

Using a Geographic Information System to Determine
Ponderosa Pine Suitability Classes on
The University of Idaho Experimental Forest

A Thesis

Presented in Partial Fulfillment of the Requirement for the

DEGREE OF MASTER OF SCIENCE

In the

College of Graduate Studies

University of Idaho

By

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ABSTRACT

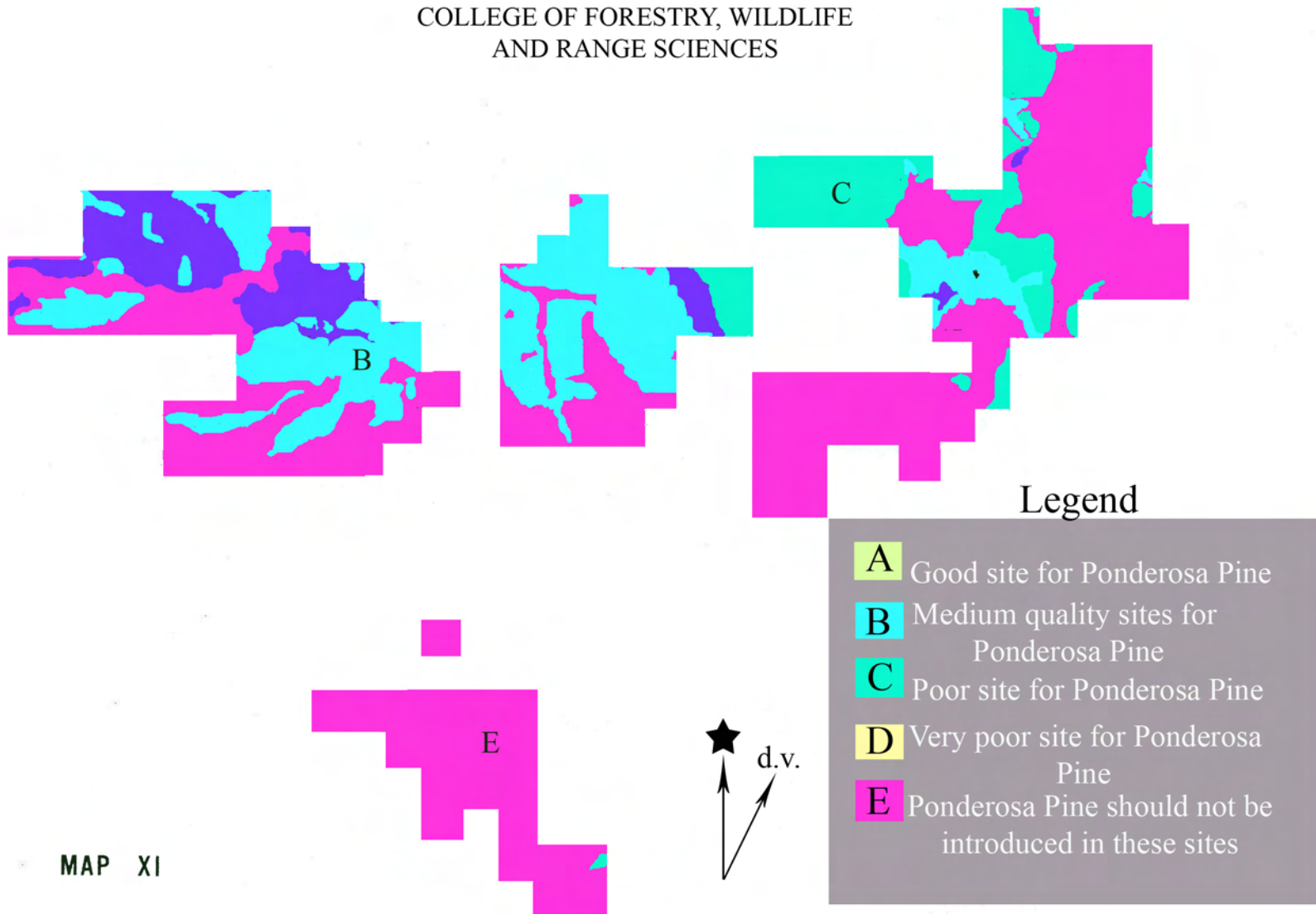
Using GIS to determine **Pinus ponderosa** (Laws) suitability sites for the University of Idaho Experimental Forest has never been done before. Such research methodology can also be applied to other tree species and wildlife. Available environmentally map able factors for **ponderosa pine** were mapped using the GIS system ARC/INFO. Different factors were rated according to the scientific literature. Overlaying, which is essentially the operation of putting single feature map layers one on another was performed. A comparison between the Experimental Forest manager's decision about the introduction of the ponderosa pine in the study area and the results gotten from the GIS analysis, using the linear combination method, shows that only 33.33% of the study results are correct. To improve on this performance, one should work with very precise ecological data, avoid elimination of small polygons on the output map and include a sufficient number of ecological factors in the study. An approach using a logical combination method may be better than the linear combination method used in this study.

Study Site

The study site for this research was conducted on the University of Idaho Experimental Forest, some 7,300 acres on Moscow Mountain, five miles northeast of Moscow, Idaho. The altitude at the study site varied from 2,640 feet to 3,660 feet. The following map more though roughly depicts the study area.

PONDEROSA PINE SUITABILITY CLASSES

EXPERIMENTAL FOREST
UNIVERSITY OF IDAHO
COLLEGE OF FORESTRY, WILDLIFE
AND RANGE SCIENCES



MAP XI

Approximate map delineation 19 degrees and
21 minutes
Annual changes
2 minutes westerly



Location of Complete Research:

Author & Title: Machrouh, Abdelali

Using Graphic Information System to Determine Ponderosa Pine
Suitability Classes on the University of Idaho Experimental Forest

University of Idaho Library:

Call Number- **SD397.P6225M24 1991**

College of Natural Resources:

Department- **Forest Resources**

Other Sources: