

Horse Logging a Group Selection Stand in Northern Idaho

A Professional Paper

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MASTER OF FORESTRY IN FOREST RESOURCES

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ABSTRACT

Horses were used for logging in a commercial harvest entry of a 40 acre group selection stand on the University of Idaho Experimental Forest, Moscow, Idaho. The stand is a horse logging demonstration area. During a four month period 106,120 board feet Scribner (gross) of timber was removed by a teamster, a faller, and 3 Belgian draft horses. Topics discussed are: the logging operation, logging costs and production rates, advantages and disadvantages of horse logging this type of stand, and suggestions for land managers contemplating horse logging in similar stand conditions.

Stand, Site, and Area Descriptions

Road #12 W1/2 of NW quarter of section 33, Township 41N, R3W

The horse logging demonstration stand is located on the Flat Creek Unit of the 7,158 acre University of Idaho Experimental Forest. The Flat Creek Unit is 35 road miles northeast of Moscow, Idaho. The stand is 40 acres, and is bordered to the west by Browns Meadow Road, a major access road (figure 1).

The stand is located on a side slope of Flat Creek. Elevation ranges from 2,840-2,980 feet with slopes ranging from 5% to 40% with an average of 24%. Aspect is west and northwest. Soil types are Vassar silt loam and Helmer silt loam; both are deep, well drained, and have high erosion hazard rating. The Vassar soil type has a volcanic ash cap over loess. Habitat types present are *Abies grandis*/*Clintonia uniflora* and *Abies grandis*/*Physocarpus malvaceus* on the upper slopes and ridge, and *Thuja plicata*/*Clintonia uniflora* and *Abies lasiocarpa*/*Clintonia uniflora* in the draws and lower elevation flats (Cooper et al. 1985).

The stand is characteristic of the Northern Idaho mixed conifer forest. Douglas-fir (*Pseudotsuga menziesii glauca*), grand fir (*Abies grandis* (Dougl.) Lindl.), lodgepole pine (*Pinus contorta* Dougl.), western white pine (*Pinus monticola* Dougl.), western larch (*Larix occidentalis* Nutt.), and ponderosa pine (*Pinus ponderosa* Laws.) are found on

upper slopes and ridges (in order of decreasing magnitude). Engelmann spruce (Picea engelmannii Parry), subalpine fir (Abies lasiocarpa (Hook.) Nutt.), and lodgepole pine are found on the lower slopes and in the draws (in order of decreasing magnitude). Stand attributes prior to 1984 commercial harvest are listed in Table 1.

Table 1. Stand attributes prior to the 1984 commercial harvest.

-Average net volume per acre: 24.486 thousand board feet Scribner (mbf.)

-Average gross volume per acre: 27.455 mbf

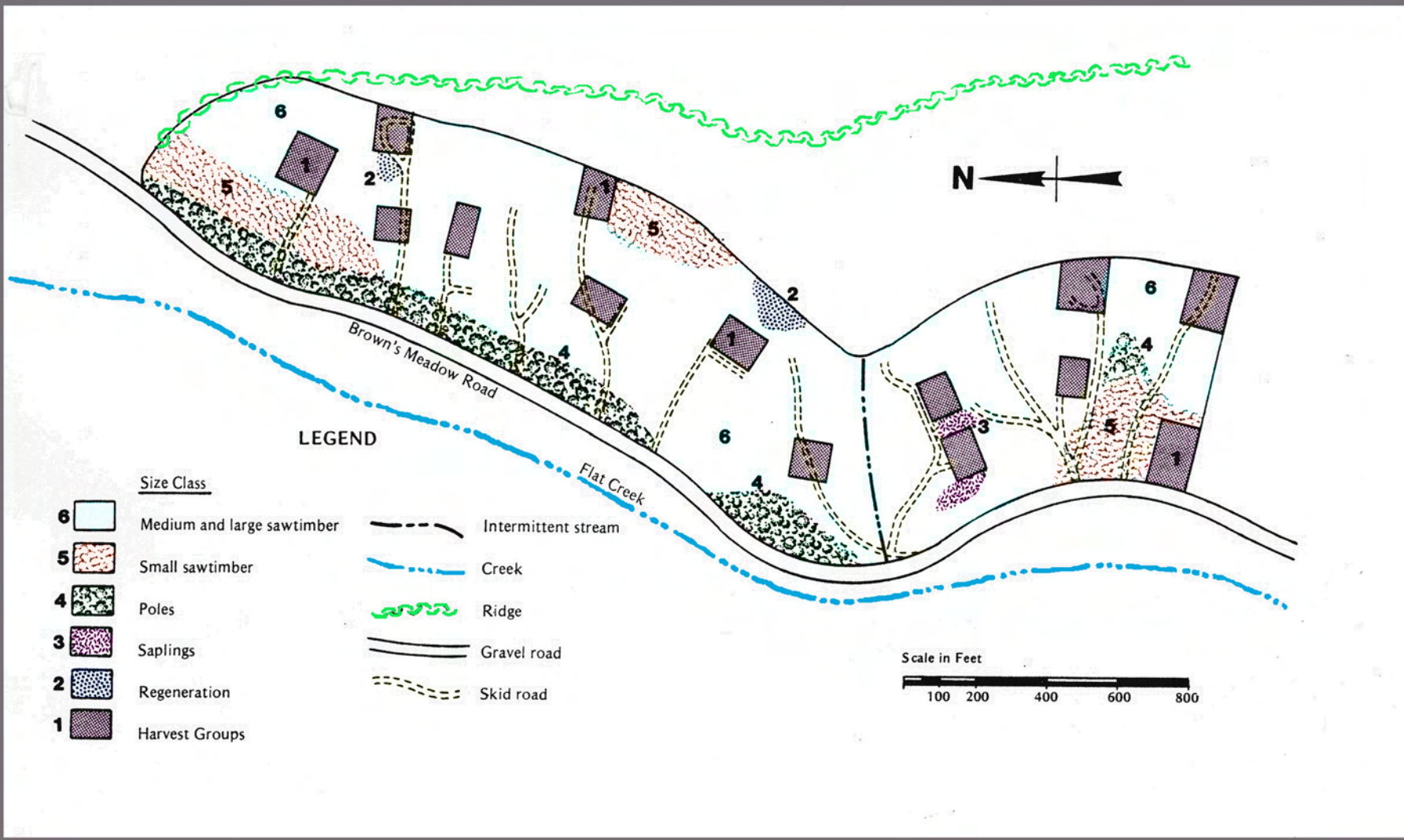
-Average basal area per acre: 185.3 square feet

-Average stand growth: 262.0 board feet per acre per year.*

-Average trees per acre: 428.6

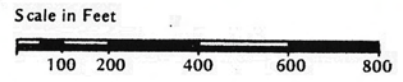
-Average quadratic diameter at breast height: 8.4 inches

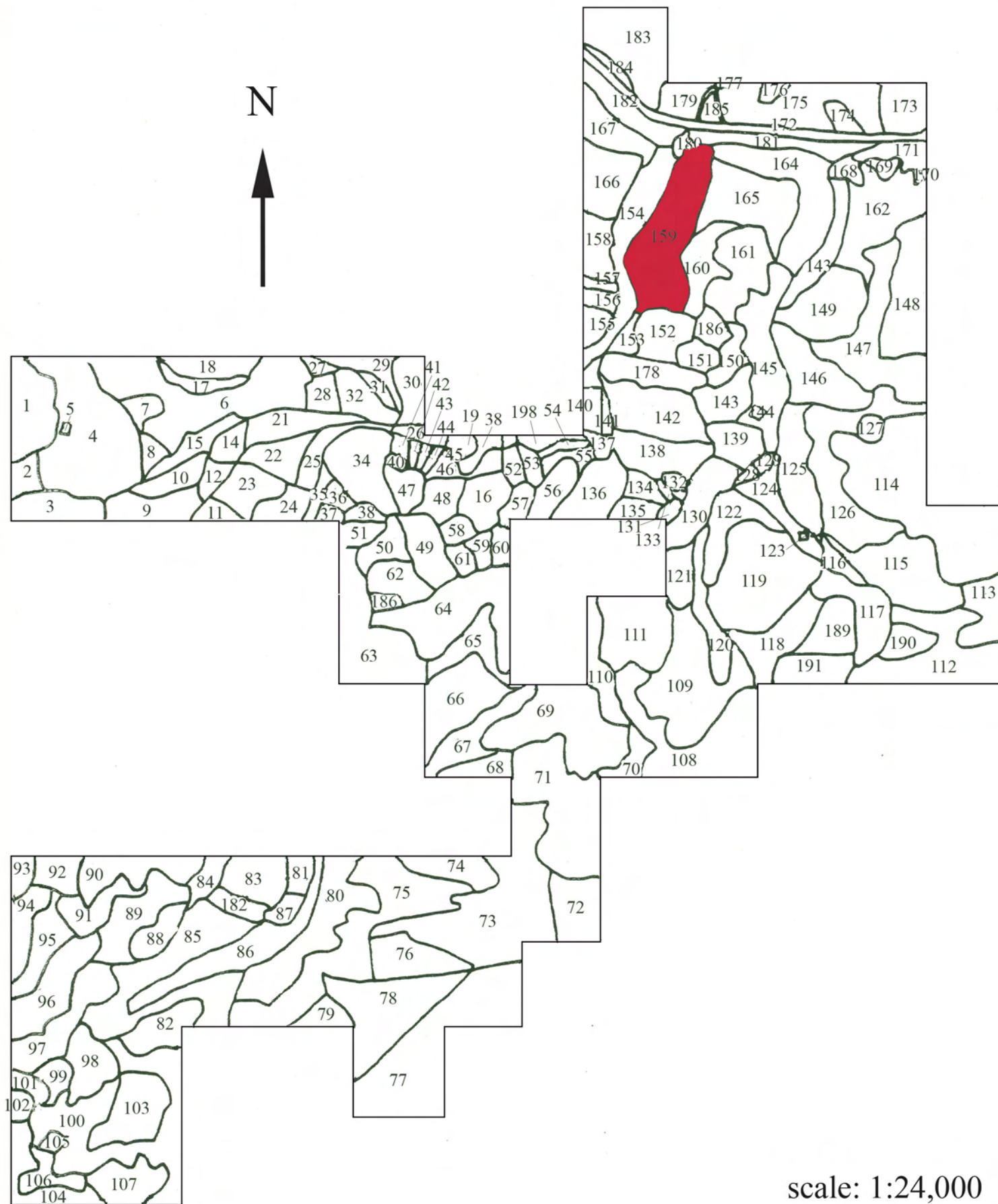
*Stand Prognosis Model (Stage 1973) projection (Version 5).



LEGEND

- | Size Class | | |
|------------|----------------------------|-------------------------|
| 6 | Medium and large sawtimber | --- Intermittent stream |
| 5 | Small sawtimber | --- Creek |
| 4 | Poles | --- Ridge |
| 3 | Saplings | --- Gravel road |
| 2 | Regeneration | --- Skid road |
| 1 | Harvest Groups | |





By finding the stand number on the table for the map, you are able to then find the stand number on the map and see where the research took place on the experimental forest. This map and table came from *A Combined Report For Fiscal Years 1980 Through 1986*

By
Forest Manager,
Harold Osborne
The maps were edited by
Rachel Voss

Table 6-1. Continued

STAND #	MAP #	STAND DESCRIPTION	HARVEST		SLASH/		REFOREST		LOGGING	
			ACRES	ACTIVITY CODE	FY	SITE PREP CODE	FY	PREP	CODE	REFOREST
10113	159	HORSELOGGING DEMO AREA	40	SE	85	DP&B	86	NR	86	H
10307	179	HIGHWAY 9 CLEARCUT	9.3	CC	85	BB	85	P	85	G
10308	183	HOWARD SELECTION	35.1	SE	85	DP&B	85	NR	85	G
10309	184	HIGHWAY ROW CLEARCUT	3	CC	85	JPB	85	P	85	G
10311	167	HOWARD SHELTERWOOD	14.1	SHWD	85	DP&B	86	NR		G
10312	166	HOWARD CLEARCUT	23.9	CC	85	BB	85	P	85	G
10314	158	HOWARD IMPROVEMENT CUT	6	IMP	85	DP&B	85			G

TABLE 6. AN EXPLANATION OF CODES USED IN TABLES 6-1 AND 6-2.

HARVEST ACTIVITY CODES

CC - CLEARCUT
SHWD - SHELTERWOOD
ST - SEEDTREE
SE - SELECTION
T - THINNING
LT - LOW THINNING
N - NO HARVESTING
IMP - IMPROVEMENT CUT
P - CUT PRIOR TO FY80

REFORESTATION CODES

P - PLANTED
NR - NATURAL REGENERATION
IP - INTERPLANT

SITE PREPARATION CODES

BB - BROADCAST BORD
DP&B - DOZER PILE AND BURN
L&S - LOP AND SCATTER
JPB - JACKPOT BURN
HPB - HAND PILE AND BURN

LOGGING METHOD CODES

C - CABLE LOGGING
G - GROUND SKIDDING
H - HORSE LOGGING



Location of Complete Research:

Author & Title: **Kent, Nicholas**
Horse Logging a Group Selection Stand in Northern Idaho

University of Idaho Library:

Call Number- **Not found in the Library's data base.**

College of Natural Resources:

Department- **Forest Resources**

Other Sources: