

A MANAGEMENT PLAN FOR SECTION 33,
TOWNSHIP 41 NORTH, RANGE 3 WEST,
UNIVERSITY OF IDAHO FOREST

A Thesis

Presented in partial fulfillment of the requirements for the

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by

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INTRODUCTION

The problems encountered by the forest manager in putting timber lands under management are a result of past forest practices. An analysis and understanding of the factors which operated and resulted in these practices is a worthwhile aid in designing a management program. It is one thing to recognize past errors, but it is something else to remedy them or prevent them from reoccurring.

Nowhere else in the world has the consumption of forest products approached that of the United States (11). America was originally a country rich in natural resources, and timber was one of them. As a people our heritage was a vast and seemingly inexhaustable supply of timber that covered 822 million acres or 43 per cent of the land area. Nearly the entire area east of the Mississippi River was timberland, as well as extensive regions in the west. It has been estimated that the original sawtimber volume was 5200 billion board feet.

"Forests supported the pioneers and built the nation" (11, p. 1). Figuratively speaking, when the country was first settled there was timber to burn, and that was what was done to much of it, for the land had to be cleared so that crops could be grown. Some of the timber was utilized, but for the remainder there was no market and it was destroyed. The nineteenth century was a golden age of expansion and development.

A rapidly increasing population pushing westward, and rapidly developing and expanding industries resulted in nearly one-fourth of the land being cleared for agricultural and industrial purposes by 1875. The construction of transcontinental railroads and communication lines, and the settlement of the Great Plains area and other untimbered regions, consumed large quantities of timber. During this era there was a strong competitive market for forest products, and as soon as the timber was exhausted in one locality the industry moved on to a new supply. By 1909 the estimated sawtimber volume had shrunk to 2826 billion board feet.

Around the turn of the century conservation-minded individuals warned that our forests were being depleted, and in spite of the fact that subsequent forest studies during the next forty years gave added emphasis to the fact, it wasn't until during the last depression and the period following it, that a general awareness of the situation developed. The situation as revealed in detailed reports (8, 16, 19, 29) gives ample evidence for alarm. During the past thirty-six years the total sawtimber volume decreased from 2826 billion board feet to 1601 billion board feet or a decline of 44 per cent. Nine per cent of this decrease occurred during the past seven years. The present annual drain is 18.6 billion board feet more than the annual growth. Virgin sawtimber is becoming increasingly scarce, wood using industries are becoming increasingly dependent upon second-growth stands, and the quantity of growing stock is being rapidly depleted. This, is a general forestry picture of the country as a whole.

Where then, does the University of Idaho Forest fit into the above

picture? First, the University Forest consists of nearly 7000 acres of cut-over forest land that has had the cream of the crop removed. The same factors were operative here as elsewhere in the nation, and northern Idaho in particular. Second, the University of Idaho is a land grant college that has as one of its obligations the study of the problems that affect the welfare of the citizens of the state. Third, the forest situation in northern Idaho has declined to a point where it no longer contributes its full share to the welfare of the residents there. And fourth, by using the University Forest as an experimental area, various silvicultural and management practices can be tested, and specific, well based recommendations can be made to forest operators as to the best economic and forest management practices.

The present forest problem in northern Idaho is a result of past overcutting. In turn it has resulted in the depletion of old growth virgin stands, a decrease in quantity and quality of desired species, an increase in species of low value or little present use, a low and poorly distributed growing stock, a large area of second-growth stands not yet of merchantable size and for which desirable management practices are not yet known, a large area of nonstocking forest land, and problems of fire, insect and disease control. Although a major portion of the timberland is in National Forests, it is the private lands that present the problem, for while they are the most productive and accessible, they are also the most depleted and are receiving poor forest practices.

The forests of northern Idaho are too large an asset to neglect, and the economic well being of the residents of the area depends upon the realistic management of the forest resource. Managed as a crop the forests can be perpetuated indefinitely and will yield a maximum of

wealth to the economy of the area, which is founded upon the forest industry. That portion of the land area that finds its greatest use in growing timber will promote the prosperity of the entire area. Any and all forest practices which result in the replenishment, improvement, and realistic management of the forest will keep the land productive and promote economic stability of the area.

The problem is not one than can be solved overnight. It requires much judicious thought, consideration, and planning. In the past the forests have been used wastefully, now they must be used wisely. Timber must be recognized as a crop -- one which will sustain itself indefinitely under wise management, producing forest products of such quantity and quality as to yield the owner the greatest return per acre.

If the University of Idaho Forest can be managed so as to prove that timber growing is a profitable business enterprise, then the forester can point to the area, bearing evidence that management practices are not just so much theory, but practical methods which, when put into practice, will be profitable. While it is true that proper land use and management is not the entire answer to the forest problem it is quite likely that the answer to such questions as equitable taxation, low interest loans, and timber insurance will soon follow.

REVIEW OF LITERATURE

The forest tract concerned in the following management plan has never been under management and there are no previous records to refer to. Neither, are there records of management of adjacent forest properties. However, there is considerable literature available on such subjects as

In timber cruising they emphasize the importance of planning and the intelligent observation of the factors which influence timber values and volumes. Their discussion of the principles and methods of cruising, the elements of statistical analysis, and the theory of sampling in estimating timber volumes is direct and easy to follow.

In the field of statistical methods as applied to sampling and measurement of timber, Bruce and Schumacher (5) and Chapman and Demeritt (6) have compiled those elements of statistics needed by the forest manager.

Region I of the Forest Service (14) has issued detailed instructions for timber surveys on national forests within the region, as well as instructions for making forest surveys on private lands in the Inland Empire (13).

HISTORY OF THE AREA

LOCATION AND AREA

The tract concerned in this study is Section 33, Township 41 North, Range 3 West, measured from the Boise meridian, and is part of the University of Idaho Forest. It is located near state highway 42 about ten miles northwest of Deary, Idaho, and approximately 9 miles south and west of Harvard, Idaho. The northeast section corner (26:25/33:34) is located two and one-half chains east of a rock cairn adjacent to the first hand-car siding south of the Washington, Idaho and Montana railroad trestle that crosses the highway. The area involved is 639.70 acres of timberland, but for the purpose of this study it will be considered to be a complete section of 640 acres

PHYSIOGRAPHIC FEATURES

Topography

The forest is located within a region that is classified as rough mountainous land. However, the topography consists of low ridges separated by anastomosing drainages. The approximate elevation is 3000 feet with no prominent points of elevation. There is an old woods road that traverses the section in a north-south direction, as well as numerous skid roads and remnants of road beds of two railroad spurs.

Drainage

The main drainage of the area is the East Fork of Flat Creek which flows diagonally northeast through the two center rows of forties. The West Fork of Flat Creek flows north through the section just inside the west boundary. The entire area is well drained.

Soils

The soil classification of the entire area is rough mountainous land, except for the north and west corner of the section, which is classified as Helmer silt loam (2). The soil is a thin mantle of wind-laid or loessial material over residual material of granite, quartzite, and schist, and because of the topography it is unsuited for cultivation. The Helmer silt loam is low in organic matter, with a soil and subsoil material that is noncalcareous. In the forested areas the soil is underlain with a hardpan-like material.

DESCRIPTION OF THE BOUNDARIES

The original survey of the area is believed to have been made in the 1880's, but little evidence of it now remains. All boundaries, and corners that are now established have been located by Potlatch Forests, the Forest Service, or by the manager of the University Forest.

All boundary lines run in cardinal directions, and at intervals along

their length are "University of Idaho Forest Boundary" signs, except where the adjoining property is also university land. The east, south, and west section lines have been blazed, but many of the blazed marks are partially or entirely overgrown. Section corners, quarter corners, and a few sixteenth corners are identified with yellow Forest Service corner markers. The position of the corners are marked with hewn 2" x 2" posts approximately 42 inches high. Witness trees are lacking for all except the southwest corner.

The following is a brief description of the section boundaries:

NE Section Corner to the NW Section Corner The section line is not blazed. The NE section corner is located on the top of a spur ridge in a stand of lodgepole pine saplings. A woods road crosses the section line about 25 chains west of the NE section corner. The adjoining land on the north (section 26) is also part of the University Forest.

NW Section Corner to the SW Section Corner The NW corner is located about 17 chains west of the creek on top a ridge. The line is well marked along most of its length, except through the stand of lodgepole pine, and the last one-quarter mile. The property next to the NW $\frac{1}{4}$ is a Forest Development Area belonging to Potlatch Forests Inc. The Harry Lester farmstead adjoins the NW $\frac{1}{4}$ SW $\frac{1}{4}$, and a barbed-wire fence marks the line between the two properties. The university owns the land to the west of the SW $\frac{1}{4}$ SW $\frac{1}{4}$.

SW Section Corner to the SE Section Corner The SW corner is located on an east slope and is witnessed by two trees, the blazes on which are somewhat overgrown. The line has been blazed, but the marks are almost obliterated. Corners for the sections to the south do not coincide with

those of section 33, but are located 15.39 chains to the east in each case. Woods roads cross the section line at 25.32 chains and 47.32 chains east of the SW section corner. The University owns the land to the south except for the $NE\frac{1}{4}NE\frac{1}{4}$, section 5 which belongs to the Forest Service.

SE Section Corner to the NE Section Corner The SE corner is located on a low west slope in a stand of fir and larch, adjacent to a down ponderosa pine log. The section line is well blazed along its entire length. The timber in section 34 is owned by Potlatch Forests Inc.

FOREST COMPOSITION

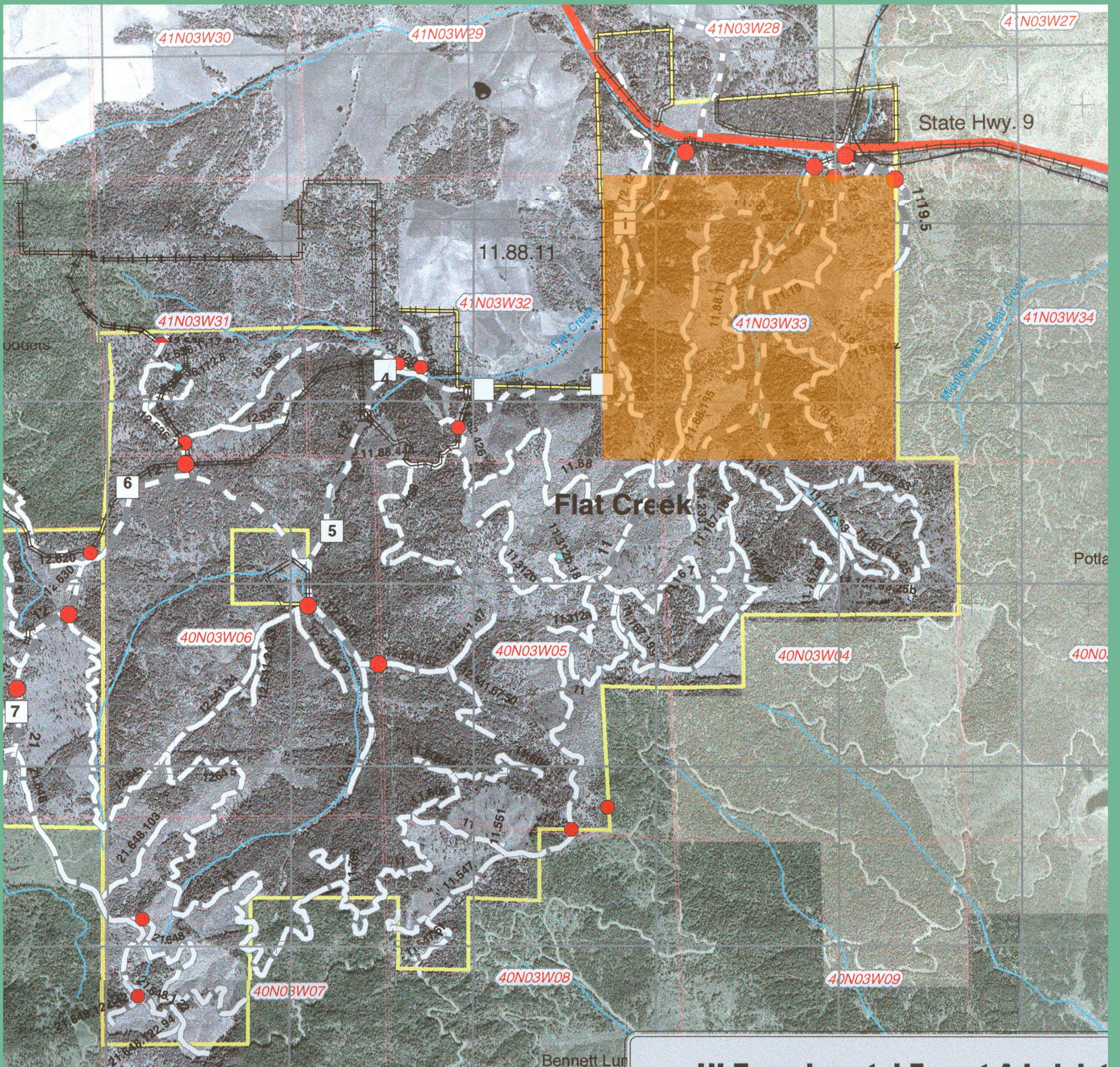
The forest is composed entirely of conifers, and may be divided into five cover types: (1) Douglas fir-ponderosa pine-larch, (2) cedar-white pine, (3) ponderosa pine, (4) lodgepole pine, and (5) brushy and open. Shrubby forms of willow, alder, and dogwood are present in all types, but they form the dominate vegetation along the West Fork of Flat Creek.

The location and distribution of the types are shown in the sketched map and aerial photograph of the area. Nearly 80 per cent of the forest or 510 acres is in the Douglas fir-ponderosa pine-larch type. The other types in order of acreage are: cedar-white pine, 80 acres; ponderosa pine, 22 acres; lodgepole pine, 16 acres; and the brushy and open area, 12 acres.

The makeup and extent of each of the types is being gradually modified, either as a result of succession, logging operations, or insects and fires. However, the management plan as conceived will be based on present composition with a few changes contemplated.

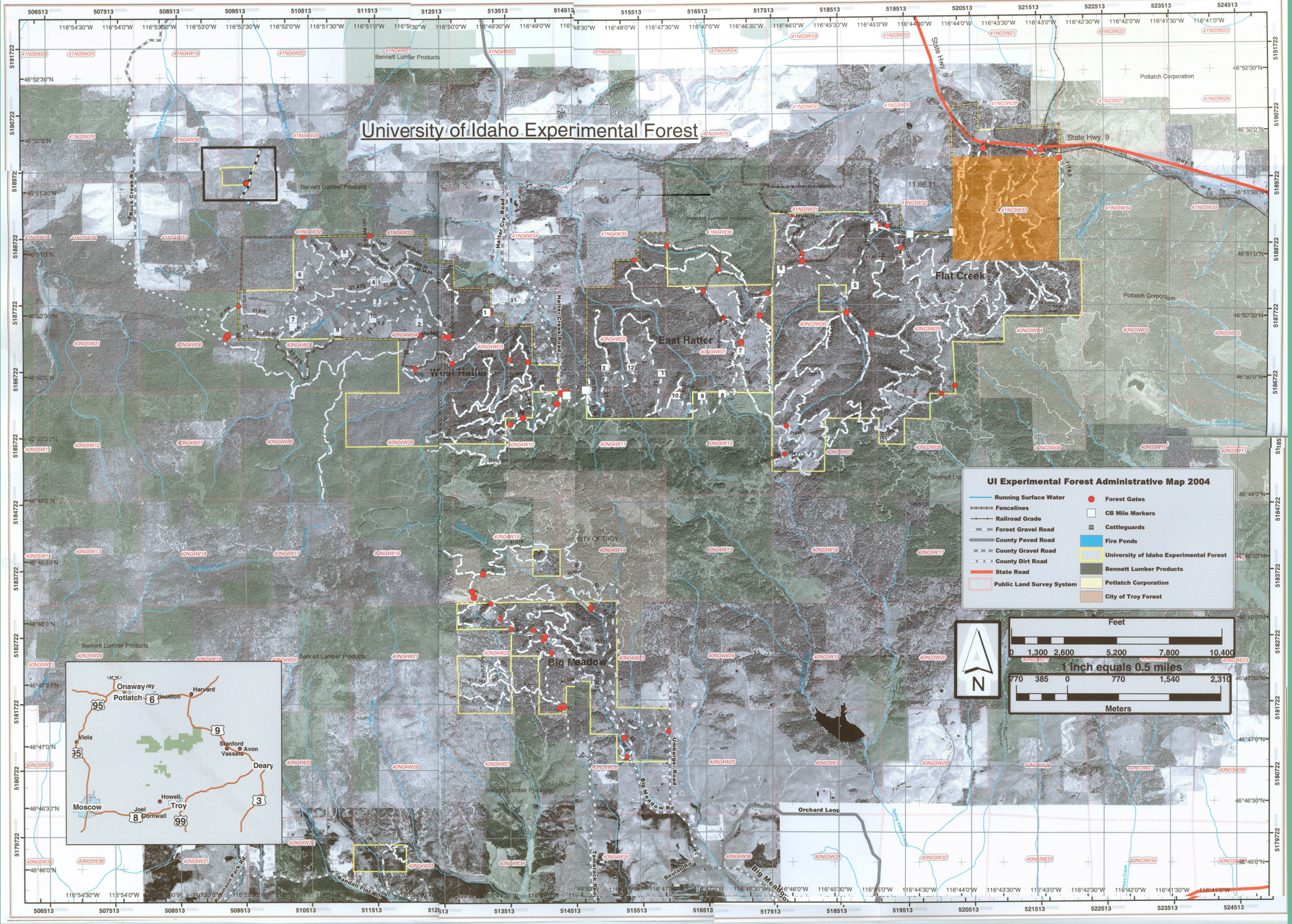
Douglas Fir-Ponderosa Pine-Larch

All three species are present in significant amounts, but it is the Douglas fir and ponderosa pine that predominate. This is the most extensive type and is located above the cedar-white pine type. Principal associated



Flat Creek Unit-2004 map

University of Idaho Experimental Forest



University of Idaho Experimental Forest Map 2004



Location of Complete Research:

Author & Title: Warren R. Randall:
MANAGEMENT PLAN FOR SECTION 33, TOWNSHIP 41
NORTH, RANGE 3 WEST, UNIVERSITY OF IDAHO FOREST

University of Idaho Library:

Call Number- SD413.I2R3

College of Natural Resources:

Department- School of Forestry (1947), Now probably
Forest Products or Forest Resources

Other Sources: