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PINE MARTEN DEMOGRAPHICS RESEARCH PROJECT

FINAL PROGRESS REPORT

SUBMITTED - 30 JUNE 2000



PROJECT PARTNERS

**NATURAL RESOURCES CANADA - CANADIAN
FOREST SERVICE**

CORNER BROOK PULP AND PAPER

WESTERN NEWFOUNDLAND MODEL FOREST

**DEPARTMENT OF FOREST RESOURCES AND
AGRIFOODS**

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Introduction

This report is intended as an amendment to the Interim Progress Report submitted in September 1999, and summarizes any additional data collected during the period Sept 1999 until the end of March 2000. Additional reports on this work will be presented over the next several years as public presentations, scientific papers and presentations. Communication activities planned over the next 6 months are presented at the end of this report.

Field Work

Four additional trapping sessions were conducted between June 1999 and March 2000; 3 in Little Grand Lake and one in Red Indian Lake. A total of 19 new marten were captured during 989 trap nights on the two areas (Table 1). Captured marten were immobilized and passive integrated transponder (PIT) tags were implanted. All captured marten were also radio collared for subsequent aerial tracking. A minimum number of radio tracking flights were conducted over the fall and winter period due to budgetary constraints. Consequently, few of the new animals radio collared for the first time in fall 1999 will provide meaningful data on seasonal home ranges or seasonal home range movement. Furthermore, several individual marten disappeared for one or more telemetry flights, complicating our ability to detect and retrieve mortalities or to increase our knowledge about fall dispersal of juveniles. These new animals were most effective in increasing our radio-marked sample being monitored for seasonal and cause-specific mortality rates.

Table 1. Trapping summary for the Little Grand Lake and Red Indian Lake Study, July 1999 - March 2000.

| No | Trapping Period | Trap Nights | Marten Captures | | | Marten Captures 100 Trap Nights |
|--------------------------|---------------------|-------------|-----------------|-----------|-----------|------------------------------------|
| | | | New | Rec. | Total | |
| Little Grand Lake | | | | | | |
| 1 | 5-16 July 1999 | 138 | 2 | 7 | 9 | 6.52 |
| 2 | 26-29 July 1999 | 21 | 0 | 1 | 1 | 4.76 |
| 3 | 29 Sept-6 Oct 1999 | 465 | 12 | 29 | 41 | 8.82 |
| Area Subtotal | | 624 | 14 | 37 | 51 | 8.17 |
| Red Indian Lake | | | | | | |
| 11 | 8-16 September 1999 | 365 | 5 | 11 | 16 | 4.38 |
| Grand Totals | | 989 | 19 | 48 | 67 | 6.77 |

Mortalities

A total of 6 mortalities were recorded between June 1999 and March 2000; 5 in the Red Indian Lake areas and 1 in the Little Grand Lake area. While final necropsy results are pending on these mortalities the preliminary findings indicate that 4 of the 5 Red Indian Lake marten died as a result of snaring (3 rabbit snares and 1 fox snare). A preliminary analysis of all survival and mortality data will be prepared for presentation at the 3rd International Martes Symposium scheduled for 13-16 August in Corner Brook, Newfoundland. A second presentation, outlining the relative importance of snaring and trapping on Newfoundland marten, is scheduled for mid January 2001 during a 2-day workshop being conducted by the Newfoundland Marten Recovery Team in St. John's, Newfoundland (see **Upcoming Communications** section at the end of this Progress Report).

Additional Information

As mentioned in the earlier **Interim Progress Report - September 1999**, small mammal trapping was planned for the fall of 1999. During October and November 1999, we trapped both the Red Indian Lake and Little Grand Lake study areas to index small mammal densities by land cover type. With field

support from the 2nd year Fish and Wildlife Class - College of the North Atlantic, 18 sites were trapped for 3 nights in the Red Indian Lake area. A total of 116 small mammals were captured in snap traps during 4903 trap nights. Conversely, 4 sites were trapped in early November in the Little Grand Lake area. A total of 40 captures were captured during 1200 trap nights. Furthermore, 19 individuals of a new mammal species for the Island of Newfoundland - the Red-backed Vole (*Clethrionomys gapperi*) - was discovered during this small mammal trapping effort. A scientific publication (Canadian Field Naturalist - Notes) is being prepared outlining this discovery and will be submitted for publication in 2000.

Future Directions

Final analysis and reporting on the results of the Marten Demographics Project will form the basis for a doctoral dissertation by B. Hearn in the Department of Wildlife Ecology at the University of Maine - Orono under the direction of Dr. Dan Harrison, Professor of Wildlife Ecology. Analysis will center around two central areas:

1. Modeling Newfoundland Marten Population Demography
2. Habitat Characteristics and Landscape Patterns of Newfoundland Marten

Analysis of data will be ongoing beginning in September 2000. As mentioned, preliminary and final results will be forthcoming over the next several years as data analysis is completed. Final reports and presentation of results to sponsoring agencies and departments will be conducted once data analysis is completed.

Upcoming Communications

Communication activities planned over the next 6 months are outlined below:

- 2001 Hearn, B.J., C. Lundrigan, and W. Curran. *Accidental mortality in Newfoundland marten; analysis from a 5-year study*. Jan 18-20, St. John's, Newfoundland. Invited Presentation to RENEW- Newfoundland Marten Recovery Team Workshop
- 2000 Hearn, B. J. *Conservation of Newfoundland marten; a research perspective*. Invited Presentation

- to Industry and Senior Forest Resource Managers - Client Consultation, Corner Brook, Newfoundland, May 29th.
- 2000 Hearn, B.J., TV Interview: CBC Supper News Program- *Here and Now: Red-Backed Vole Discovery in Newfoundland*. Broadcast Provincially.
- 2000 Hearn, B. J., Globe and Mail article interview on results of research and discovery of new small mammal species for Newfoundland. June 2000
- 2000 Hearn, B. J. , *Marten, Moose and Mice: The Expanding Biodiversity of Newfoundland*ⁿ. *Invited Presentation*: National Meeting of Canadian Nature Federation, Corner Brook, NF, 13th July, 2000.
- 2000 Hearn, B.J., *Managing for marten in Newfoundland: charting a new course*ⁿ . *Invited Presentation*: National Meeting of the Canadian Institute of Forestry; Corner Brook, NF, 10th August 2000.
- 2000 Hearn, B.J., C. Lundrigan, and W. Curran, *Survival and Cause-Specific Mortality for American Marten in Newfoundland*. Presentation & Published Abstract. Proceedings of the 3rd International Martes Symposium, Corner Brook, NF, 14th August 2000.
- 2000 Kathy Knox, Brian Hearn, Joe Brazil, and Jason Pond. *Development of a HSI for American Marten as a Forest Planning Tool in Newfoundland*. Presentation & Published paper. Proceedings of the 3rd International Martes Symposium, Corner Brook, NF, 14th August 2000.
- 2000 William Adair, John Bissonette, and Brian Hearn. *Resting-Site Characteristics of American Marten in Western Newfoundland* . Presentation & Published paper. Proceedings of the 3rd International Martes Symposium, Corner Brook, NF, 14th August 2000.