

Examining the Size and Extent of the Marten (*Martes Americana*) Population in Western Nova Scotia: Progress Report 2008.

1.

- **Goal**

By determining the extent and the habitat needs of the SW NS marten population, the Trappers Association of Nova Scotia (TANS) will be able to work closely with landowners and the forest industry to ensure that marten habitat can be identified (and protected if deemed necessary) based on an enhanced marten habitat model. By increasing the efficacy of detection units, methods and procedures, marten presence/absence from the landscape can be more easily determined.

- **Objectives**

- Enhance the knowledge base regarding the distribution, size and health of the south-western Nova Scotia (SW NS) marten population; and,
- Develop an understanding of the multi-scale habitat associations of the SW NS marten population.
- Involve Acadia University (Cooperative Program honours student) to help determine the efficacy of various hair snag techniques using captive animals being held at the provincial Wildlife Park at Shubenacadie, as well as in the field.
- At a later date conduct DNA analysis on hair samples collected to determine health and size of the western Nova Scotia marten population.

2. Outline of Work Completed

Two trappers (Paul Tufts and Thomas Comeau) from the western end of NS were contracted to carry out surveys to help determine the extent of that population using hair snags, tracks and confirmed sightings. During the winter of 2007-08, thirty-five 5km blocks containing suitable marten habitat (based on NS DNR model) were visited and 4-8 snags were placed in each block to determine marten absence and presence. Staff at Kejimikujik National Park decided not to conduct any surveys this past year.

An Acadia University coop student investigated the efficiency of various hair snag designs prior to, and during the course of the project. Several captive-bred martens were being held at the Nova Scotia Provincial Wildlife Park in Shubenacadie. By testing hair snags on these captive animals, the best design to be used in the field was determined. This was based on the number of visits to the units required before a suitable hair sample is acquired. Once a suitable design is selected, more confidence can be given to data collected in the field, which is essential for monitoring the success of the augmentation project on CBI, and determining the extent of the south-western N.S. marten population.

3. Results

Of the thirty-five survey blocks visited (figure 1) 4 new blocks (figure 2) showed marten presence based on track information in and around the bait stations.

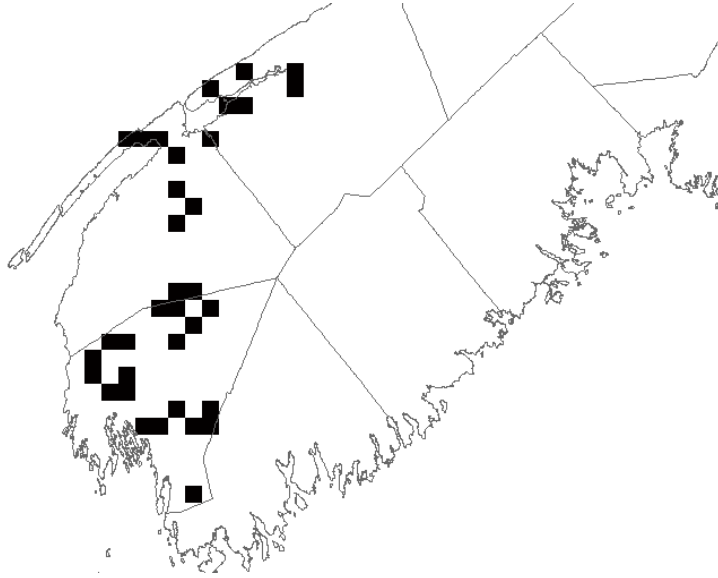


Figure 1. Blocks surveyed for marten in SW Nova Scotia

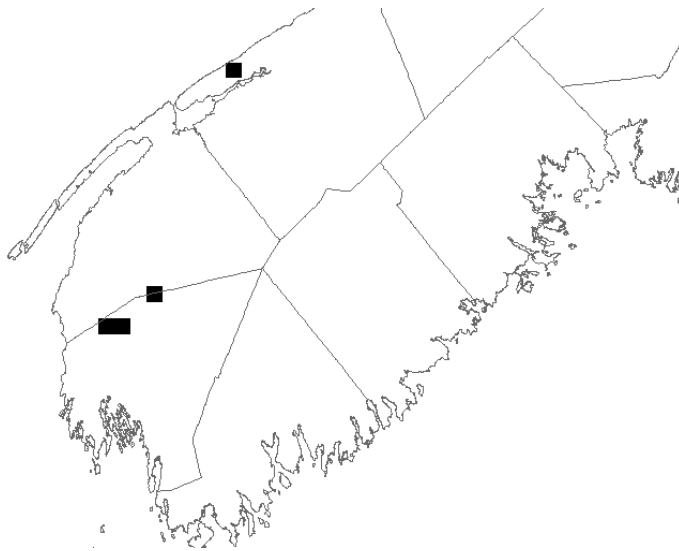


Figure 2. Blocks having a confirmed marten presence of marten in SW Nova Scotia, based on 2007-08 surveys.

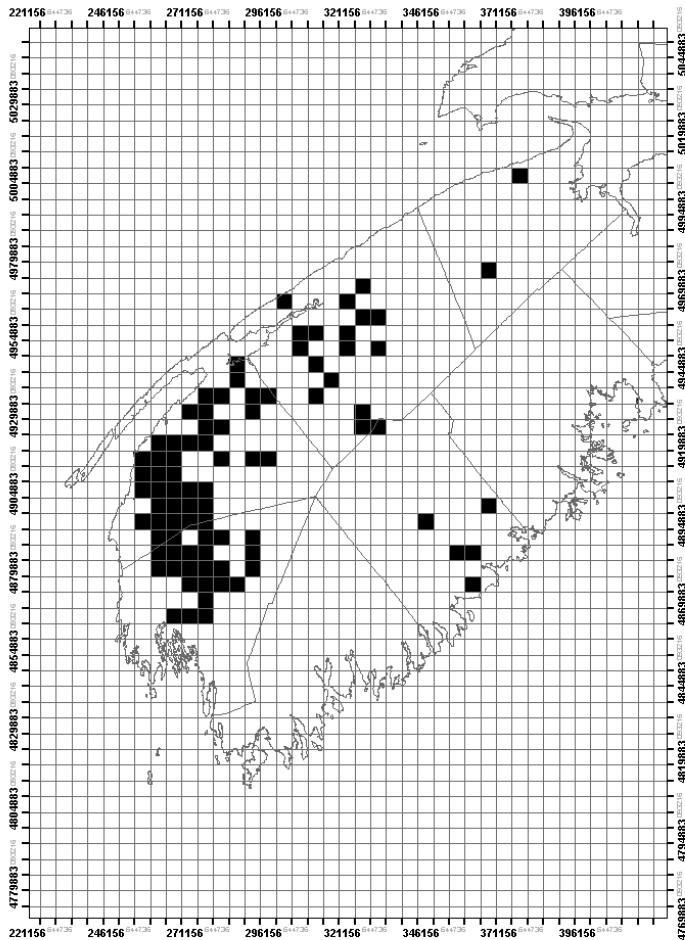


Figure 3. Current known range of marten in southwestern Nova Scotia

In addition to the 5km² blocks surveyed this year, 7 blocks were reconfirmed to have marten present based on hunter and trapper reports.

Several other hair snag stations have provided ample samples though the animal of origin is yet to be determined. These hair samples will be analyzed as to whether they are marten or not, based on gross features or DNA.

An Acadia University honours student was hired by NS DNR through the Career Starts Cooperative Student Program to test hair snag designs. Emma Vost monitored the efficiency of various hair snag designs using captive animals held at the Shubenacadie Wildlife Park, as well as in the field to determine: (i) the best technique; (ii) the number of times the unit needs to be entered before suitable hair samples are collected for determining presence/absence; and

(iii) the length of time the unit(s) need to be in the field. The snag that she found to be most effective was the one that used three intact wooden boards that were 15 cm wide. The rodent glue boards were also determined to be the most effective snagging medium, and could be conveniently stored for analysis indoors at a later date.

4. Assessment

To date the project seems to be moving along pretty well with the survey expanding from known locations in the Weymouth area to other locations of suitable marten habitat based on the habitat model. Several marten locations have been confirmed through interviews with hunters and trappers. There has been some problem in communicating the need to follow the survey design and to keep snags in place for the intended duration. Initially some snags were pulled out after only 4 days instead of leaving them in until 12 days had passed, or once marten sign was found (hair or tracks).

It is hoped that with the involvement of Acadia University, hair samples collected during this project will be not only used to determine marten presence or absence, but also the health of the population through genetic analysis at a later date.

5. Recommendations

It is recommended that this project be continued over the next year so that surveys of the initial five western counties can be completed and other counties (Kings and Lunenburg) can be surveyed.