

FOOD HABITAT OF WHITE-TAILED  
DEER IN THE HATTER CREEK ENCLOSURE

A Thesis

Presented in Partial Fulfillment of the Requirements for the

Degree of Master of Science in Forestry

Major in Wildlife Management

In the

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By

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## Conclusions and Recommendations

From the results of this study, it was found that redstem ceanothus is the most important year around food plant of white-tailed deer in the Hatter Creek Enclosure, and that this species should be designated as the key plant on which to base management of the deer.

Another study is now being carried on to determine proper use of the redstem ceanothus after the growing season. The current study showed that considerable browsing takes place during the summer, and it is recommended that the research be expanded to obtain data regarding the effects of browsing during the growing season as well.

The Hatter Creek Enclosure was established primarily for research on white-tailed deer on an intensive scale. One phase of research that has not yet been studied is the carrying capacity. Therefore, it is recommended that a survey be made of the available browse on a minimum winter range. These data, plus a reasonably accurate estimate of the present population and additional productivity information, would determine an accurate annual allowable kill for the area.

After carrying capacity has been determined, the next step should be an attempt at experimental habitat improvement, in the form of logging. At the present time, most of the heaviest used winter range is in the timbered portions at the northern end of the enclosure. These areas produce small amounts of the more palatable winter browse species. It is recommended that these areas be logged in small blocks, not to exceed two or three acres, in order to encourage growth of these plants. It is also recommended that detailed records be kept of the vegetational composition, both before and at regular intervals after the logging, to see if the desired ecological changes have taken place.

The only conclusions that can be drawn from the productivity phase of this study, are that white-tail does sampled at Hatter Creek bred for the first time at approximately 16 months of age, and usually produce a single fawn which is born during the month of June.

## Summary

1. The second series of studies was conducted within the Hatter Creek Enclosure during 1954 and 1955. Primary aims were to determine the annual food habits of the enclosed white-tailed deer, with particular emphasis on the summer and fall months, and also to gain information on their relative productivity.
2. Food habits were studied by several different methods. During the summer and fall, data were obtained by counts of browsings on forbs and shrubs on 220 permanent 48 square foot plots, randomly located in five different cover types. Utilization of grasses was recorded in a similar manner on 220 0.1 square meter plots located along stream bottoms. Availability of shrubs was recorded on these plots by density estimates, as described by Aldous (1944). Estimates were made during summer and winter to show reduction of available browse by snow. During the winter and spring, information was obtained from snow trailing and analysis of stomach contents. Winter utilization of conifers was recorded during a timber survey of the area.
3. Eleven white-tails were collected during the course of the study, by shooting and snaring. From the does, reproductive tracts were removed and with stomach samples. Fetuses were preserved in formalin so that measurements could be made to determine age, from which the date of conception was calculated. Ovaries were also preserved and examined for corpora lutea scars, and indicator of breeding success.
4. Most of the preferred browse was produced in the shrub stage of the cedar-hemlock zone. Redstem ceanothus and willow made up nearly two-thirds of the total amount. During the winter, snow seriously reduced the availability of the redstem ceanothus, but had little effect on the willow. The low-growing species; myrtle pachistima, creeping mahonia and bearberry were almost completely unavailable with more than a foot of snow.
5. Stomach contents showed that Douglas-fir, grass and grass-like plants, bearberry and creeping mahonia comprised the bulk of food consumed during the winter

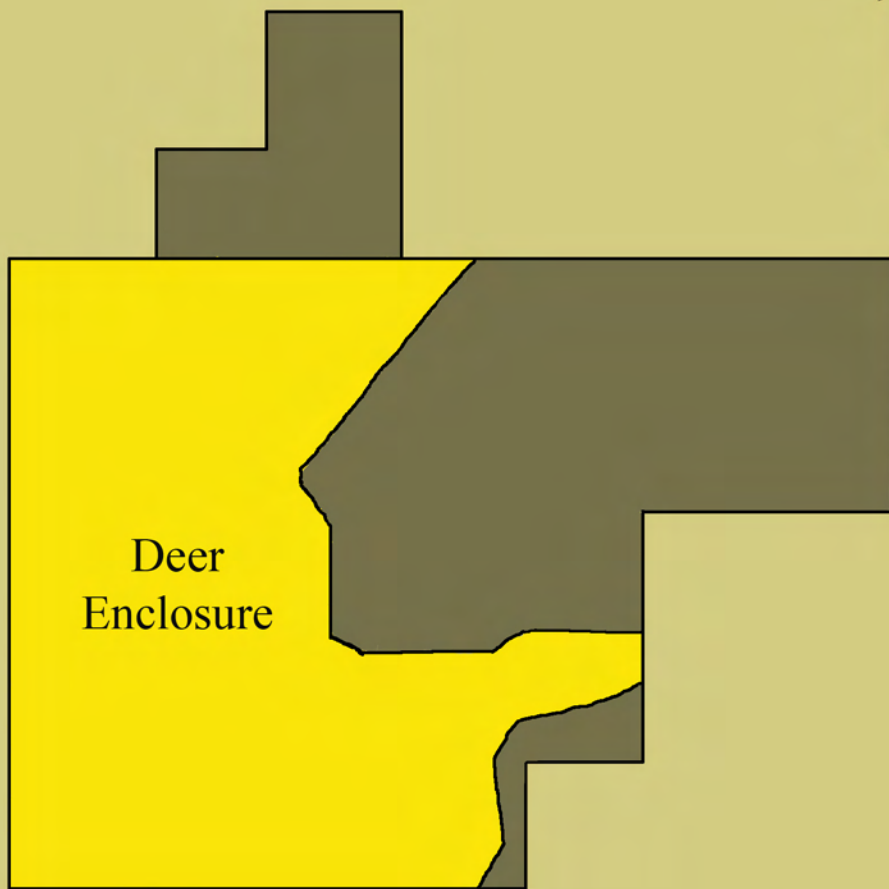
and spring months. Other species frequently found were myrtle pachistima, willow, snowberry, and western redcedar.

6. Willow was the most often browsed plant on three days in February and March, as shown by snow trailing. Others were western redcedar, bearberry, serviceberry and lichens.
7. All but one of the nine coniferous species growing on the Hatter Creek Enclosure were occasionally browsed. A survey of timber revealed that over 60 percent of all western redcedar trees under 6 feet tall were browsed by deer.
8. Utilization plots were examined four different times between June and November, 1995. The information obtained, consisted of 13, 290 individual observations of deer browsing on shrubs and forbs.
9. An arbitrary classification system based on relative palatabilities was devised for the 15 more common deer browse species. The plants were rated numerically according to their palatability rating, or ratio of utilization to availability. They were then grouped in tabular form by preference and availability, with total of four different classes. Low availability- high preference plants included; birchleaf spiraea, Utah honeysuckle, western trumpet honeysuckle, baldhip rose, and myrtle pachistims. High availability- high preference plants included; willow, redstem ceanothus, and snowberry. The other plants that were given rating were listed as low palatability, and of little importance as deer food during the summer and fall.
10. Grasses and grass-like plants made up a moderate portion of the diet from April to June. Forbs also were consumed at this time, comprising over one-third of the browsings on the utilization plots during June. This figure gradually decreased until early fall, when shrubs made up 100 percent of the total browsings.
11. The deer demonstrated a cover type preference for feeding during the summer and fall months. The most preferred type was the shrub stage of the cedar-hemlock zone.
12. In the sample of seven does, all over the age of one year, had been successfully bred and were carrying a single fetus, with the exception of a six year old doe that

was carrying twins. The one doe fawn was barren and showed no signs of being bred.

13. From fetal ages, it is determined that all of the does had been bred between November 18 and December 11. On the basis of a 200 day gestation period, this would have placed the fawning period between June 3 and 28.
14. One yearling showed signs of being bred as a fawn, which is the first published indication of this occurrence in white-tailed deer in the State of Idaho.

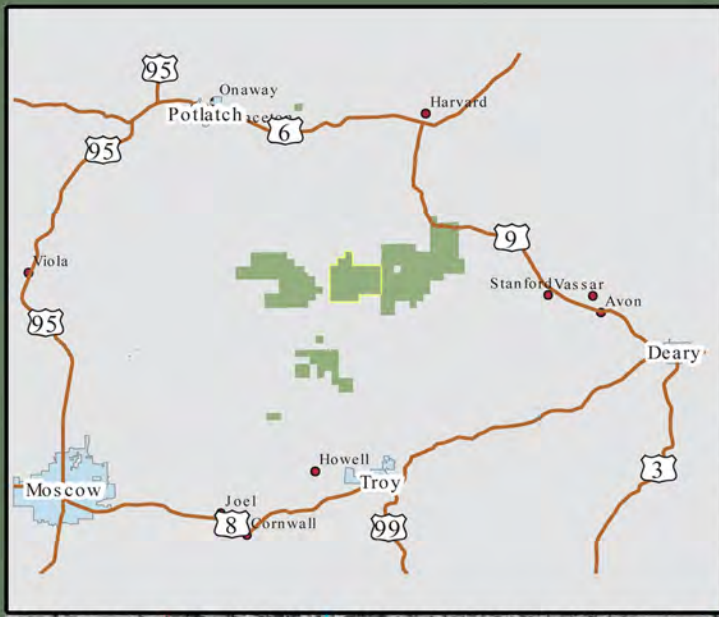
East Hatter Creek Unit Map  
1987



Deer  
Enclosure

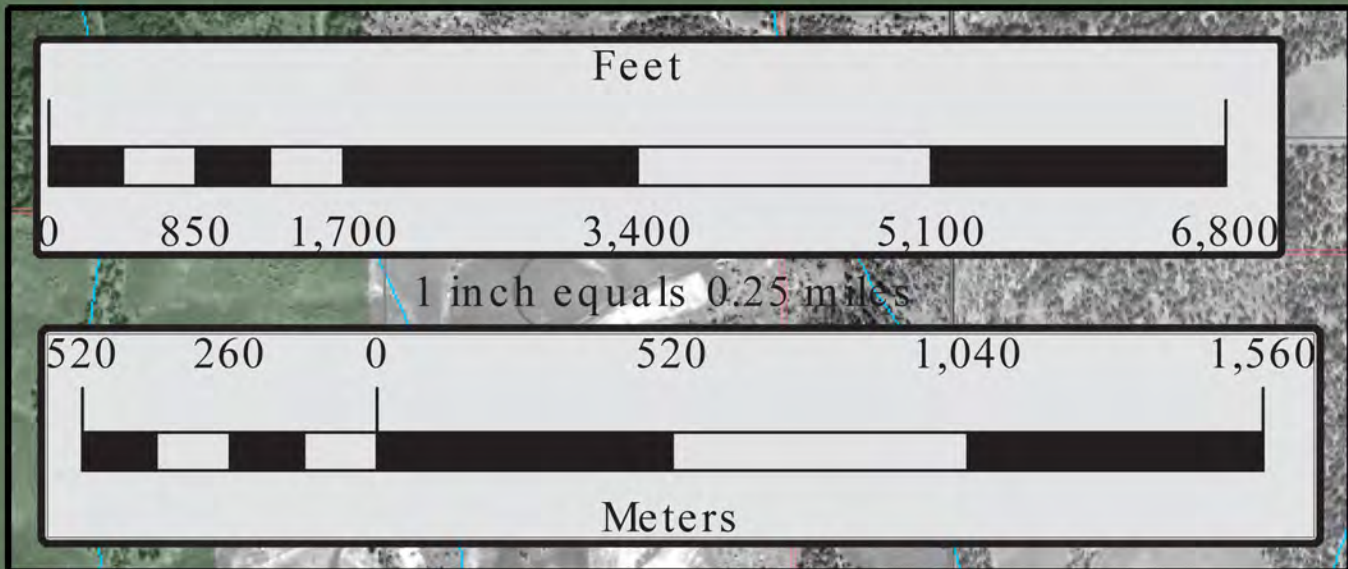
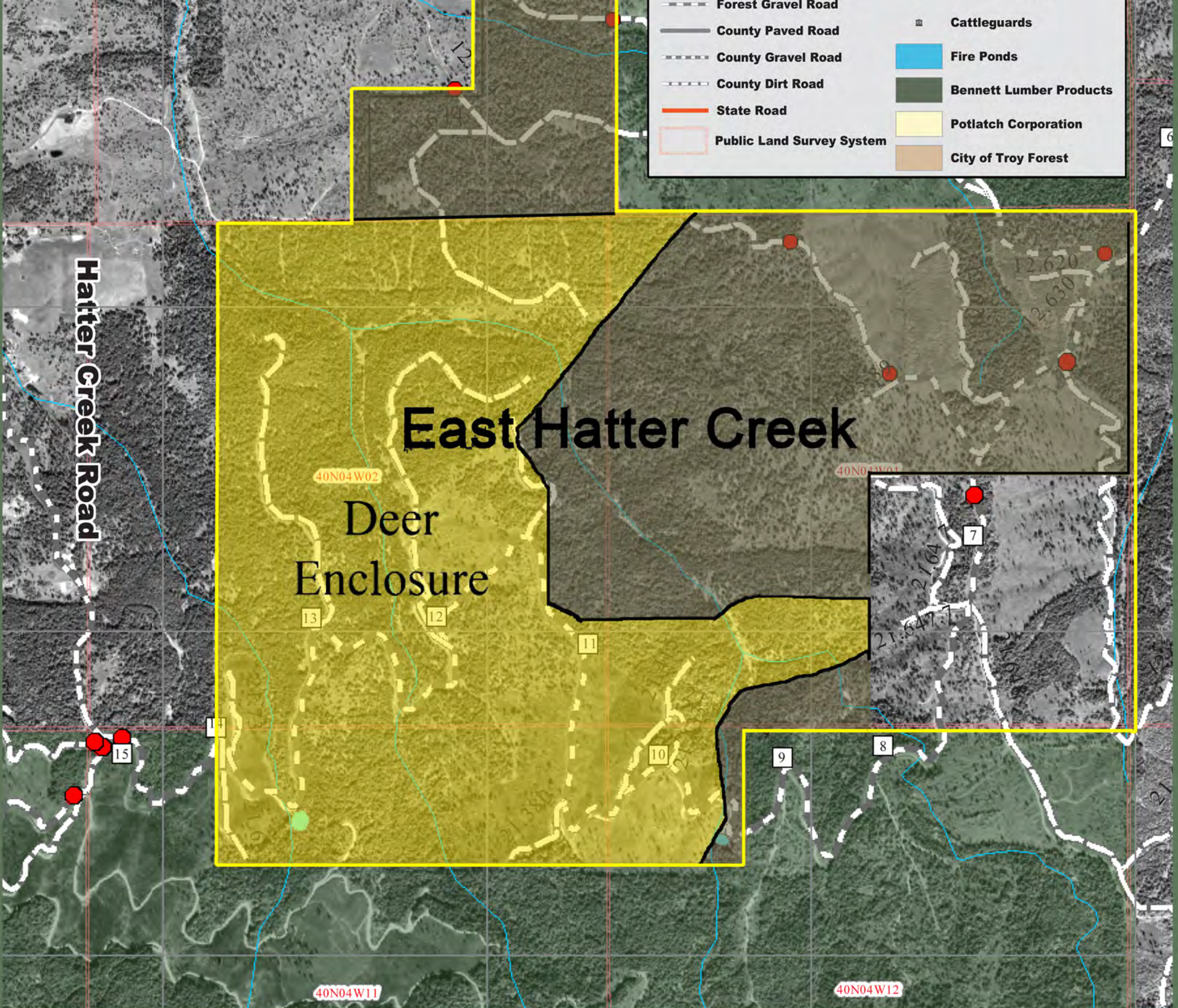
University of Idaho Experimental Forest

Scale: 1:24,000



**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          | Pottlatch Corporation   |
| State Road                | City of Troy Forest     |
| Public Land Survey System |                         |



**East Hatter Creek**



## Location of Complete Research:

Author & Title: **Roberts, Hadley B.**  
**Food Habits and Productivity of White-Tailed Deer in the Hatter  
Creek Enclosures**

University of Idaho Library:

Call Number- **QL737.U55R62**

College of Natural Resources:

Department- **Wildlife**

Other Sources: