen-month extension, in October, 1969. The developed area, covering approximately 160 acres, was described as typical of partially-forested land adjacent to many communities in Idaho, and used to demonstrate land and human management techniques to sustain a quality outdoor recreation environment (14).

Although no management provisions for public recreation use of the area and its facilities were included in the original proposal, recreation use of the "recreation demonstration area" inevitably began to occur. Consequently, on July 29, 1970, the Board of Regents approved a set of regulations pertaining to public recreation use of the 240-acre area (Appendix A),



and Big Meadow Creek Recreation Area formally came into existence as a public recreation area.

### The Study

Since 1970, Big Meadow Creek Recreation Area has served primarily as a public recreation area.

### The Problem

No new management provisions were adopted for Big Meadow Creek Recreation Area to accommodate the change in primary use of the area from a recreation demonstration facility to a public day-use recreation facility. The result was arbitrary use of a "recreation demonstration facility" for public recreation purposes.

Although a steady amount of recreation use of the area was suspected because of large amounts of refuse periodically hauled away from the site, the area received no management input to accommodate this use other than the general maintenance it received as part of the experimental forest. No maintenance of the pit toilets had occurred since their installation in 1967. The water supply system, declared unsafe for drinking purposes by the State Board of Health (16), was shut off. Sections of the interpretative trail system were no longer useable. Furthermore, there were no means of enforcing the 1970 regulations pertaining to recreation use of the area. Conflicts between user groups, and between users and local property owners resulted. Incidents of vandalism further contributed to deterioration of the area's facilities.

A new management system was thus needed for a public recreation facility at Big Meadow Creek Recreation Area.

## Objectives

The purpose of this study was to describe recreation use of Big Meadow Recreation Area as a basis for future management decisions for the area. A basic premise was that use of the area would be allowed to continue as a public recreation area. <sup>2/</sup>

Description of recreation use of the area involved aspects of both the nature of recreation use and characteristics of the users. Determining the nature of recreation use included answering questions of how much, what kind, when, and by whom. Determining characteristics of the users involved identifying their preferences for existing and potential conditions in an area arbitrarily designed for demonstration purposes.

These general needs were stated in the form of the following working objectives:

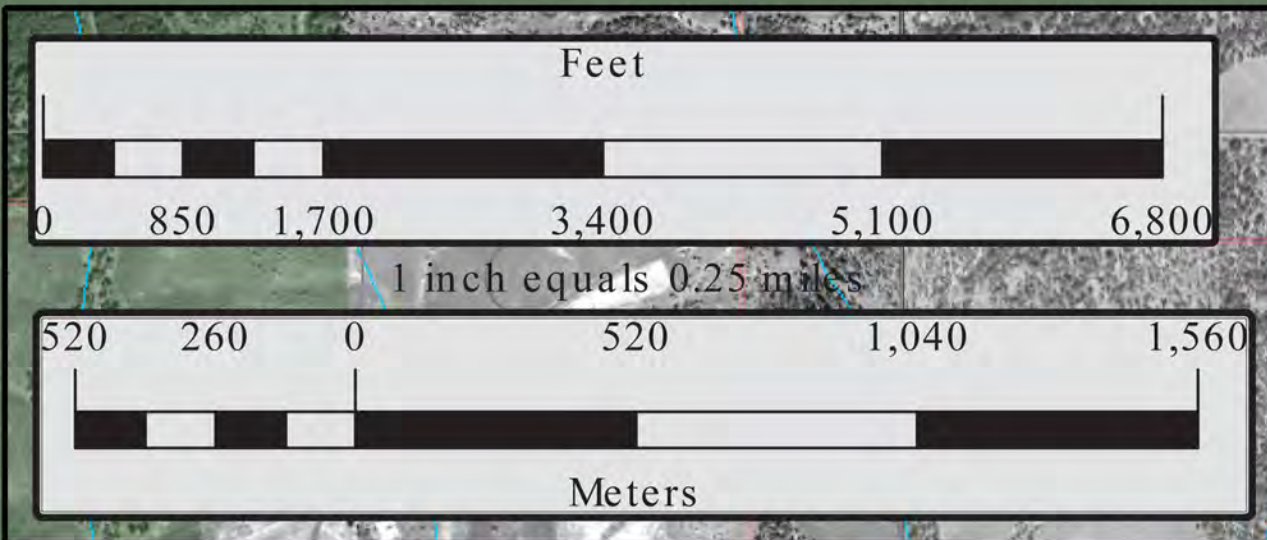
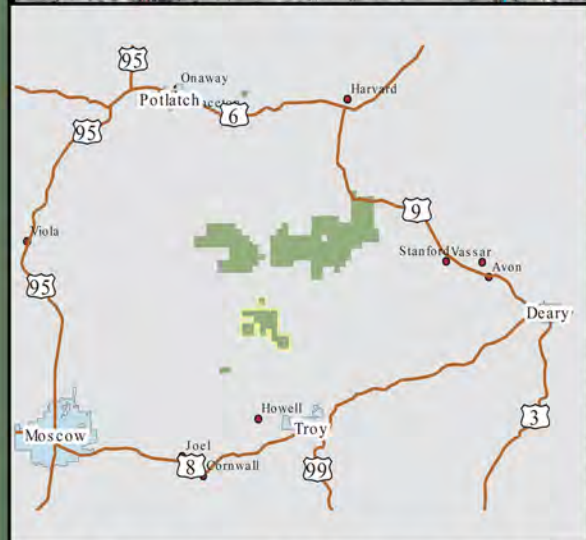
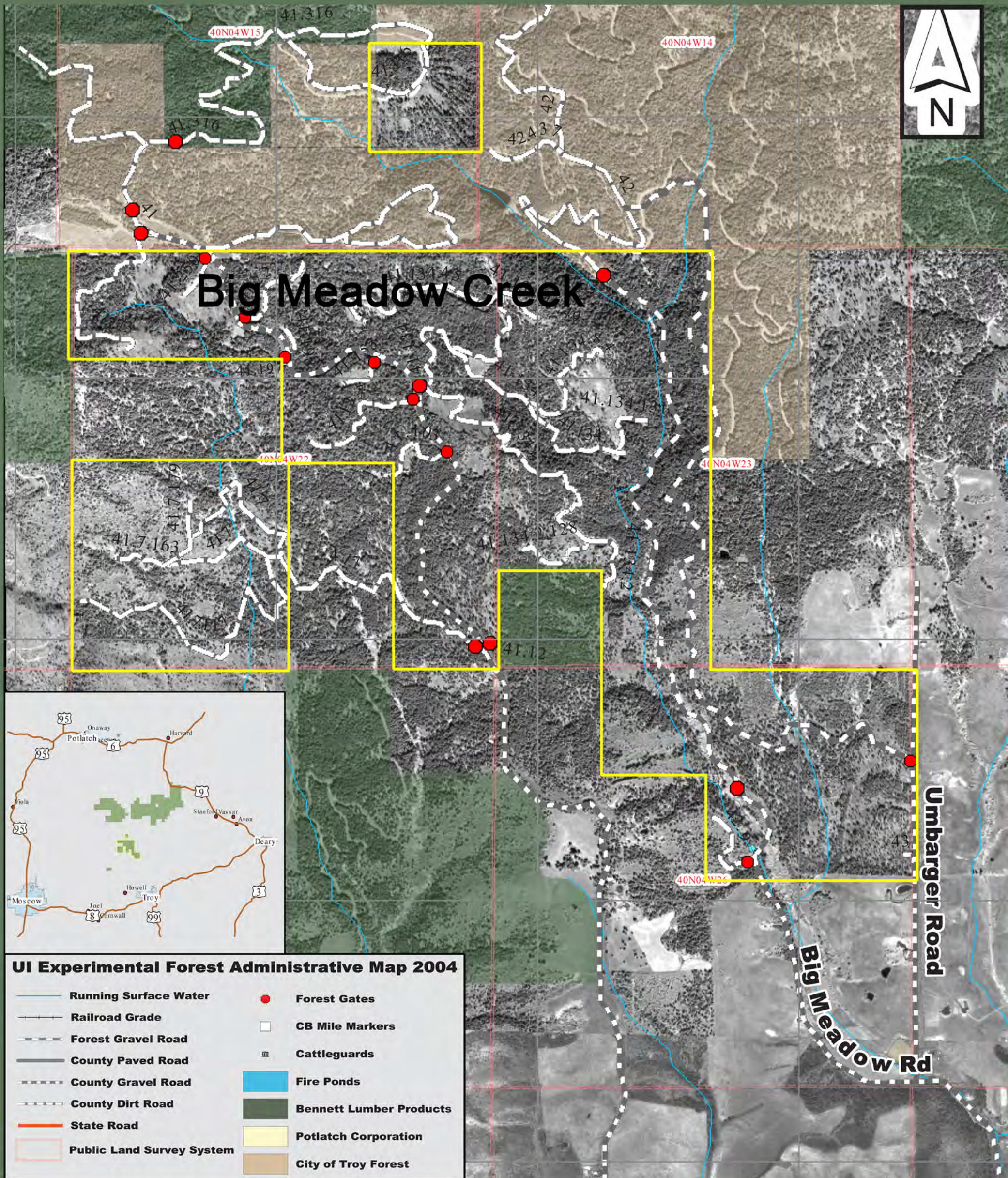
1. To estimate present recreation use patterns of Big Meadow Creek Recreation Area;
2. To estimate the degree of user preference for recreation facilities provided at the area;
3. To identify potential facilities that users prefer for the area.

Meeting these objectives would provide the necessary base for a new management system for Big Meadow Creek Recreation Area, if it is to be used as a public recreation facility.

---

<sup>2</sup>A study on alternative management systems for Big Meadow Creek Recreation Area was carried out by Thomas W. Moore, a graduate student in the College of Forestry, Wildlife and Range Sciences, University of Idaho. This was completed in the spring of 1975, and prior to the availability of use data.









## Location of Complete Research:

**Author & Title:** James Jackson Atkins:  
RECREATION USE AND USER PREFERENCES AT BIG MEADOW CREEK  
RECREATION AREA, UNIVERSITY OF IDAHO EXPERIMENTAL FOREST

**University of Idaho Library:**

Call Number- GV191.42.I2A84

**College of Natural Resources:**

Department- Wildland Recreation Management

**Other Sources:** A pamphlet of the Big Meadow Creek Recreation Area is also with this document (slipped inside the cover).