

TECHNICAL NOTES

U.S. DEPARTMENT OF AGRICULTURE

WYOMING

SOIL CONSERVATION SERVICE

Biology No. 113

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Subject: PORCUPINE*

General

The porcupine (Erethizon dorsatum) is a semi-arboreal mammal primarily associated with the coniferous forests, although it may wander a considerable distance from timber.

Food Requirements

In winter, porcupines feed primarily on the live inner bark of trees, particularly conifers and conifer needles. The summer diet is primarily herbaceous material, including roots, stems, leaves, berries, catkins, seeds, flowers, nuts, aquatic plants, and grass.

Porcupines in Michigan fed primarily on trees in second-growth maple-hemlock forests during winter. Within the 5- to 35-inch (12.8-89.7 cm) dbh range, neither tree height nor dbh had a significant influence on porcupine activity in northern Michigan. In the Black Hills, half of the ponderosa pine (Pinus ponderosa) damaged by porcupine feeding were in the 6.0- to 7.9-inch (15.4-20.2 cm) dbh range. Twenty-five percent of the pine within 2 chains (132 ft., 40.2 m) of an opening at least one acre (0.4 ha) in size were damaged by porcupine feeding activity while less than 9 percent of trees more than 2 chains from an opening were damaged. Porcupines tended to feed heavily on a few trees rather than feeding on trees throughout the stand.

Water Requirements

No water requirements for porcupines were found in the literature.



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*Information taken from Ecoregion M3113 Handbook and Habitat Suitability Index Models, Wildlife Species Narratives (literature searches), U.S. Fish and Wildlife Service, various dates between 1978-1984.

Cover Requirements

Porcupines prefer mixed hardwood-softwood forests. During winter, porcupines may share communal dens in caves, logs, or hollow trees. The presence of den sites is important to porcupine populations. Trees are used for feeding, resting, and escape cover. Two radiotagged porcupines in early summer preferred trees which were at least 7 inches (17.8 cm) dbh and 30 to 40 feet (9.1-12.2 m) tall.

Reproductive Requirements

Young porcupines are born in a brush protected place such as a rock den, pile, or beneath a log. Low, dense vegetation provides cover for juveniles.

Special Habitat Requirements

No special habitat requirements for the porcupine were found in the literature.

Interspersion Requirements

Porcupines apparently prefer forested areas in close proximity to openings or with enough openings in the tree canopy to allow the growth of herbaceous vegetation.

The home range of porcupines varies seasonally. In New England, winter home range depended on food availability near the den site and averaged about 6 acres (2.4 ha) with a mean radius of about 300 feet (91.5 m). The summer range varied with no specific boundaries, although males traveled greater distances than females. One study reported a winter home range of 13 acres (5.2 ha) in the Adirondacks. In Oregon, another study reported an average porcupine home range as 201 acres (81.4 ha).

Special Considerations

Porcupines may reduce both the quality and quantity of commercial timber as a result of their feeding habits and may become local pests. In the Black Hills, 9.8 percent of the ponderosa pine examined had been fed on by porcupines; 7.3 percent of the trees examined suffered permanent reduction in quality. In western Montana, diameter growth of ponderosa pine damaged by porcupines was reduced by 8 percent during a 1a-year period. Porcupines tend to feed heavily on a few specific trees, which helps minimize damage problems. Porcupines may also significantly damage orchards or crops such as sweet corn.

Some western populations exhibit an altitudinal migration in the fall and spring.