

IDAHO COOPERATIVE WILDLIFE
RESEARCH UNIT
MOSCOW, IDAHO

41

Moscow, Idaho
May 30, 1965

To Whom It May Concern:

The attached "Big Game Management Plan for the West Hatter Creek Unit of the University of Idaho Forest" is the result of study and recommendations made in a Forestry 144 class project. The class executed the project acting as a private conservation consulting corporation. Also attached are the introduction and instructions for the project.

The Plan purports to provide basic information and recommendations for management, instruction, and research; to encourage use by the University by providing information about the area; to offer recommendations for its use and management; and lastly, to serve as a medium for the attainment of class objectives.

The Plan focuses on big game but considers all major resources. The Plan treats only the West Hatter Creek Unit of the Forest but much of the information is applicable to the other portions of the University Forest. Studies for the remainder of the Forest may be prepared in later classes.

Special thanks for assistance are due Mr. Ken Riersgard, U. S. Soil Conservation Service; Mr. Lavon Loynd, District Conservation Officer, Idaho Department of Fish and Game; Mr. Jack Gillette and Mr. Norman F. Lewis, State Department of Forestry; Mr. C. P. Kern and Mr. R. A. Ellison, U. S. Forest Service; and the staff of the College of Forestry.

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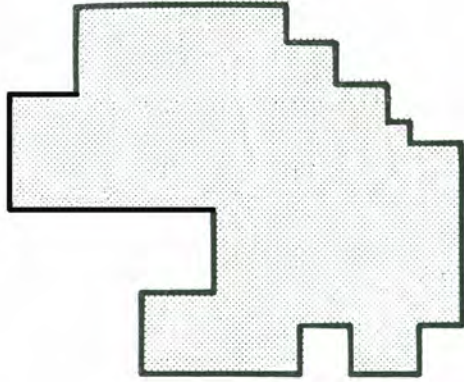
Respectfully submitted,

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A BIG GAME MANAGEMENT PLAN

UNIVERSITY OF IDAHO
FOREST



East Hatter Creek Unit



A Big Game Management Plan
for
The West Hatter Creek Unit
of
The University of Idaho Forest

by

The Members of Forestry 144
Big Game Management
College of Forestry, Wildlife and Range Sciences
University of Idaho
Moscow, Idaho

May 30, 1965

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Big Game Management

Big game management finds its most valid expression as both a science and an art within the context of wise resource management. This plan presents the basic resource descriptions, information, and recommendations for the rational, efficient and productive use of the West Hatter Creek Unit for optimum benefits to the University and the people whom it serves. It provides for a comprehensive development of a management philosophy, objectives, policy, and action program. Its focus is big game management but its concept is wildland resources.

The West Hatter Creek Unit of the University of Idaho Forest shown in the map on page 12 contains 2160 acres, 34 percent of the total acreage of the Forest. Basic information on this major unit will often apply to other portions of the Forest. As with the other 22 of the 36 forestry schools in North America owning university forests, (Faculty of Forestry, 1964) the University of Idaho views the Forest as an indispensable part of their total program. This Forest is large enough and near enough to the campus to provide a field laboratory environment both for research and demonstration of wildland resource management and utilization. Such education and research are enhanced by the permanent ownership of the Forest which allows and encourages intensive long-term plans and projects.

ACKNOWLEDGEMENTS

This report has been greatly aided by the services of many agencies and individuals. For their information and cooperation we are most grateful. Among the agencies we would like to thank the Soil Conservation Service, the Idaho Department of Fish and Game and the U. S. Forest Service.

We would like to express personal thanks for time spent in the field with the class to Mr. Lavon Loynd, District Conservation Officer, who supplied information on past and present law enforcement in the area; Mr. Kenneth Riersgard, for information on the Soils of the area.

The class would also like to express appreciation to the following for assistance in the various fields of their profession: H. R. Alden, P. D. Dalke, M. E. Deters, K. E. Hungerford, F. D. Johnson, all of the faculty of the College of Forestry; R. W. Jones and Richard L. Day of the College of Mines; and Lowell Garber, SCS for contribution of the

soils description; Rafe Gibbs, Director of Information of the University of Idaho; Hawley Hill, Chief, Conservation Enforcement Division; C. P. Kerns and R. A. Ellison, U. S. Forest Service; and H. E. Slade, Assistant Business Manager, University of Idaho.

BASIC PHILOSOPHY AND OBJECTIVES

The West Hatter Creek Unit is public land devoted to use for the people of the state and nation through the University of Idaho. The Philosophy of land management and use best fitting for property is one of Education-Research. This philosophy embodies concepts of priorities of use, of criteria for decisions, and of direction for goals and objectives. The priorities are, in decreasing order: Education, Demonstration, Research, and Consumptive Uses including recreation and production of income. Such a philosophy provides management for maximum instructional, research, and recreational opportunities for student, faculty, and residents of the area.

Education is viewed primarily as under-graduate and graduate training of students of the College of Forest, Wildlife, and Range Sciences and other divisions of the University.

Demonstration is viewed as part of the educational service and extension function of the University and is directed to the general public.

Research is a major University function and the area is suitable for many types and varieties of studies.

Recreation and the production of income are important functions of the forest but must remain sub-dominant to the above three concepts. The Forest, like 28 per cent of North American University forests, is supported by the University for the attainment of University objectives. This should continue in the near future but income from the area should be re-invested into the physical betterment of the area and its use, including maintenance and capital developments. This income may now or in the future be derived from timber, pulp wood, fire wood, grazing, recreation use fees, hunting, or other uses. As use and development of the area increases and improves it may be possible to reach a condition of a sustained, supportive income from the forest. However, the latter conditions should only be sought when the primary philosophies are not compromised.

The major objectives for the area should be to provide (1) an atmosphere and facilities for optimum educational experiences (2) practical experience in observing and comparing the nature and uses of wildland resources (3) an abundance of ecological types (4) suitable comparisons, in close proximity, for good and poor land uses. See Fig. 2 and 3.

The area should provide a site for quality research where (1) the

research is free to make treatments that are compatible with other major Unit objectives (2) research areas are protected as desired by the investigator for as long as necessary, and (3) the interaction of education and research can be readily demonstrated.

The area should provide facilities and other accommodations to enhance the value of the area in attaining the above objectives.

HISTORY OF THE AREA

Early Human Populations

Indians

Indians did not significantly influence the study area or the surrounding land. The tribes of Indians in and around Latah County included the Nez Perce, Palouse, Spokane, and Coeur d'Alene. The Nez Perce tribes were located south of Latah County along the Clearwater river and its drainages. The Spokane and Coeur d'Alene were located to the north, and the Palouse Indians were to the west.

The Nez Perce level of culture was higher than most of the surrounding tribes due to their mastery of horse breeding, but in other ways they remained quite primitive.

All of the tribes in this area established permanent villages along rivers. These villages consisted of tepees and large communal lodges along with temporary fishing villages. They never inhabited the uplands.

The land use by the Indians was nominal. They had no agriculture and the land was left in a primitive condition. During the spring, trips were made to the upland prairies to gather camas roots which they used for potatoes. They also collected wild currents, berries and bitter root which they dried for winter use. The fish used for food were salmon, trout, sturgeon, and suckers. They used all forms of wildlife for food and accessories.

Settlers

The early settlers began to come to Latah County in the 1860's. The first settlers obtained land through the Homestead Act of 1862. This act permitted any citizen to settle on 160 acres of public land and to receive title to it at the end of five years or by paying \$1.25 per acre six months after taking possession (Smith and Zurcher, 1958).

The settlers came mainly from northern Europe. Their primary interest was the use of the Palouse prairies for cattle grazing. The farmers followed the cattlemen and settled in the plateau of Paradise Valley.

Miners began exploring the rivers and creeks of Latah County in 1862. The Moscow Mountain area was rich in gold, silver, opal, quartz, and mica. The areas mined in the vicinity were Jerome Creek, Swamp Creek, Gold Creek, Howard Gulch, Garden Gulch, and Crumarine Gulch. The Hoodoo mines were located 30 miles northeast of Moscow. The miners used the shaft and the placer methods of mining.

Logging operations began in the 1870's with the first sawmill constructed in 1876 six miles northeast of Moscow. The loggers used the clearcut method of removal, but didn't provide for regeneration or further care of the land. They built their access in the creek bottoms and along ridges. This caused heavy erosion of the stream banks and heavy gullying of the ridges and slopes.

Acquisition History

The West Hatter Creek Unit of the University Forest is located on the north side of Moscow Mountain about 5 miles south of Princeton, Idaho. The area consists of two major watersheds drained by Hatter Creek and Long Creek. The West Creek Unit is accessible by a road. Part of the area is located in the south halves of Sec. 32 and 33, T.41 N., and R.4 W. The majority of the area is located in Section 3, west half of Sec. 3, north half of Sec. 9 and 10, T.40 N. and R.4 W. The area contains 2160 acres. (See boundary on map)

The West Hatter Creek Unit of the University Forest was given to the University of Idaho by the Forest Development Company (PFI) on September 6, 1932. It was the wish of the donors that the area would be used as an experimental forest, and for a liberal treatment of nearby residents in grazing and fuel wood privileges.

The only legal restrictions recorded on the deed was that of public right of way for roads and power lines. Mineral rights were not sold.

Around 1900 the majority of this area was purchased from homesteaders by Potlatch Forests, Inc. This specific area was logged in 1930 by a clear-cutting method. The only fire record was a slash fire in the late 1930's. The property was given to the University of Idaho in 1932. From this date up to the present time there has been active grazing on the area. At the present time the grazing permit is given to the Hatter Creek-Flat Creek Cattlemen's Association.

Recent Human Populations

In 1925 the high point for the North Idaho lumber industry was reached when 955 million board feet were produced. This figure was not reached again until 1954. The low point was in 1932 when only 210 million board feet were produced. Prior to and during the depression the main tree species cut was white pine. Consequently there was much high-grading practiced with little thought given to the damage that was done. Potlatch Forests, Inc., gave some of these lands to the University of Idaho as a gift, not because they wanted to get rid of a tax burden, but because they realized a need for forest

research and could not adequately handle the problem themselves. There was a national trend at the time for forestry schools to acquire forests. Cut over land was given because the need for research was in the area or reforestation and also it was not feasible to give the University prime, uncut white pine forests.

Some of the other private lands now in the public domain were acquired from tax reversion. Many of the smaller loggers and farmers were unable to ride out the depression and still pay their taxes on their timberlands, consequently, the government acquired them for non-payment of taxes. Most of the local people were not seriously affected by the depression because they could raise all the necessities for survival. However, they were by no means affluent.

There have been no land forfeiture in the past ten years though some exchange may have occurred. The people of the area have been residents for at least ten years.

Since the depression, the economic condition of the area has continued to improve. With the rising demand for forest recreation and for forest products, the area stands an excellent chance of expanding its businesses and industries even more. However, there is again a need for good sound management plans, to prevent the exploitation and waste which would lead eventually to an economic depression in the local area.

The Unit is located near the center of Latah County, which contains just over 1,000 square miles. The county population was 21,170



Fig. 1 The human population within easy access to the Unit is about 95,000.

in 1960, a 1 per cent increase since 1950. Fifty-two per cent of the people live in Moscow, about 45 minutes drive from the University forests. The population for the Latah, Benewah, Nez Perce, Clearwater, and southern Shoshone Counties, plus Whitman County Washington was 94,083 in 1960.

The occupational data obtained from the U. S. census records indicates a decrease in agricultural workers for the county but an increase in all other fields.

Employment Data For Latah County, Idaho

Year	Total	Agricultural	Forestry	Mining	Manufacturing
1950	8,098	1,268	76	64	1,105
1960	7,192	1,551	29	22	1,001

The average income per family increased from \$3,154 to \$5,403 between 1949 and 1959 (when corrected by per-capita income index this represents a 35% increase). Education is at a high median in Moscow and Latah county. The median education in 1964 was 13.9 and 12.2 years of school completed by males for Moscow and Latah County respectively. The female average was 12.6 and 12.2 years completed for Moscow and Latah County respectively. The state of Idaho average was 11.2 years for males and 12.1 years for females (Clark, et al. 1965).

Law Enforcement in the Area

In the last $6\frac{1}{2}$ years 102 cases have been processed in Latah County: 59 for illegal licenses; 14 for fishing violations; 21 for poaching big game; 4 for bird violations; and 6 for shooting from the highway. About $\frac{2}{3}$ of the violations are by students buying resident licenses under false or mistaken assumptions. Most resident violations were for hunting ground squirrels without a license. A large percentage of the illegal kill comes from the students of the University, generally, failing to tag a deer or an elk.

DESCRIPTION OF THE UNIT

Past Study of the Forest

In the past several graduate students have done portions or all of their work on the University Forest. The Wildlife department has produced five Master's theses covering browse utilization, productivity and availability for white-tail deer (Basile 1954, Marsh 1954, Morton 1950, Roberts 1956, Thilenius 1960). One study of helminth parasites of wild and domestic ruminants was made (Greichus 1957). Ruffed grouse was the subject of another thesis (Erickson 1961). Three theses dealing with forest management have been produced from the University forest (Randall 1947, Seale 1942, Taylor 1949).

K. E. Hungerford of the wildlife staff has published seven articles concerned with ruffed grouse on the University Forest (Hungerford 1941, 1951, 1952, 1953-a, 1953-b, 1957-a, 1957-b).

Aerial Photos

Aerial photos used in this management plan are from those with the project symbol PFI-IU-4; flown on June 25, 1964, at an altitude of 15,600' with a camera focal length of 11 $\frac{1}{4}$ inches.

Those specifically of the area are strip 2, photos 12 and 13; strip 3, photos 9 and 11; strip 4, photos 9 and 11.

Copies of these photos may be purchased directly from H. G. Chickering, Jr., Consulting Photogrammetrist, Inc., Eugene, Oregon.

Watersheds

That small watershed management is an integral part of wildland resource management has only recently been recognized. Prescription planning of the small watershed and use of the watershed as the natural land management unit are increasing. From such efforts are expected the coordination of management on small watersheds into larger project or development units.

The West Hatter Creek Unit is an area with potentials for future water supplies for Northern Idaho. Under this management plan the Unit has been divided into 2 major watersheds - Hatter Creek and Long Creek. Each of these two have been further divided into sub watershed units for more intensified study and management.

Long Creek Watershed

This unit contains 4 sub-groups, A, B, C, and D marked on the Watershed Overlay.

- Unit A: Approximately 280 acres
 South facing slope
 Moderately forested with small brush fields
 Intensively used by cattle and deer
- Unit B: Approximately 180 acres
 North facing slope
 Thick immature forest with brush understory
 Light use by cattle
 Has several large inactive beaver dams
- Unit C: Approximately 340 acres
 Generally south facing
 Lightly forested with brush fields and open areas
 Heavily grazed by cattle and moderately by big game
 Several beaver dams inactive

Unit D: Approximately 340 acres
 North facing slope
 Lightly grazed
 Thick immature forest with small brush patches
 Signs of heavy soil erosion

Hatter Creek Watershed

This unit contains 3 sub groups, units E, F, and G marked on the overlay.

Unit E: Approximately 200 acres
 South facing slope (generally)
 Overgrazed by cattle and big game

Unit F: Approximately 520 acres
 North facing slope
 Fairly steep hillside, heavily forested

Unit G: Approximately 260 acres
 Contains the headwaters of Hatter Creek
 Heavily forested with smaller trees
 Has many beaver dams, mostly inactive at present time
 Creek becomes intermittent in the late summer

Estimated discharge of the creeks measured on May 15 and 23 were 8 cu ft/sec for Hatter Creek and 3 cu ft/sec for Long Creek. The total acreages for both drainages are approximately equal - Hatter Creek 980 acres and Long Creek 1140. The difference in discharges by these two creeks of approximately equal area reflects the conditions of the watershed units at the present. Hatter Creek with slightly less acreage, discharges more than double the amount of water of Long Creek. This difference can partially be accredited to more beaver activity on Hatter Creek. Studies by the plant ecology committee showed Long Creek drainage with a much higher per cent of forbs, grasses, and mosses which are indicators of heavy use. Other underlying factors which may have caused the difference will become more evident with further investigations and studies of the area.

There are two major watershed hazard areas which should have first priority in the management plan. One is the main road through the area. The provisions for diversions of runoff on the road are almost nonexistent. A very large amount of soil has been lost from the road. The other hazard area is where a diversion culvert (see Watershed overlay) has been installed. This culvert drains too great a length of road and is silting over a large area, producing extensive damage to vegetation, eroding an old cedar stand, and contributing sediment to West Hatter Creek.

Water developments on the area have great potentials for the future. Small water developments on the higher slopes of the intermittent streams would provide available water during the summer months. This plus drift fences would help distribute the cattle more evenly and thus reduce the pressure on the vegetation on the creek bottoms.

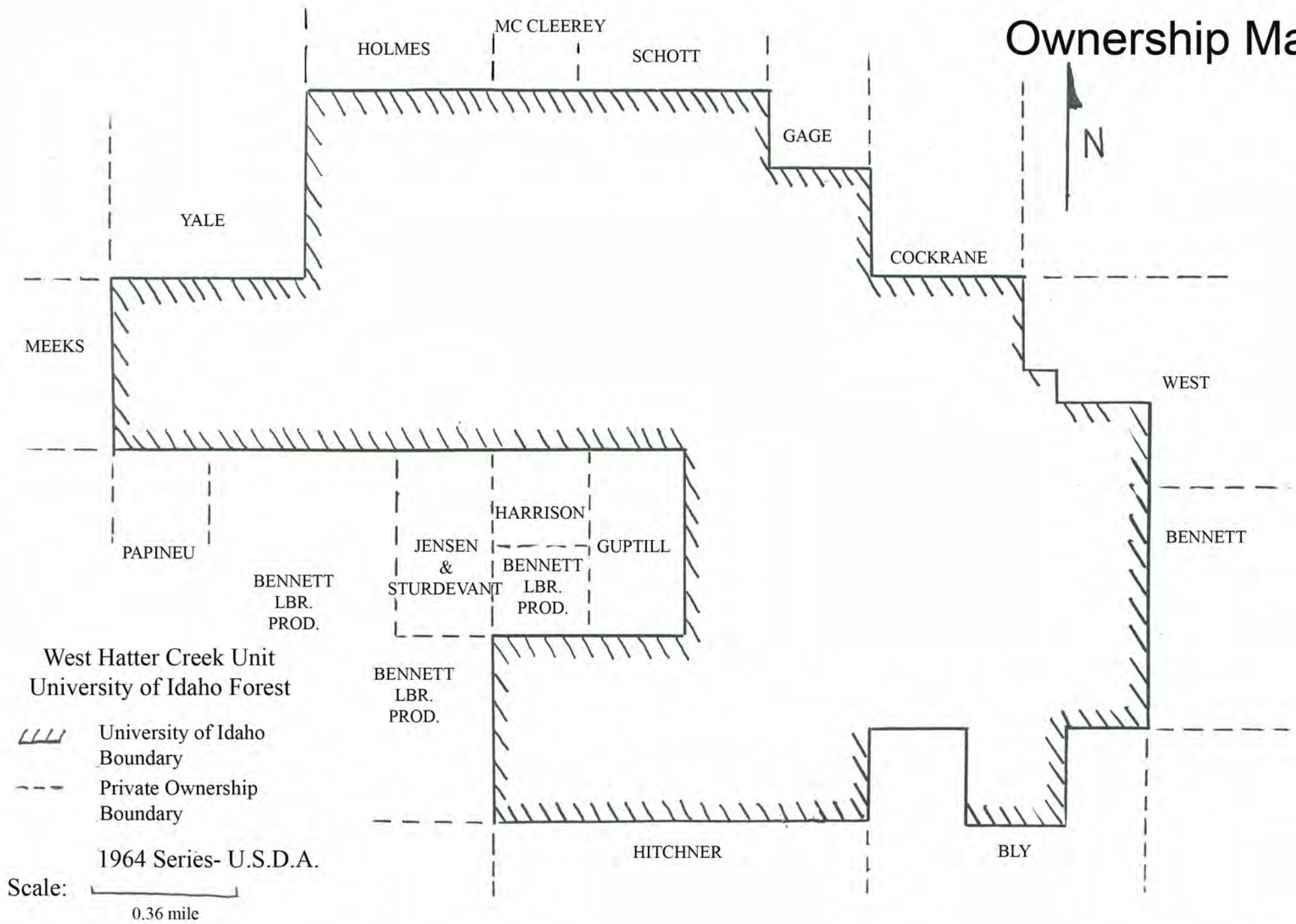


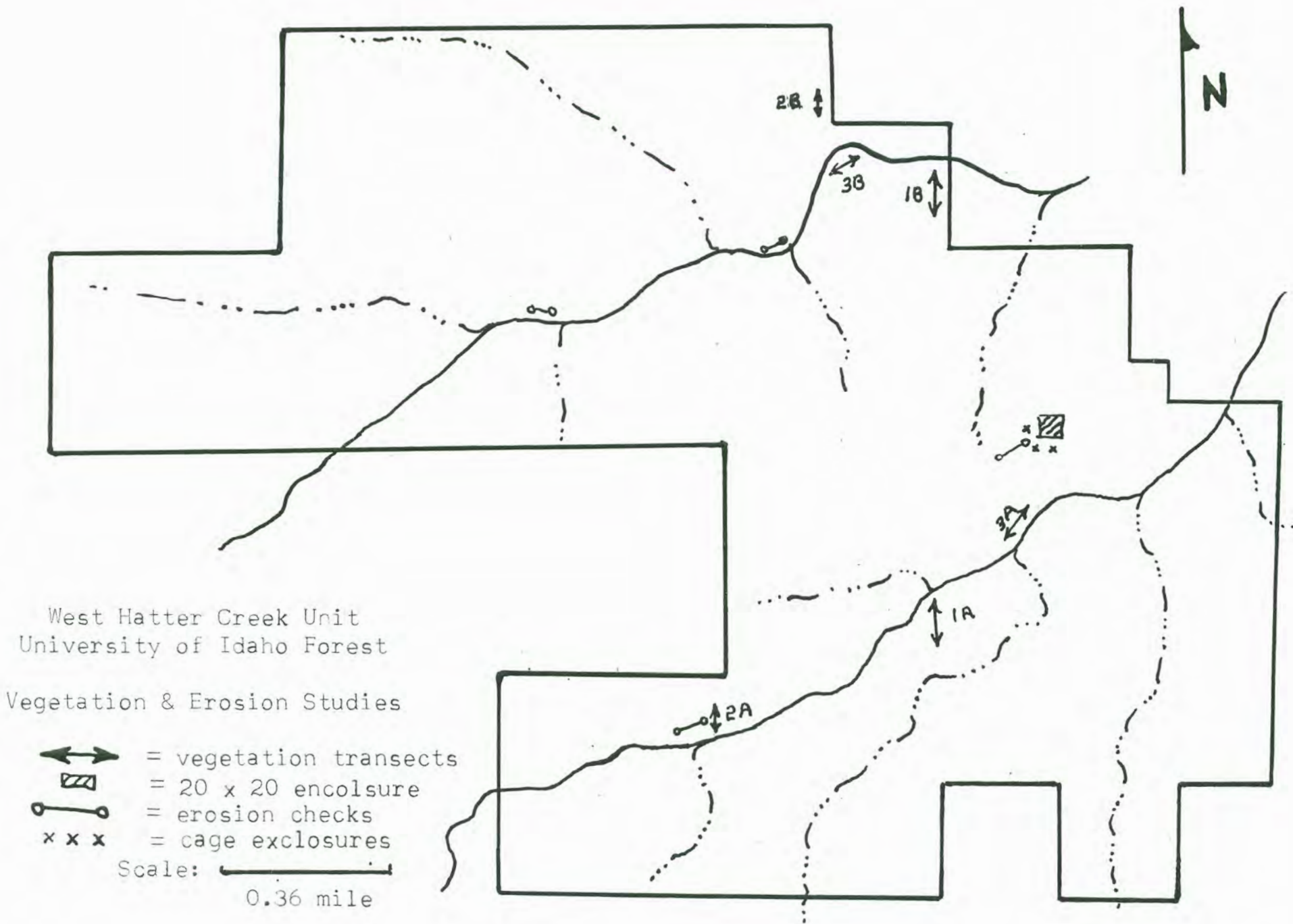
Fig. 2 A beaver dam in the lower (eastern meadow) of West Hatter Creek as seen from a rock photo point suggests beaver - watershed - land use - soils - vegetation ecology capabilities of the area for education, demonstration, and research.

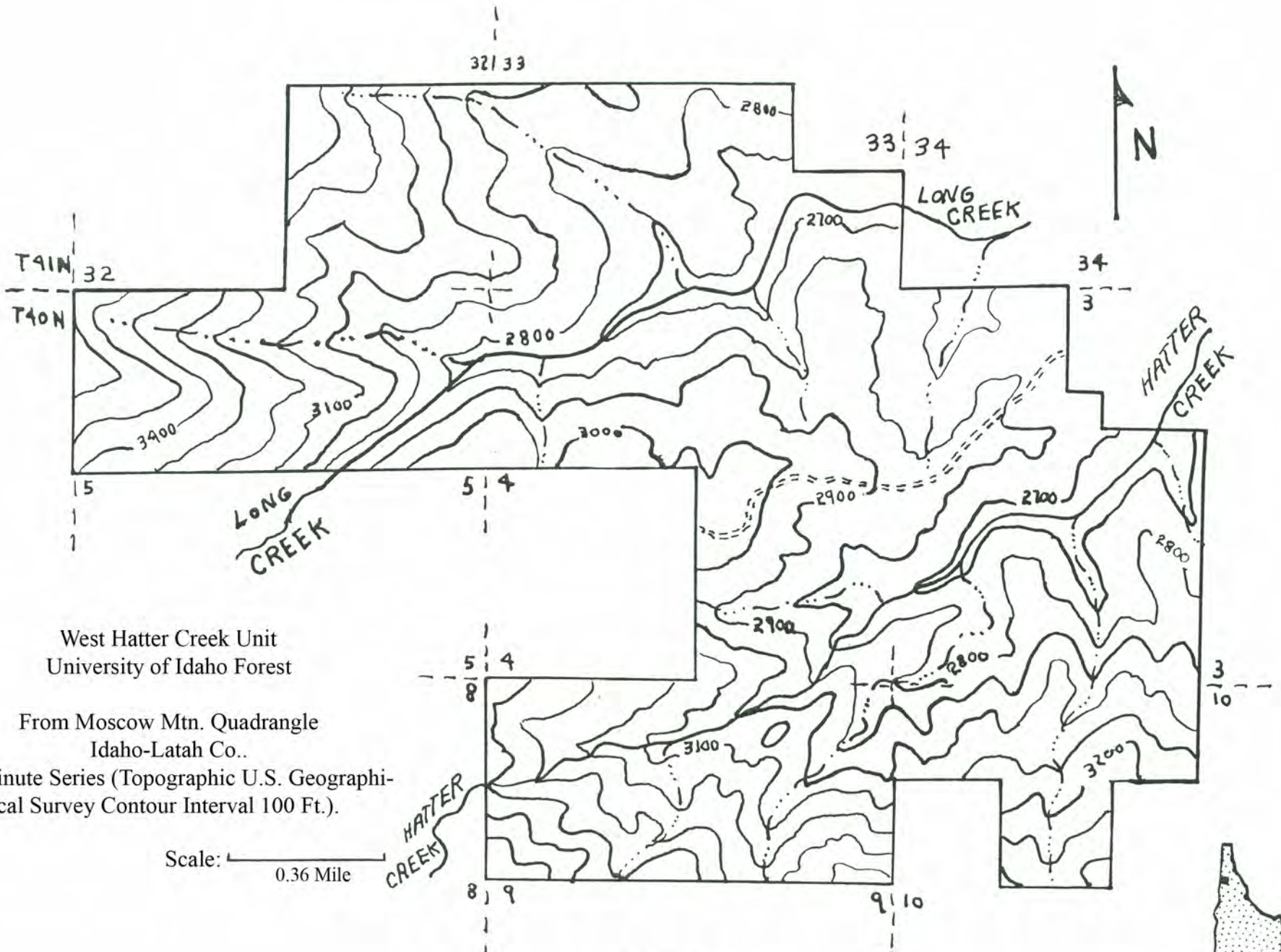


Fig. 3 A soil profile along the main road through the area interpreted by Mr. Kenneth Riersgard, S. C. S., suggests land use hazards and potentials for the area.

Ownership Map



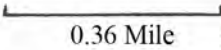




West Hatter Creek Unit
University of Idaho Forest

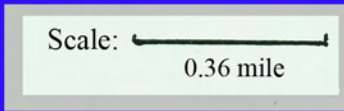
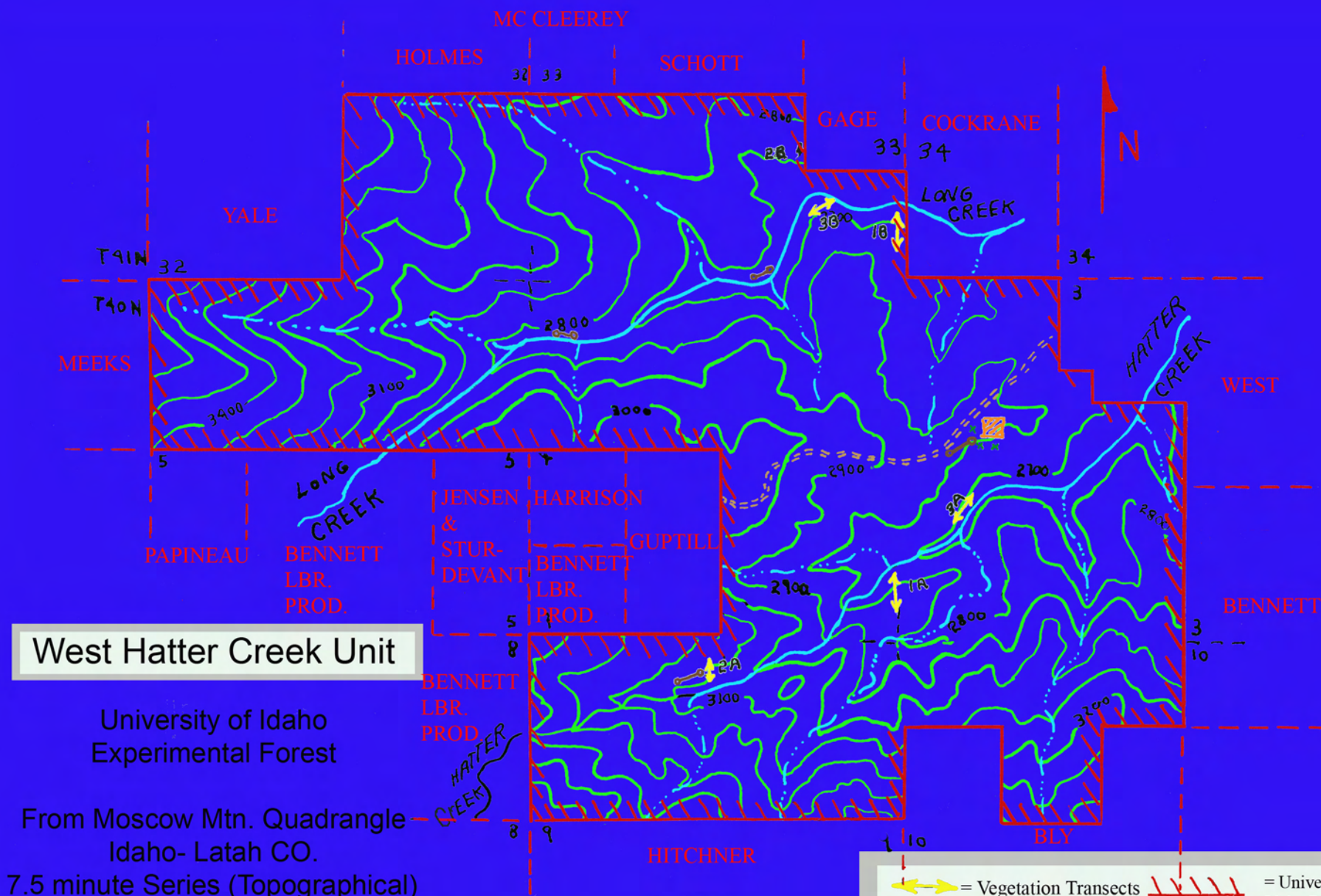
From Moscow Mtn. Quadrangle
Idaho-Latah Co..

7.5 minute Series (Topographic U.S. Geographical Survey Contour Interval 100 Ft.).

Scale:  0.36 Mile

R 4 W





	= Vegetation Transects		= University of Idaho Boundary
	= 20 x 20 Enclosure		= Private Ownership (1964)
	= Erosion Checks		
	= Cage Enclosures		
	= Road To Camp 1		
	= Contours, 100' Intervals		



W.P. TAYLOR (Original Creator of Map 1965)

Map reconstructed in by Rachel Voss 2005

The potentials of this area for recreation are not very great as yet. This is due to a relatively small population around the area, relative inaccessibility, and no outstanding attractions. The value of this area could very well increase if the above limitations are reduced.

Geology

The West Hatter Creek area before the Miocene period was a mature land formed from granite. During the Miocene this area was uplifted from the surrounding land mass by faulting activity. Hubbard (1957) stated that basalt flows also took place during this period. The lava filled the ancient valleys and covered the lower hills, until only the crests of the higher hills remained above the flood. As a result, the basalt varies greatly in thickness and in some areas reaches a depth of 4000 feet. Between and beneath the flows are middle Miocene lacustrine sediments.

R. W. Jones, in a personal interview, explained many other geologic aspects of this area. Erosion of the granitic soils present in this area takes place quite rapidly when they are exposed to weathering. A good example of this is Robinson Lake which is fed by tributaries which drain off of granitic soils. Because of erosion, this lake is rapidly being silted in.

During the Plistocene period there was a great deal of volcanic action in both Washington and Idaho. Much of the West Hatter Creek area is mantled with a thin, one-to-two-inch layer of volcanic ash deposited during this period. This ash probably increases the fertility of the soil but decreases its permeability. The ash is highly erosive, but remnants of this layer are still present in some areas.

The only geologic map available is a 1957 map of Latah County, which is based on geological information obtained by Tullis, 1931-1932 (Tullis 1944). This map is general but adequate for the objectives of this management plan. If a precise geologic map of the West Hatter Creek area was desired it could be obtained from the College of Mines. This map would take a summer to develop and would be part of a Master's thesis. The funds for this thesis would probably have to be obtained from the College of Forestry, Wildlife, and Range Sciences.

The rock types according to Tullis (1944) are mainly granodiorite and adamellite with important amounts of tonalite and less granite, and small masses of diorite and perthosite. Jones (personal interview) defined granodiorite as being composed of plagioclase feldspar, quartz and black minerals. He further explained that true granite was composed of potassium feldspar, quartz and black minerals.

There is a slight possibility that minerals may be present in the West Hatter Creek area. The area is located just east of the Moscow Mountain mining district where gold quartz veins have been found in granodiorite. Also placer gold, residual and transported clay, and granite are found in the district. North of the Hatter Creek area the



Location of Complete Research:

Author & Title: Forestry Class 144
Big Game Management Plan for the West Hatter Creek Unit of the
University of Idaho Forest

University of Idaho Library:

Call Number- IDAHO SK387.B535 1965
Only Available in the Special Collections Portion of the Library.

College of Natural Resources:

Department- **Wildlife**

Other Sources: