

LRBOI Wildlife Division Researchers Trap and Release Radio-Collared Pine Marten in MNF

By Steven K Bailey



Somewhere deep in the Manistee National Forest (MNF) a marten peered out from behind the metal bars of a live trap. He had a pointy nose, cat-like whiskers, and distinctive orange markings on his chest. He hissed ferociously as a team of wildlife researchers approached the trap, a two-pound ball of warrior spirit ready to take on four full-grown humans.

It was early May, and the researchers had been trapping, radio-collaring, and releasing American marten. The feisty marten with the distinctive markings brought them to an unprecedented total of ten trapped marten over an eight-day period.

To the best of the researchers' knowledge, this was the first time that spring marten trapping for research purposes had been successfully conducted in Lower Michigan. "We were surprised and thrilled by the results," said Dr. Jill Witt, Senior Wildlife Biologist for the Wildlife Division of the LRBOI Natural Resources Department.

In addition to Witt and Bob Sanders, Wildlife Researcher for the Wildlife Division, members of the collaborative research team included Dr. Paul Keenlance of Grand Valley State University and Dr. Maria Spriggs, a zoo and wildlife veterinarian for the Mesker Park Zoo and Botanic Garden in Evansville, IN.

The researchers also had the support of the Michigan DNR and US Forest Service. "They are very interested in our findings because it will help them better manage their forests for species needing specific resources, such as marten," said Witt.

A member of the weasel family, the American marten or pine marten (*Martes americana*) is a culturally significant clan animal for the Anishinaabe people. As might be expected, given the ferocious and omnivorous character of the American marten, members of the Waabizheshi dodem (marten clan) were known as hunters and food gatherers as well as warriors and strategists. They also served as carriers of the Sacred Pipe, message runners, and tactical advisors for the Ogemuk (chiefs).

Marten were completely eliminated from the Lower Peninsula by the early 1900s, but were later reintroduced to the MNF in the 1980s. Using data collected by the Grand Traverse Band of Ottawa and Chippewa Indians, the Central Michigan University Biology Department, and the US Forest Service, the research team devised a method for determining where the marten were likely to be in the half-million acres of the MNF.

Sanders and John Grocholski, Wildlife Technician for the Wildlife Division, conducted winter wildlife track surveys and set remote game

cameras in different areas of the MNF to determine locations for spring marten trapping. Through the data collected from the surveys and cameras the researchers were able to identify locations to the west of Baldwin and in the Caberfae Hills as areas of likely marten habitat.

The research team placed 40 live traps in these two locations, which are areas of pine and mixed pine/hardwood forested habitat common to the MNF. The team set the traps in hollow logs or under piles of leaves and brush, then baited the traps with beaver meat and smoked pork. To attract the marten to the traps, the team used Gusto, a brand of long-distance call lure that smells like skunk.



The team checked all 40 traps at sunup and sunset each day in order to minimize the time animals remained in the traps. Over an eight-day trapping period the researchers trapped five male and five female marten. Incidental mammals trapped included opossum, red squirrel, raccoon, and porcupine. These incidental catches were immediately released without harm, as were the marten that were caught more than once. "Several marten were return customers who discovered they could just get a free meal and be released," said Witt.

Though veterinarians are rarely used in research projects that involve trapping small mammals, Witt decided to include Spriggs on the research team. Having a licensed zoo and wildlife veterinarian on the team minimized any potential harm to the marten, which was a top priority.

All trapped marten underwent a thorough health assessment conducted by Spriggs, who used an inhalant anesthetic typically used in veterinary hospitals to sedate each trapped marten for approximately 15 minutes. Anesthetizing the marten involved the use of a specially designed denim cone sewn by Bonnie Harnish, Administrative Assistant for the LRBOI Natural Resources Department. The denim cone was fitted over the door of the trap, which was then opened to allow the marten to run out of the trap and down the denim cone until its pointy nose poked out the end, where Spriggs had an anesthetic mask waiting. Since the researchers quickly closed the cone behind the marten, the animal had no way to back its nose out of the mask and was sedated within seconds.

Spriggs took blood, fecal, and urine samples from each marten to check for diseases and parasites. Though analysis of the samples is ongoing, all ten marten appeared to be healthy, with the possible exception of intestinal parasites. However, one possible concern identified by Spriggs is that diseases endemic to dogs and cats could be transmitted to

marten, because the marten population in the MNF may have contact with domestic pets. After Spriggs completed the health assessment, the team tagged male and female marten with a microchip similar to those routinely implanted in domestic cats and dogs.

Under the direction of Keenlance, an expert in wildlife radio telemetry, the researchers placed what they called "jewelry" on the male marten—lightweight and high-tech radio collars weighing just 20 grams, or about the weight of four quarters. The collars are 60 percent smaller than those used in previous studies and are more streamlined, which greatly reduces the chance that the marten might get their collars hung up or tangled in brush. Only males were collared because females were likely to be nursing young in early May and the team did not want to disrupt this denning.

Though Witt stresses that additional research will be needed, she believes that the trapping results were a positive sign that the marginal habitat typical of the MNF may be able to support a healthy and viable population of marten. The team trapped all ten marten in a patchwork of pine plantations and scrub oak, with some marten being found in close proximity to residential areas close to or within the MNF. This habitat differs drastically from what is thought to be ideal marten habitat, such as the vast mature conifer and mixed hardwood-conifer forests located in the western Upper Peninsula, where marten populations are doing well. "Another finding was that four out of five females were lactating, indicating that marten were reproducing," said Witt.

The marten trapping was part of the Wildlife Division's American Marten Population, Health, and Habitat Assessment Project. The goals of this project are to determine the population of marten in the MNF, develop non-invasive methods for continued monitoring of this population, assess the health of the population, identify genetic issues that may be affecting the population (such as inbreeding), and identify habitat conditions for marten that impact population growth. Ultimately, the project will determine if additional marten restoration efforts are needed, either through the modification of existing marten habitat or potentially through the reintroduction of additional marten to the MNF.

The marten study will contribute to a larger goal of the Wildlife Division, which is to assess how changes in pre-European settlement forest structure and diversity have impacted the populations and habitats of native wildlife species that are important to the Anishinaabe people.

For more information, watch for future updates on the progress of these projects, or contact Dr. Jill Witt, Senior Wildlife Biologist, or Bob Sanders, Wildlife Researcher, in the Wildlife Division of the LRBOI Natural Resources Department.

