

Roda, Evan

From: Rammell-O'Brien, Lacey
Sent: Wednesday, April 5, 2023 9:02 AM
To: Saxton, Craig; Roda, Evan
Subject: FW: UI - PRBA (email 3 of 3)
Attachments: UIEF_1942_87-10059 and 87-11962 and 87-11963 and 87-4064.pdf; UIEF_1947_87-10059 and 87-11962 and 87-11963 and 87-4064.pdf

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Good morning~

Travis's legal assistant has forwarded some documents related to the UI claims, see attached. I'll be sending a couple more emails.

-Lacey-

From: Jess Nielsen <jnielsen@martenlaw.com>
Sent: Wednesday, April 5, 2023 9:52 AM
To: Rammell-O'Brien, Lacey <Lacey.Rammell-OBrien@idwr.idaho.gov>
Cc: Travis L. Thompson <tthompson@martenlaw.com>
Subject: UI - PRBA (email 3 of 3)

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Lacey,

Please see the attached. Please let me know you received this.

Thank you,

Jess Nielsen

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A STUDY AND COST ANALYSIS OF A CEDAR POLE OPERATION
ON A TIMBER SALE OF THE UNIVERSITY OF IDAHO EXPERIMENTAL FOREST

A Thesis

Presented in partial fulfillment of the requirements for the

Degree of Master of Science in the

School of Forestry

of the

University of Idaho Graduate School

by

Robert Henry Seale

1942

PREFACE

This study has been made possible through the cooperation of the University of Idaho, School of Forestry, Moscow, Idaho and of Mr. Richard Everingham, Harvard, Idaho with the writer. The work was started in September, 1941 on the Experimental Forest and continued through the winter until May, 1942.

ACKNOWLEDGMENTS

The writer is indebted to the following members of the faculty of the School of Forestry: Dean D. S. Jeffers, for the guidance which led the writer to his choice of this field of forest research and through the problems developing in its course; Dr. M. E. Deters, in charge of the School's timber sales, whose contacts made this particular study possible, and who supervised the field work; Professor Ernest Wohletz, for able assistance in application of principles of economics and cost analysis to the interpretation of findings.

Especial thanks are due Mr. Everingham, on whose operation the field work of this study was conducted, who made available to the writer all of his cost and production records, as well as offering immeasurable assistance through his personal observations on matters not reducible to quantitative measurements.

A STUDY AND COST ANALYSIS OF A CEDAR POLE OPERATION
ON A TIMBER SALE OF THE UNIVERSITY OF IDAHO EXPERIMENTAL FOREST
BY

ROBERT HENRY SEALE

INTRODUCTION

THE CEDAR POLE INDUSTRY (14)

Western red cedar, Thuja plicata, began to play an important part in the cedar pole market in the first decade of the present century. Between 1920 and 1930 it furnished a greater portion of the supply than any other species, making up about 30 per cent of the total. It now contributes about 20 per cent, but still outranks all competing species excepting the southern pines as a group. The region consisting of northern Idaho and northeastern Washington has lead in the production of the species and will probably continue to do so for two or three decades. Up to 1930 this region contributed 60 per cent of the western red cedar poles produced, with the remaining 40 per cent coming from British Columbia and western Washington, and minor amounts being produced in western Oregon and western Montana.

The total present inventory is 7,260,000 poles in sawtimber stands and 780,000 in non-sawtimber stands. The demand for poles is remarkably stable. It is the practice to replace about 5 per cent of the poles in use each year. Ninety-five per cent of all poles purchased undergo preservative treatment of some kind. Since 1906, the annual drain has averaged 400,000 poles. Since 1925, it has averaged 300,000 poles, and it is estimated that it will approximate 360,000 in the future. Growth estimates indicate that

in the next 20 years, 1,139,000 undersized trees will attain pole size, or 56,950 annually. A potential growth figure of 186,000 per year is made, not considering present non-stocked or cedarless areas, or of 288,000 per year if the latter are included.

The conclusion apparent from these figures is that estimated future drain exceeds present growth plus the future growth, which is estimated to be attainable, even under intensive management. It is predicted that the present stock will be exhausted in 22 to 25 years, after which there will be a slump of from 20 to 40 years. For sustained yield it would be necessary to reduce annual drain to 200,000 poles, in which case the present stock would last 45 to 50 years, and there would be no ensuing slump as present reproduction would by then have attained pole size.

The zone of western red cedar growth coincides very closely with the main body of the western white pine, Pinus monticola, forest. More than 80 per cent of the total pole inventory occurs in what is designated as the western white pine type. In this type there is an average of 5.1 poles per acre. There are only 2 other types, the western red cedar-lowland white fir and the western red cedar, in which pole density amounts to 5 per acre; but these types furnish only 7 and 4 per cent respectively of the total pole stock. Western red cedar is confined to a zone rising to several hundred feet below the altitudinal limit of commercial white pine.

The cedar stands are characteristically even-aged, the cedars occurring in mixture with several other coniferous species. The principal associated species are white pine and western larch, but also include western hemlock, lowland white fir, Engelmann spruce, Douglas fir, and lodgepole pine. The cedar is a tolerant species, requiring 300 to 500 years to come into canopy. They may attain an age of 1000 years and take over the forest, forming pure cedar groves. The latter, incidentally, though the delight

of the recreationist, are the bane of the pole producer.

The most favorable age for the harvesting of poles is between 120 and 150 years. Stands of that age average between 8 and 9.5 poles per acre, with lengths ranging from 25 to 90 feet and averaging 35 feet, and with very few trees over 24 inches in diameter. In the forest survey, only trees with a minimum length of 25 feet to a 6 inch top and with a maximum diameter of 24.9 inches, breast high, were counted as of pole size. Yields of poles per acre in western white pine stands are given in Table 2a, Appendix.

A CEDAR POLE OPERATION

It is deemed advisable to describe a typical operation of the class which this study is taken to characterize. Where the methods of this particular operator deviated from the usual, mention of that fact will generally be made in connection with discussion of the effect which that change seems to have had on costs.

Phases of a Pole Operation

Cutting. Pole "making" consists of falling the tree, possibly making a long-butt cut, limbing for the length of the pole, topping, and peeling. The operator, having acquainted the makers with pole specifications and instructed them as to what sizes and classes of poles he does or does not desire to have cut, leaves to the makers' discretion the selection of the trees to be felled.

Brush piling. The work of lopping and piling the limbs, tops, and bark of the trees is handled separately from the making.

Skidding. Teams, with which skidding is usually done, may be provided by the operator or furnished by the skidder. Payment for skidding usually provides that the skidder do the work of preparing decking areas. Generally

and can obtain the use of their equipment for short periods). The owner, too, usually goes with the tractor as its operator. Two local tractor owners were involved in the pre-haul phase and another in the road-building attempt; all the machines were of the 30 or 35 horsepower class, and all were inadequate for the work to which they were put.

An A-frame, hastily constructed on the spot, usually suffices in the work of loading poles with a team. Ambitious to improve the efficiency of this phase, the operator acquired what passed for a "jammer." Mounted on log skids, it consisted of an A-frame, and a winch operated by an old truck engine. The arrangement of driveshaft, gears, and clutch was very makeshift; indeed, failures of parts rendered the whole apparatus unusable before it had ever been put to its intended use of loading poles. The investment, about \$100, was almost a total loss. Following this, he traded a light truck, almost his only asset of any worth, in part payment on a "much better" jammer. The latter had not been put into use on the operation at the time of concluding the study.

Such unfortunate transactions are typical of the woes of the small operator. Though they are never anticipated, they continually arise and are responsible for costs being always greater than expected. Dependence upon such equipment and liability to such misfortunes manifestly add to the inefficiency of production.

CONDITIONS OF THE STUDY

Location and Description

The University has sold pole stumpage from two different areas to Mr. Richard Everingham of Harvard, Idaho. These have constituted, for the latter, two separate operations.

The first of these, referred to as Project 1, covered 400 acres located

in Sections 6 and 7, T 40 N, R 3 W, B.M. Cutting there started in October, 1940 and hauling was completed in August, 1941.

The second of these, referred to as Project 4, covered about 400 acres located in 9 lots of about 45 acres each in the north half of Section 4, T 40 N, R 3 W, B.M. Cutting on the second sale began in April, 1941 and all phases except hauling had been completed by October, 1941. The location of Project 4 is 35 miles from Moscow, between the towns of Harvard and Deary. Since the time of collecting the data was during the school term, and weather conditions being what they were, it was not usually possible to have the writer's opportunities for personal observations coincide with the most auspicious periods of activity on the operation.

The areas of both timber sales, with the exception of about 20 acres of Project 1, had been cut over for cedar by Potlatch Lumber Co., 12 years previously. From the virgin area, 500 poles were cut, as compared to 350 from the more than 200 acres of cutover land on the same sale. It is well to bear in mind the highly depreciative effect of this previous cutting on the remaining stand, both as to size and quality. Furthermore, a large proportion of the cedar poles produced are now coming from just such areas.

The previous cutting rendered the area relatively open, but made for a considerable amount of debris on the ground which hampered skidding.

The area of Project 4 was tapped by an abandoned railroad grade which had been put in at the time of the earlier cutting. By expending very little work to regrade and realign portions, it was intended to use this grade in hauling the poles from the area to the county road. Fall rains ruined the truck road thus constructed, as well as the chances of completing the operation that season, as will be brought out in the next section.

Weather Conditions Affecting the Operation and the Study

Unseasonable rains throughout the fall and winter of 1941 interrupted

work on the operation and, consequently, on the conduct of this study.

Skidding had been practically completed, and the hauling just about to begin, when the rains began. The old grade, referred to above, was shortly in such bad condition that it was impossible to get any sort of load over this route by truck. In the course of the winter, a creek, which the grade crossed and recrossed several times, so completely washed out the road in places that it was considered hopeless to repair it. The operator then decided to start afresh and build a truck road on a sidehill grade. In the spring he start this construction and had completed right-of-way cutting and blasting, but even as late as the first of May ground conditions were such that the tractor-dozzer equipment available was unable even to make a start at grading the road.

Meanwhile, when truck hauling was first interrupted, the Carney Company felt conditions warranted them offering a bonus of $1\frac{1}{2}$ cents per foot to the operator if he were obliged to use tractors to skid the poles the 2-mile distance to the county road. An attempt was therefore made to use tractors and drays for this purpose, called the "pre-haul" elsewhere. Conditions varied from snow or frozen ground to deep mud, but it was impossible in any way to get results that would pay. When the company found how much time and money were being expended in this effort, they suggested that the operator give up until conditions improved.

To have been able to present these road construction costs, together with comparative hauling costs and skidding costs, would have added considerably to the value of this study. Moreover, the delay made it impossible to complete costs for Project 4, with which the more detailed discussions herein and the time study are concerned; whereas complete cost and production records were available for Project 1 and are made use of in some of the analyses. It became necessary to proceed with the preparation and writing

of the report as far as available data permitted. The analysis is therefore incomplete since the greater part of the poles remained in the woods, only a load or two had been actually delivered to the yard at Harvard, and any computation of totals in the overhead type of expenses was impossible.

PURPOSE OF STUDY

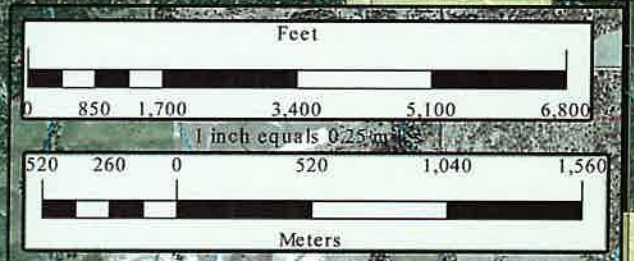
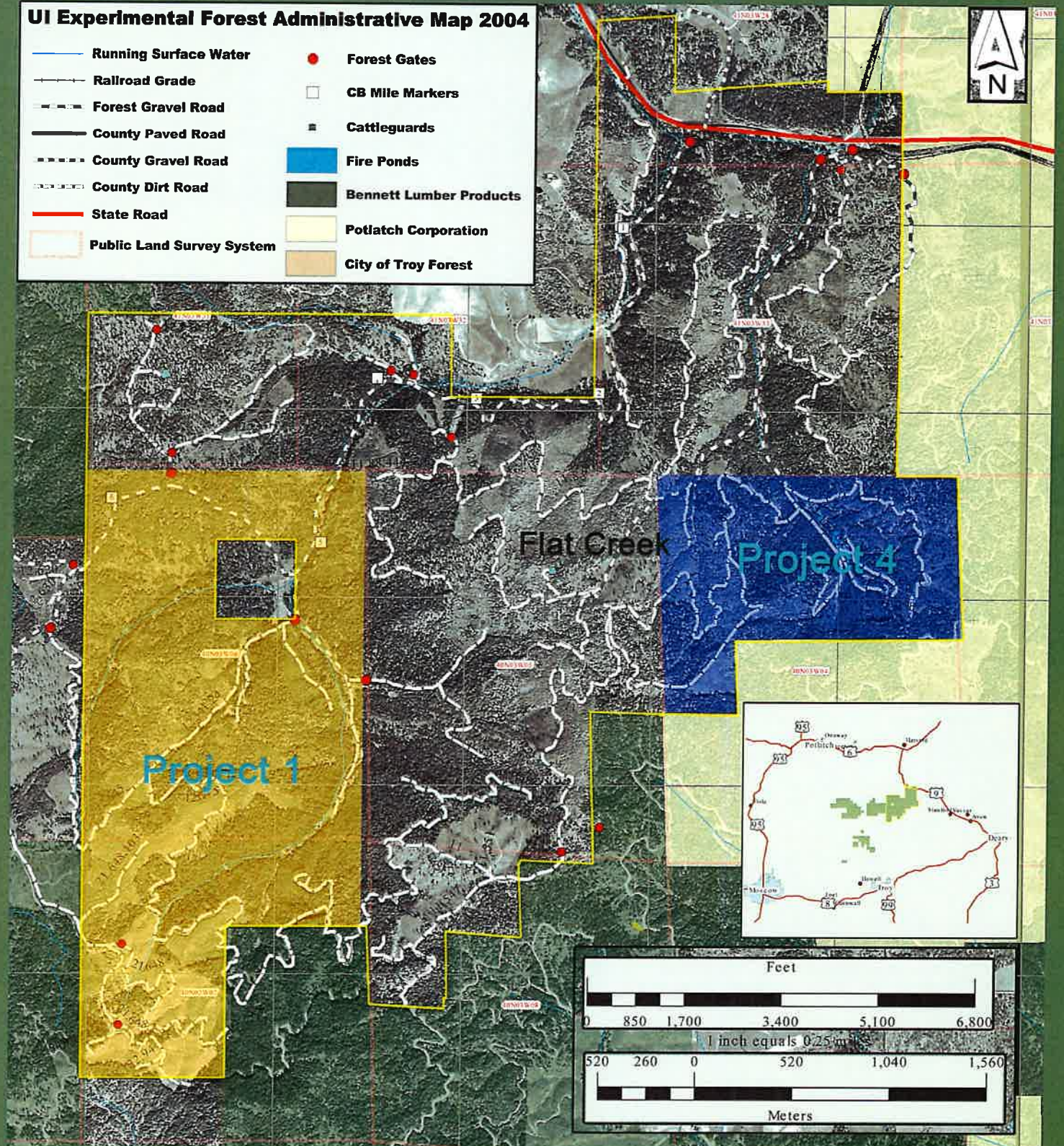
First, the objective of this study was to investigate the nature of a typical small cedar pole operation and to determine the rates of production and costs descriptive of such an operation on the University of Idaho Experimental Forest.

Second, the purpose was to demonstrate the methodology of the time-study approach to cost control in small pole operations. This was to discover what modifications of technique might be necessary for such a study and to what extent the findings might be generally applicable to small operations of which the one studied is representative. These facts were to be embodied in a design for a proposed study.

Benefit of the study is expected to accrue to the University in its management of the Experimental Forest with respect to sales of pole stumpage, and to individuals interested in the conduct of cedar pole operations and their costs.

UI Experimental Forest Administrative Map 2004

- | | |
|---|---|
|  Running Surface Water |  Forest Gates |
|  Railroad Grade |  CB Mile Markers |
|  Forest Gravel Road |  Cattleguards |
|  County Paved Road |  Fire Ponds |
|  County Gravel Road |  Bennett Lumber Products |
|  County Dirt Road |  Potlatch Corporation |
|  State Road |  City of Troy Forest |
|  Public Land Survey System | |



Flat Creek

Location of Complete Research:

Author & Title: Robert Henry Seale:
A STUDY AND COST ANALYSIS OF A CEDAR POLE
OPERATION ON A TIMBER SALE OF THE UNIVERSITY
OF IDAHO EXPERIMENTAL FOREST
University of Idaho Library:

Call Number- SD538.2.I2S4

College of Natural Resources:

Department- Forest Products/Forest Resources ?

Other Sources:



THE INFLUENCE OF SILVICULTURAL THINNINGS ON THE PRODUCTION OF
THE KEY FOODS OF THE WHITE-TAILED DEER AND RUFFED GROUSE

A Thesis

Presented in Partial Fulfillment of the Requirements for the

Degree of Master of Science in Forestry

Major in Wildlife Management

In the

University of Idaho Graduate School

By

Alfred H. Marsh

1954

Summary

Five plots were laid out on the University of Idaho Experimental Forest to study the effect of silvicultural thinnings on the production of the key foods of the white-tailed deer and the ruffed grouse.

Two of the plots were one-fifth acre in size. One of these was thinned. Three plots were two-fifths acre in size. Two of these plots were thinned. The thinnings removed twelve, eighteen, and twenty-three percent of the basal area originally on the plots. The residential basal areas on all the plots varied from seventy-eight to one hundred and forty square feet per acre.

On selected serviceberry stems, the living annual growth for the past four years was measured. Buds and fruiting stalks were counted. Average twig length by plots by years was expressed as a percentage of the 1950 average. Total twig length by plots by years was expressed as a percentage of the 1950 length. The total growth of individual stems for each year was expressed as a percentage of the 1950 growth lumped by plots and the percentages averaged. The total growth of individual plants for 1950-1951 was compared with 1952-1953 as a ratio.

The curve of the thinned one-fifth acre plot follows the trend of its control both before and after the thinning. The curves of the two-fifth plots are inconsistent. The ratios were inconsistent within all plots. No significant difference could be demonstrated between the various thinned plots and their respective controls for bud production or number of fruiting stalks.

In each plot, nine sub-plots totaling 84.6 square feet were clipped. Grasses, forbs, shrub current growth was harvested. This was dried and weighed. No difference in productivity due to thinning could be demonstrated between the thinned plots and their respective controls.

Loop tallies on the foliage and stems within the sub-plots showed that there may have been a slight increase in the occurrence of grasses and sedges. Loop tallies on the litter show that all thinned plots have more conifer (needle) litter than do the controls. The controls in turn have a slightly greater amount of both hardwood litter and herbaceous litter than do the thinned plots. The thinned plots have 135-200 percent more small woody material (less than three-eighths inch in diameter) on the ground than do the controls.

List-quadrat tallies were found unsatisfactory for the type of vegetation being studied. Measurements of light grey intensity within the forest were also tried and found inconsistent by the methods used.

The shrub and ground-cover data collected two years after the thinning failed to show any difference between thinned and control plots which could be attributed to the thinning. It appears that the differences which exist are due to the inherent qualities of the individual plots.

Conclusions

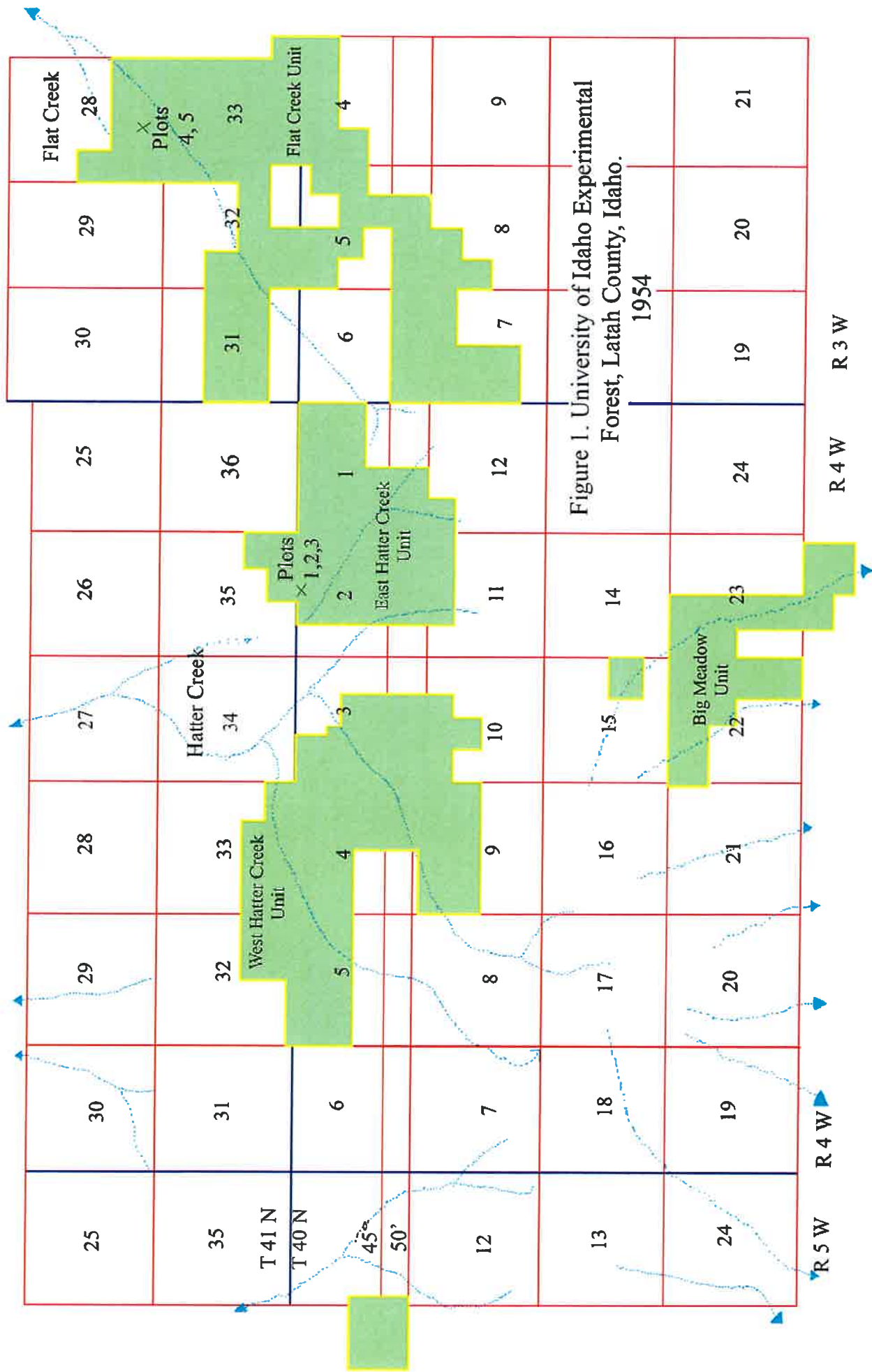
The thinnings in this study were 12 percent, 18 percent and 23 percent of the basal area originally on the plots. This degree of thinning was insufficient to produce a measurable increase in the growth of the key shrub and ground-cover plants during the time of the study. Where differences between plots have been shown it must be concluded that the differences were due to inherent qualities of the particular plot rather than the treatment or lack of it.

The differences between Flat Creek and Hatter Creek plots indicate the great care which must be exercised in the interpretation of the data. The application of data collected in one area to the problems of another area within the same vegetative zone, even a few miles away, must be done with discretion.

Study Site

The Flat Creek plots, 4 and 5, were established about five chains (330 feet) west of Flat Creek about $\frac{1}{4}$ mile south of the Highway. The plots are in the northwest quarter of section 33, township 41N, Range 3W, Boise Meridian..

The Hatter Creek Block of the University of Idaho Experimental Forest lies about 4miles west of the Flat Creek Block. It is about 5 miles south of Princeton, Latah County, Idaho. Plots 1, 2, and 3 were established about five chains south of the north gate of the some eight-hundred odd acres of the deer enclosure.(Fig.1)



Location of Complete Research:

Author & Title: Marsh, Alfred H.

The Influence of Silvicultural Thinnings on the Production of the
Key Foods of the White-Tailed Deer and Ruffed Grouse

University of Idaho Library:

Call Number- **SD396.5.M37**

College of Natural Resources:

Department- **Wildlife**

Other Sources:

