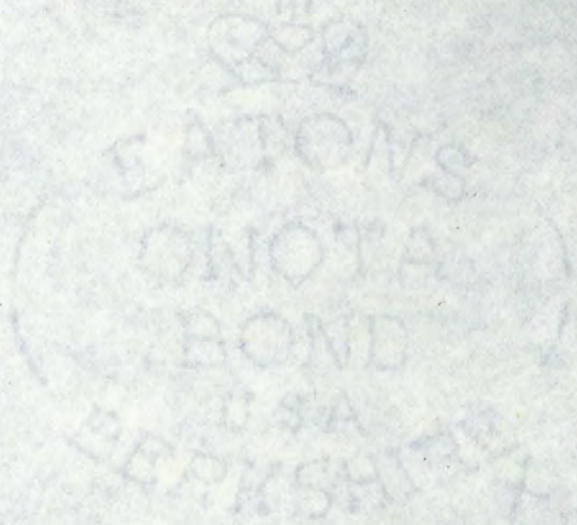


A PROPOSED STUDY OF THE BEAVER POPULATION  
AND HABITAT ALONG BIG CREEK AND ITS TRIBUTARIES  
IN THE IDAHO PRIMITIVE AREA.



Submitted by:  
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## INTRODUCTION

Beaver (Castor canadensis) have been reported in the Idaho Primitive Area. Currently, however, no information is available on the abundance, occurrence, or habitat preference of the resident population. Baseline data is needed to clarify the status of the beaver in the Idaho Primitive Area, and will be useful in the formulation of future research needs.

Beaver have been studied in numerous geographical areas and ecological settings in North America. Hall (1960) studied the ecology of Sierra Nevada beaver in relation to willow and aspen abundance and size. An evaluation of beaver censusing techniques in the Rocky Mountains of Colorado was done by Hay (1958). In this study Hay found the main beaver foods to be aspen (Populus tremuloides), willow (Salix spp.) and pond lilies (Nuphar spp.). Jonas (1955) studied the status of the beaver in Yellowstone National Park with an emphasis on beaver cuttings and vegetational growth. Leege (1968) studied the natural movements of beaver in Southeastern Idaho.

The objectives of this study are:

- 1) Identification of beaver activity sites within the study area.
- 2) Mapping of activity sites and associated habitat types.
- 3) Characterization of areas of beaver occurrence in terms of physical site characteristics and

vegetation.

4) Determination of use of woody vegetation in relation to availability.

5) Determination of preference and utilization of woody vegetation by species, size class, and distance from shore.

#### STUDY AREA

The study will be conducted in the rugged, roadless interior of the Idaho Primitive Area. The study area will extend approximately twelve miles west of the Taylor Ranch Research Facility up to Cabin Ranch. Stream elevation varies between 4,000 and 5,000 feet.

All tributaries draining into Big Creek will be investigated with emphasis placed on Monumental and Rush Creeks. One trail runs parallel to Big Creek for the length of the study area. Accessibility to other drainages is provided by scattered trails.

## METHODS

To determine areas of beaver occurrence the study area will be travelled by foot. Areas of beaver activity will be identified by the presence of dams, lodges, cuttings, and scent mounds (Hay, 1958). All areas of beaver activity will be recorded on a topographical map of the study area.

To characterize sites of beaver activity, a number of stream characteristics will be recorded: stream width, stream velocity, and slope of bank on each side of the stream. Stream gradient will be measured by dividing the difference in elevation between two points by the horizontal distance. Stream velocity will be measured by clocking the travel of a floating object between two points. Presence of rocks and debris will be described by abundance class. Surrounding forest vegetation will be classified into habitat type according to the key prepared by Daubenmire and Daubenmire (1968).

To assess the availability and utilization of woody species, three randomly-placed transects will be established on each side of the stream, perpendicular to the flow of water. Six 10 x 10 ft. quadrats will be placed at regular intervals along each transect. Transect length will be constant at each site but will vary between sites according to the distance of beaver activity from the stream. Maximum distance of activity from shore will be noted for each transect.

For determination of density of woody species, all trees and shrubs within the quadrats will be identified and counted. Separate counts of cut and uncut plants will be maintained, for determination of use by species. For cut plants, diameter at stump height will be measured, allowing determination of use by size class (Hall, 1960). Degree of use in relation to distance from shore will be evaluated along transects.

Use preference, by species, will be determined by chi-square analysis.

LITERATURE CITED

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