**Title**
AN ENERGETICS-BASED HABITAT MODEL FOR MARTEN IN WESTERN NEWFOUNDLAND

**Model Forest**
Western Newfoundland Model Forest

| **From** | **To** |
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| April 1993 | March 1995 |

**Keywords**
Marten, Habitat, Ecology, HSI

**Objective**
To develop an energetics-based habitat model for marten in western Newfoundland, and to predict marten habitat potential as a function of landscape condition.

**Description**
Carrying capacity of marten is a direct function of prey abundance and availability. Yet marten remain and forage in older growth forests, rather than earlier successional forests with a higher prey base. The ecology of marten can be viewed as a linked system, where older growth coniferous forests provide marten with protection from both terrestrial and avian predators, and in winter, the ability to maintain thermal homeostasis and access to subnivian prey.

This research project will determine the quantity of food needed for each marten to survive, how their energetic requirements are affected by environmental variation, and the potential prey base provided by the landscape. These energetic relationships can be used to convert food abundance into marten potential, and develop a landscape level model, predicting expected marten densities based on energetic needs and prey availability.

**Reports and Products**

**An Energetics-based Habitat Model for Marten in Western Newfoundland: First Interim Progress Report.** Adair, W; Bissonette, J. 1993. Department of Fisheries and Wildlife, Utah State University, Logan, Utah. WNMF: 2-207-001, 3p.

**An Energetics-based Habitat Model for Marten in Western Newfoundland: Second Interim Progress Report.** Adair, W; Bissonette, J. 1993. Department of Fisheries and Wildlife, Utah State University, Logan, Utah. WNMF: 2-207-002, 8p.

**An Energetics-based Habitat Model for Marten in Western Newfoundland: Third Interim Progress Report.** Adair, W; Bissonette, J. 1994. Department of Fisheries and Wildlife, Utah State University, Logan, Utah. WNMF: 2-207-003, 3p.

**An Energetics-based Habitat Model for Marten in Western Newfoundland: Interim Progress Report Third Year of Study.** Adair, W; Bissonette, J. 1993. Department of Fisheries and Wildlife, Utah State University, Logan, Utah. WNMF: 2-207-004, 7p.