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MARTEN HABITAT RELATIONSHIPS

BY

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FINAL REPORT

Project Progress Report
Federal Aid in Wildlife Restoration
Project W-21-2, Job 7.1R

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FINAL REPORT (RESEARCH)

State: Alaska
Cooperator: Loyal J. Johnson
Project No.: W-21-2 Project Title: Furbearer Investigations
Job No.: 7.1R Job Title: Marten Habitat Relationships
Period Covered: July 1, 1980 through June 30, 1981

SUMMARY

Only two marten were captured during the initial live-trapping efforts. Inadequate traps and an abnormally mild winter which allowed the marten to remain dispersed and away from the beaches resulted in the poor success. One of the marten captured was subsequently caught by a commercial trapper 71 days later, 23 air miles (37.01 km) away.

STUDY OBJECTIVE

To determine the relationships of marten, *Martes americana*, to their habitat in coastal southeastern Alaska and to develop a long-range management plan for the species.

JOB OBJECTIVES

To compare pre-logging marten densities with post-logging densities on specific cutting units of the 1981-86, 5-year operating period of the Alaska Lumber and Pulp company's 50-year contract.

To compare small mammal densities prior to logging with small mammal densities 1-2 years after logging on specific cutting units of the 1981-86, 5-year operating period of Alaska Lumber and Pulp Company's 50-year contract.

To determine food availability for marten.

PROCEDURES

A sampling grid with trapping stations at one-quarter mile (402.3 m) intervals was established with a surveyors' chain and staff compass on Finger River, upper Hoonah Sound, Chichagof Island. That area is scheduled for timber harvest in 1981 or 1982. Since it is very difficult to accurately measure horizontal distance over steep terrain using only a staff compass and surveyors' chain, the sampling grid was situated on the flat valley floor and delta area of Finger River. The sampling grid covered an area three-quarter mile (1.21 km) in length and one-half mile (0.80 km) in width with 12 trapping stations.

Snap traps were set randomly throughout the study area for small mammals.

The lines of the grid were cleared of brush and the stations permanently marked.

The live-traps were baited with strawberry jam (Archibald 1980) and were to be run until no new marten were being caught.

RESULTS

The first marten live-trapping effort was made from September 26-29, 1980, using Sherman live traps (H. B. Sherman Traps, Tallahassee, FL). Forty-two trap nights resulted in the capture of three marten, one of which broke the trap and escaped as we approached. In addition to the three marten, four *Peromyscus* sp. were caught. Brown bears (*Ursus arctos*) destroyed two traps.

Examination of teeth and palpitation of sagittal crest of the two marten handled indicated animal 1-1 to be an old adult female and

animal 2-2 to be a female young-of-the-year. These animals were handled using a holding cone described by Hawley (unpubl.) and immobilized with an intramuscular injection of ketamine hydrochloride (20 mg) and rompun (4mg). Time to immobilization was approximately 1 minute. Full recovery was reached in about 30 minutes. The animals were held until they were ambulatory. No weights or measurements were taken.

Both animals were ear-tagged with National Band and Tag Co. (Newport, NY) style 4-1005, size 1 fingerling tags and released at the capture site.

This trapping effort coincided with the onset of the fall storms, making difficult field conditions. The heavy rain sprang most of the snap traps set for small mammals. Consequently, no data on small mammals were gathered.

Another trapping effort was begun on November 21, 1980, and continued for 3 days. Strawberry jam was used for bait, and duck feathers were scattered about the trap as an additional attraction. Commercial marten scent (Deer Creek Co., Bel Air, MD) was added to each trap.

During 31 trap nights, no marten were captured although 10 (32%) of the traps were visited by animals. These traps were sprung and/or the bait taken. It was presumed that marten were the animals which visited these trap sites as they are the only species present in the trapping area that would eat strawberry jam. No recent brown bear sign was observed. One live marten was observed at a trap which had been sprung.

This trapping effort was conducted at a time when it was assumed that marten would begin to concentrate at lower elevations. The high number of trap visitations supported this assumption. Unfortunately, the Sherman live-traps were apparently too small and/or too lightly constructed to successfully capture marten. The treadle/trigger mechanism is situated so that a full grown marten can spring the trap but only about one-third of its body in the trap. When the trap door falls, the animal can easily back out.

To successfully capture marten for marking, more suitable live-traps are needed. Upon the recommendation of furbearer researchers of the Yukon Game Branch (Ralph Archibald and Harvey Jessup, pers. commu.), Tomahawk Model 206 live-traps were secured (Tomahawk Live Trap Co., Tomahawk, WI).

When these traps were received, southeast Alaska began to experience one of the mildest winters on record. Temperatures were seldom below freezing, and the snow line remained at about 2,000 feet elevation or above. Marten dispersed away from beach concentration areas. Marten captures by commercial trappers nearly ceased after about mid-December (Mike and Kevin Johnson, Terry Perenovich, and Doug Rhodes, pers. commu.). Since the purpose of this study was to measure the impact of clear-cut

