

# Bobcat Study in Vermont



## Background

Bobcats are the most widely distributed wildcat in North America however, the Midwest and mid-Atlantic coastal states have seen population declines due to loss of habitat from agriculture and human development. Bobcats are well distributed and common throughout Vermont. They are currently at the northern edge of their range but as the climate warms, their range will likely expand.

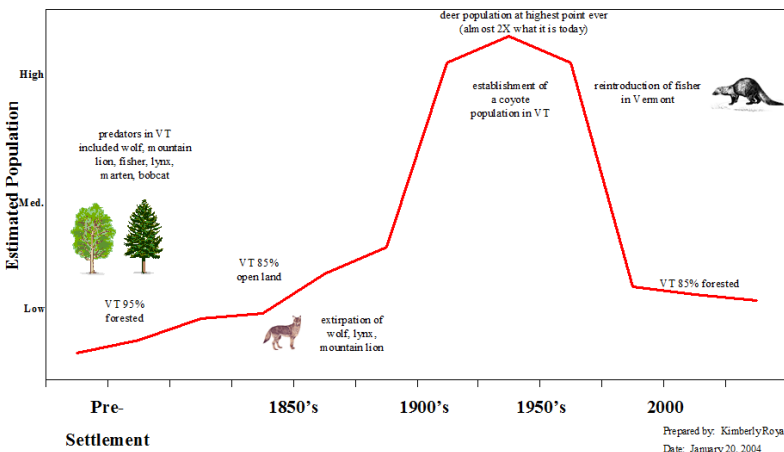
## History

Prior to European Settlement, bobcat populations were likely much lower due to:

- ❖ Competition from wolves, lynx, and mountain lion.
- ❖ Harsher climate (the winters in Valley Forge Pennsylvania in the 1700s was similar to those in Quebec, Canada today). Unlike lynx, bobcat are not adapted to deep fluffy snow and cannot easily hunt prey if snow is deeper than eight inches.



## A Schematic of Historic Bobcat Population Levels in Vermont



Bobcat numbers increased as lynx, mountain lion, and wolves were extirpated. They were able to function in the cleared landscape of 1800s Vermont by hunting the forest edges for smaller prey such as rabbits, snow shoe hare, woodchucks and mice.

Early bounties were placed on bobcats because like many predators they were considered “vermin.” However, even as other predators were becoming scarce and in some cases extirpated as a result of the land clearing practices and unregulated taking, the bobcat flourished along with one of its major prey species, the white-tailed deer.

As many as 200-300 bobcats were taken annually through parts of the 1920s and 1930s. Bobcat numbers declined when fisher were reintroduced in the 1950s and as the coyote began to populate Vermont in the 1940s and compete with the bobcat for food.

The bounty continued until 1971 when the Fish & Wildlife Department sought to protect the species by creating a conservative hunting and trapping season. The objective was to dispel the negative connotation that bobcat were vermin and to ensure the long-term sustainability of the population. In recent years, bobcats have rebounded and are common, although secretive, throughout Vermont.

## Why Do A Bobcat Study?

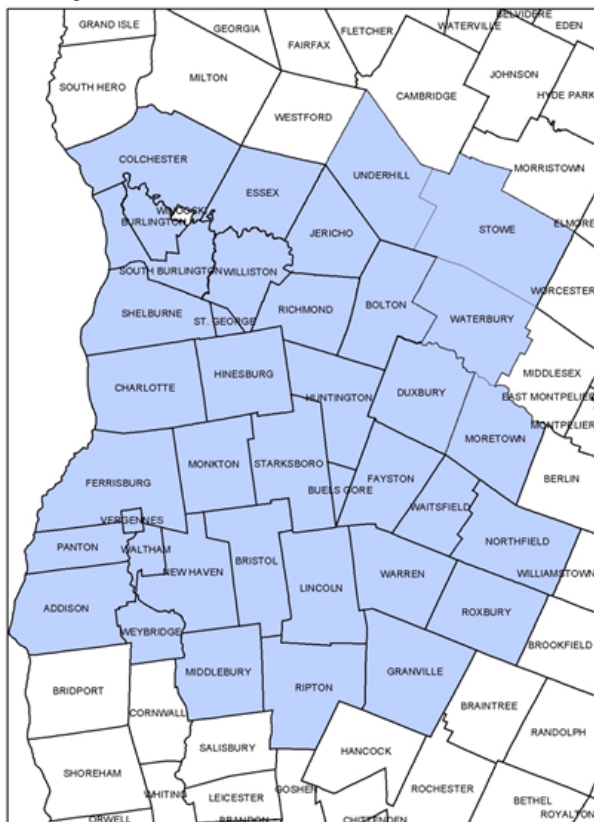
Concerns about habitat loss prompted the study. Potential threats to habitat included:

- ❖ Developed urban land predicted to increase by 161% in the United States by 2050.
- ❖ Forest loss is estimated to equal approximately 118,000 km<sup>2</sup>, equally the size of Pennsylvania, in the same time period.
- ❖ In Vermont. Most of development is on forested land and is exceeding population growth by close to 260%.

## Study Results

The study was conducted from 2005 to 2007 and was done by the University of Vermont Cooperative Fish and Wildlife Research Unit at the University of Vermont. Cooperators included Dr. Terri Donovan (Principle Investigator), Mark Freeman (Graduate Student), Hanem Aboueleez (Graduate Student), Kim Royar (VTF&W), and Chris Bernier (VT F&W), Vermont Trappers, Susan Morse, Vermont Champlain Valley landowners.

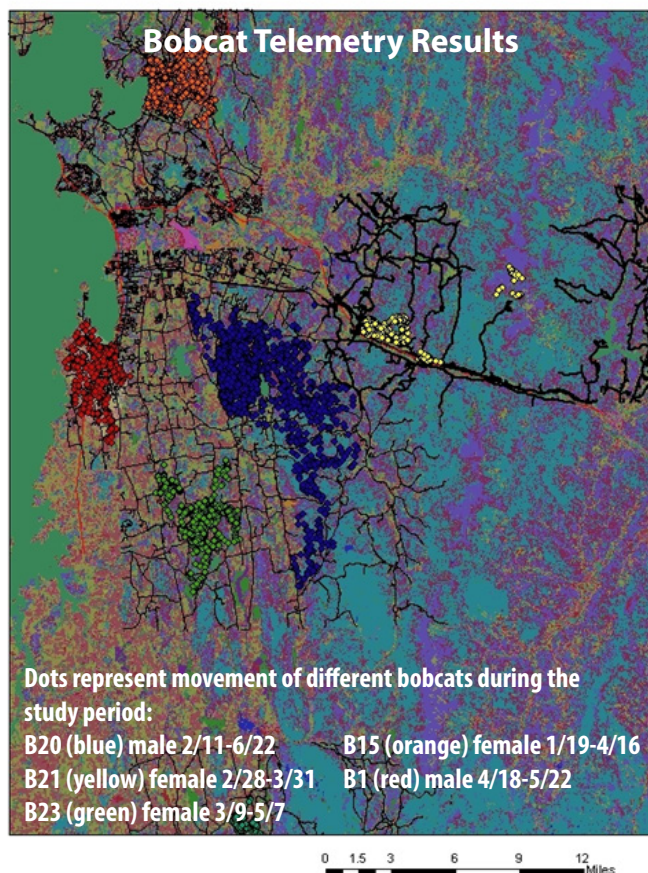
## Study Area



Drawn By: Kimberly Royar, VT Dept of Fish & Wildlife

## Capture, Telemetry, and Tracking

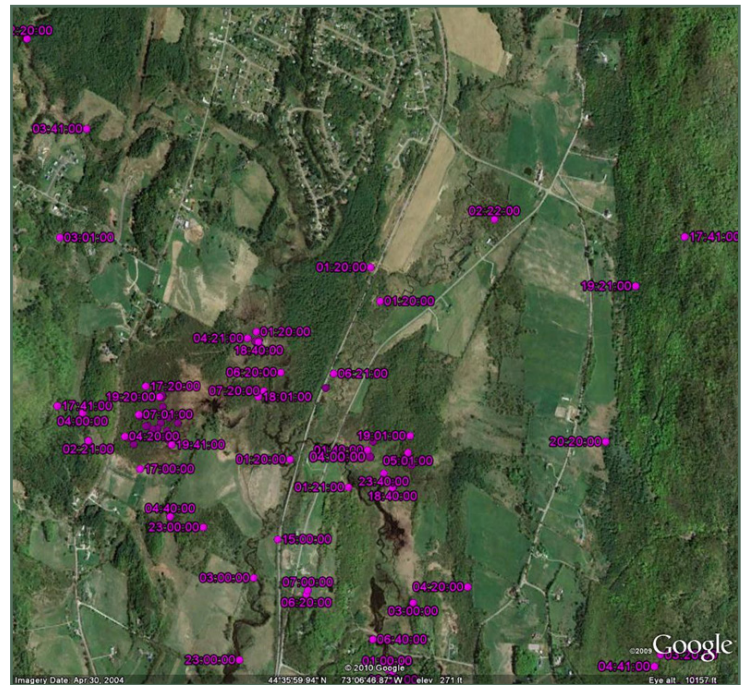
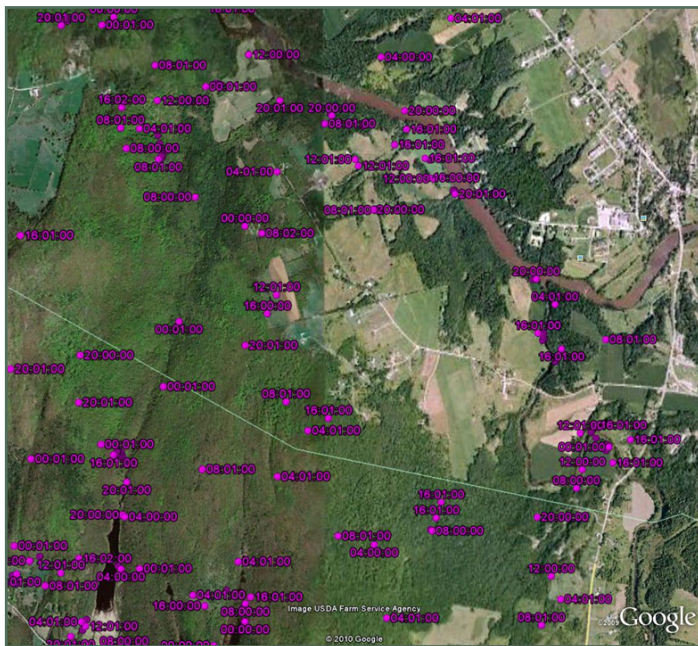
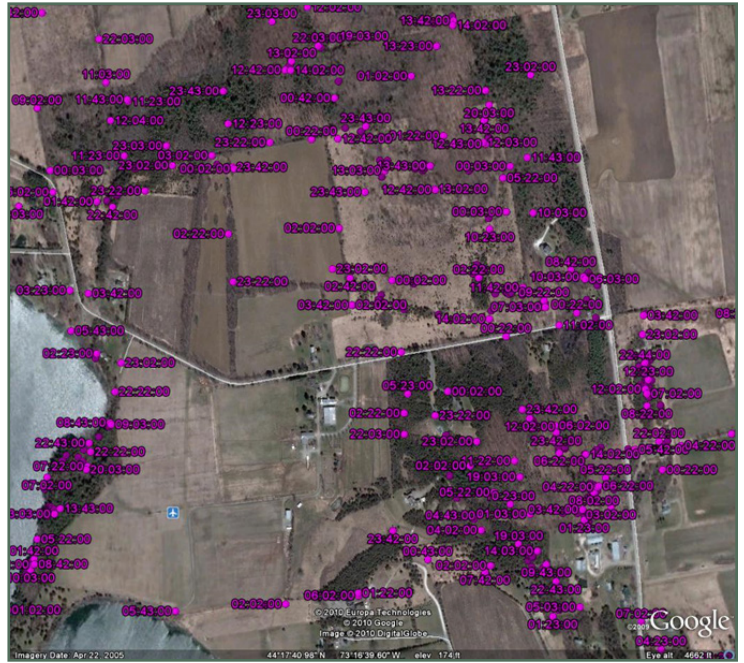
Forty-one bobcats were captured using box traps and foothold traps. In many cases Vermont trappers, using the same traps that they use on their traplines, caught cats that were collared and followed for weeks, if not months, with no apparent evidence of injury. Fourteen collars were retrieved and available for analysis.



- ❖ Average male home range size: 27 mi<sup>2</sup>
- ❖ Average female home range size 8.8 mi<sup>2</sup>
- ❖ Adult female bobcats typically occupy home ranges that do not overlap with those of other adult females.
- ❖ Male home ranges may overlap with one another and with females and are generally 2-3 times larger.

## Habitat Use

- ❖ Bobcats used forest, scrub/shrub habitat, and wetlands or stream buffers more than other habitats
- ❖ They used agriculture, developed areas, and roads less (roads were avoided)
- ❖ In addition, bobcats moved faster through low quality habitat than through preferred habitats
- ❖ Males travel farther and faster than females and all travel more during the evening hours.
- ❖ Bobcats traveled an average of 10 miles in a 24-hour period.



*Tracking bobcat movements with radio telemetry provided valuable information on the types of habitat they use.*

## Management Recommendations

- ❖ Maintain large buffers along rivers and stream for travel corridors.
- ❖ Maintain undeveloped blocks of habitat composed of forest, scrub/shrub, wetlands and streams and maintain connectivity between them.
- ❖ Protect rock and ledge areas.
- ❖ Minimize fragmentation from roads.

[Read more about the life history, management and status of the Eastern bobcat.](#)