

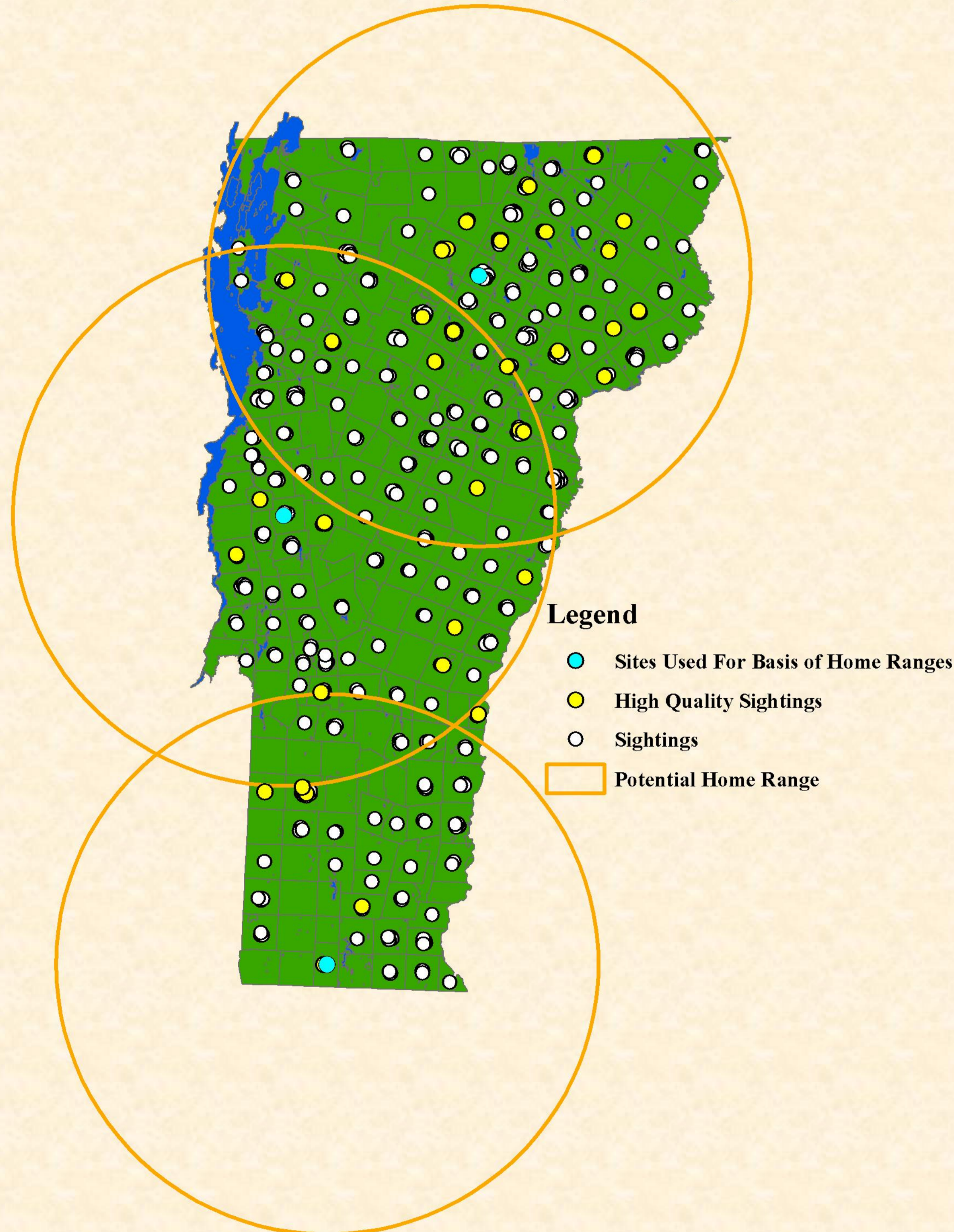
Are Mountain Lions Living in Vermont?

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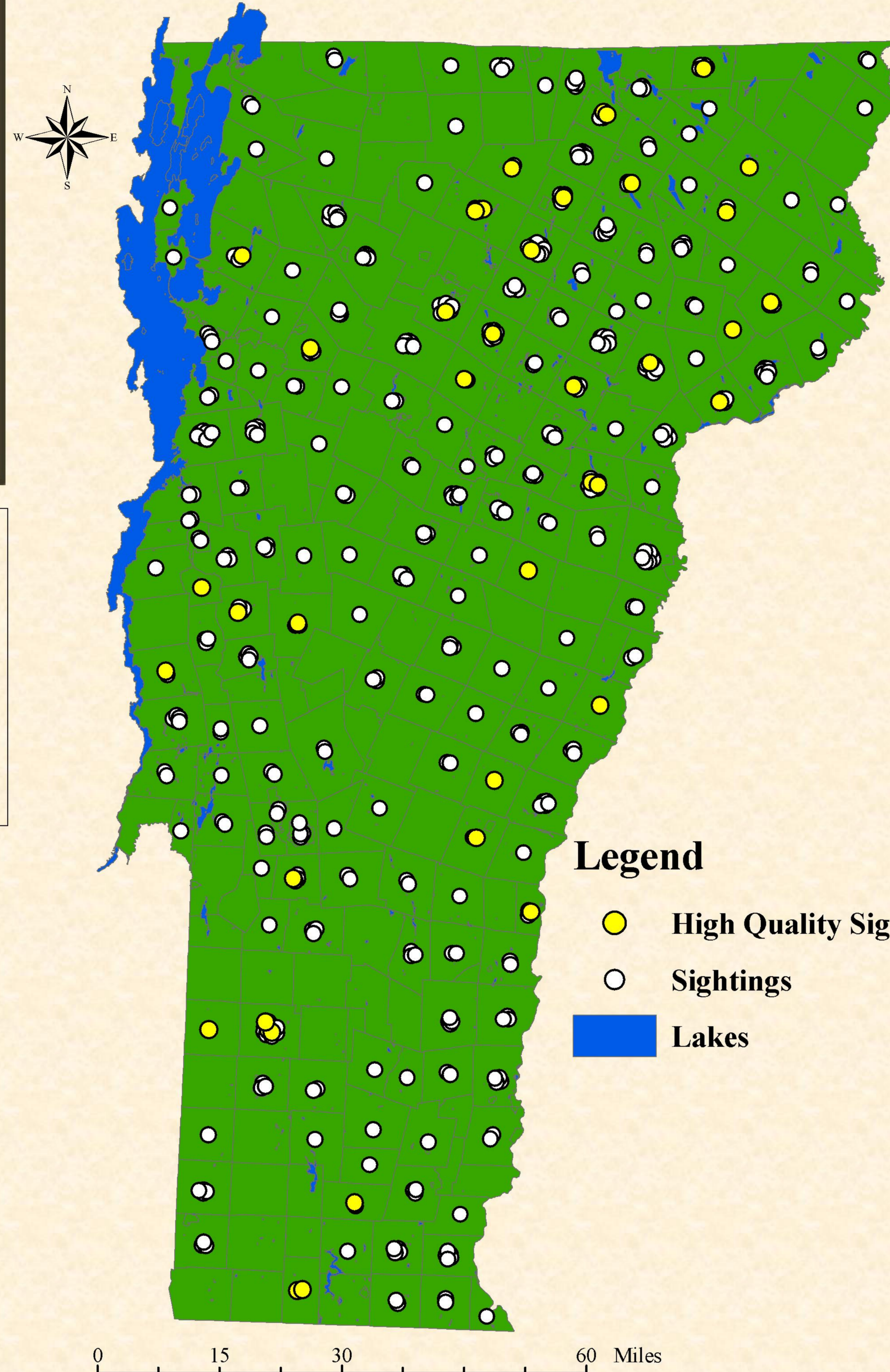
“Cougars in the East are the equivalent of Bigfoot or UFO’s,” according to Mark Dowling of the Eastern Cougar Network, “People say they see them, but with no evidence.” In this project, I set out to learn whether it is possible that mountain lions have returned to Vermont. Cougars were once the most widely distributed land mammal in the Western Hemisphere. But through resource extraction and other acts of man, mountain lions, have been extirpated from much of their original territory, including the Northeast.

Potential Home Ranges Based on Three High Quality Sightings



Many people say that there are not cougars in Vermont and it is possible that they are right. Many say that if there were cougars in Vermont, someone would have found a dead cougar or a deer carcass that was the result of a cougar kill. Research indicates that mountain lions can have a home range of 30 - 300 square miles. I highlighted three of the 40 high quality sightings [one in Readsboro in the south, one in Middlebury in central Vermont and one in Craftsbury in the north] and used a 50 mile buffer to show the amount of territory that one lion could cover. I found that the three home territories could encompass the entire state so, hypothetically, it would be possible that all the sightings in Vermont were of three cougars. This would help to explain why no one has found a cougar body or cougar kill-they could be anywhere!

Mountain Lion Sightings in Vermont



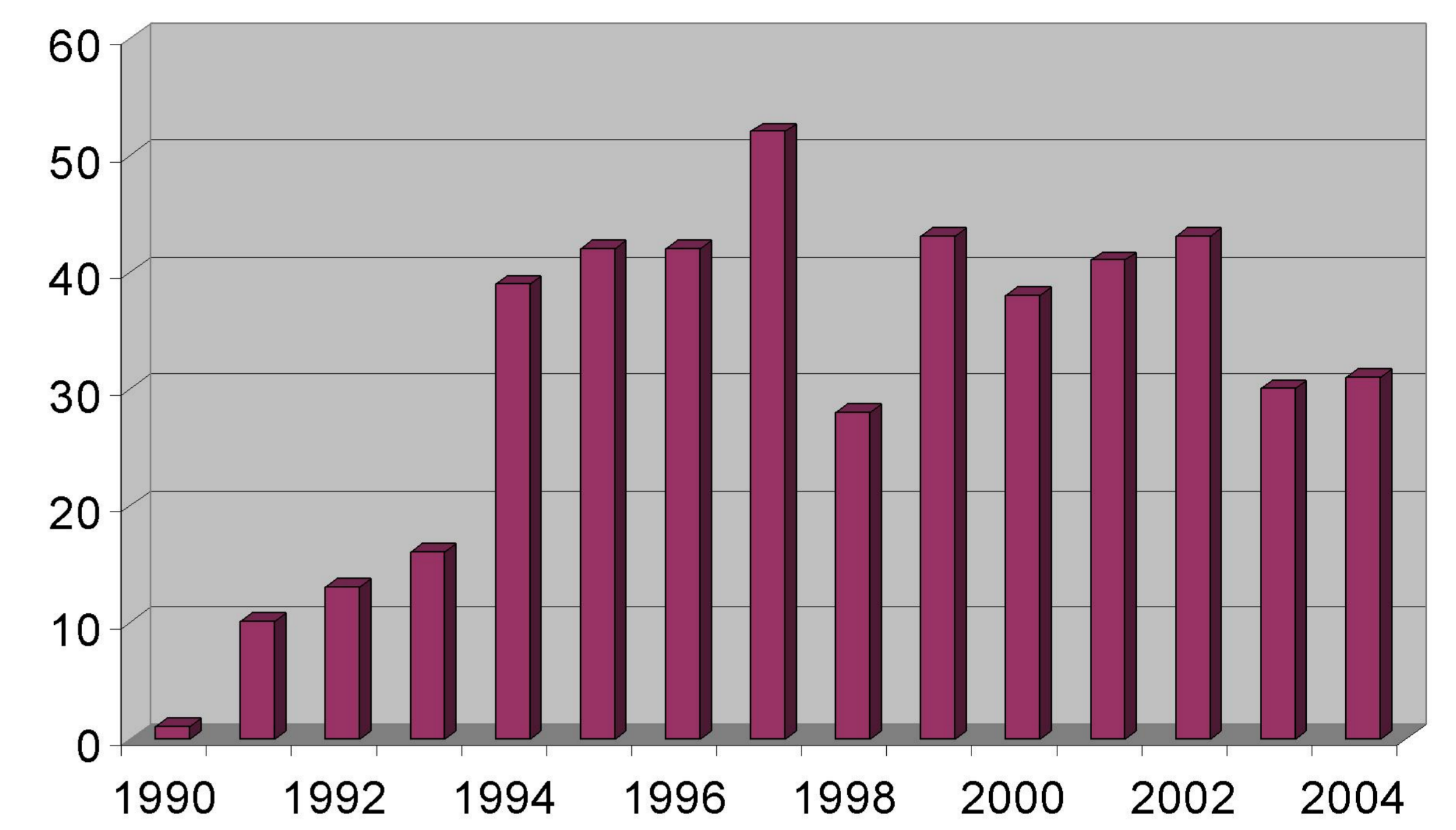
I obtained mountain lion sightings data from Vermont Fish and Wildlife and entered them into a database. I also created a digital layer that spatially referenced the sightings. Since the majority of the sightings did not have a specific location and were only categorized by the town, I placed a point in the middle of the town as a uniform way of referencing the sightings.

I queried the database and spatial layer in a number of ways looking for patterns. I didn't find a pattern as to where the sightings occurred. Instead, they are distributed throughout the state with a few notable hot spots (multiple sightings).

One way that the data was classified by Vermont F&W was by the quality of sightings. The 40 high quality sightings were consistent with the rest of the sightings (no discernible pattern). This map shows all 483 sightings in white, and the 40 high quality sightings in yellow.

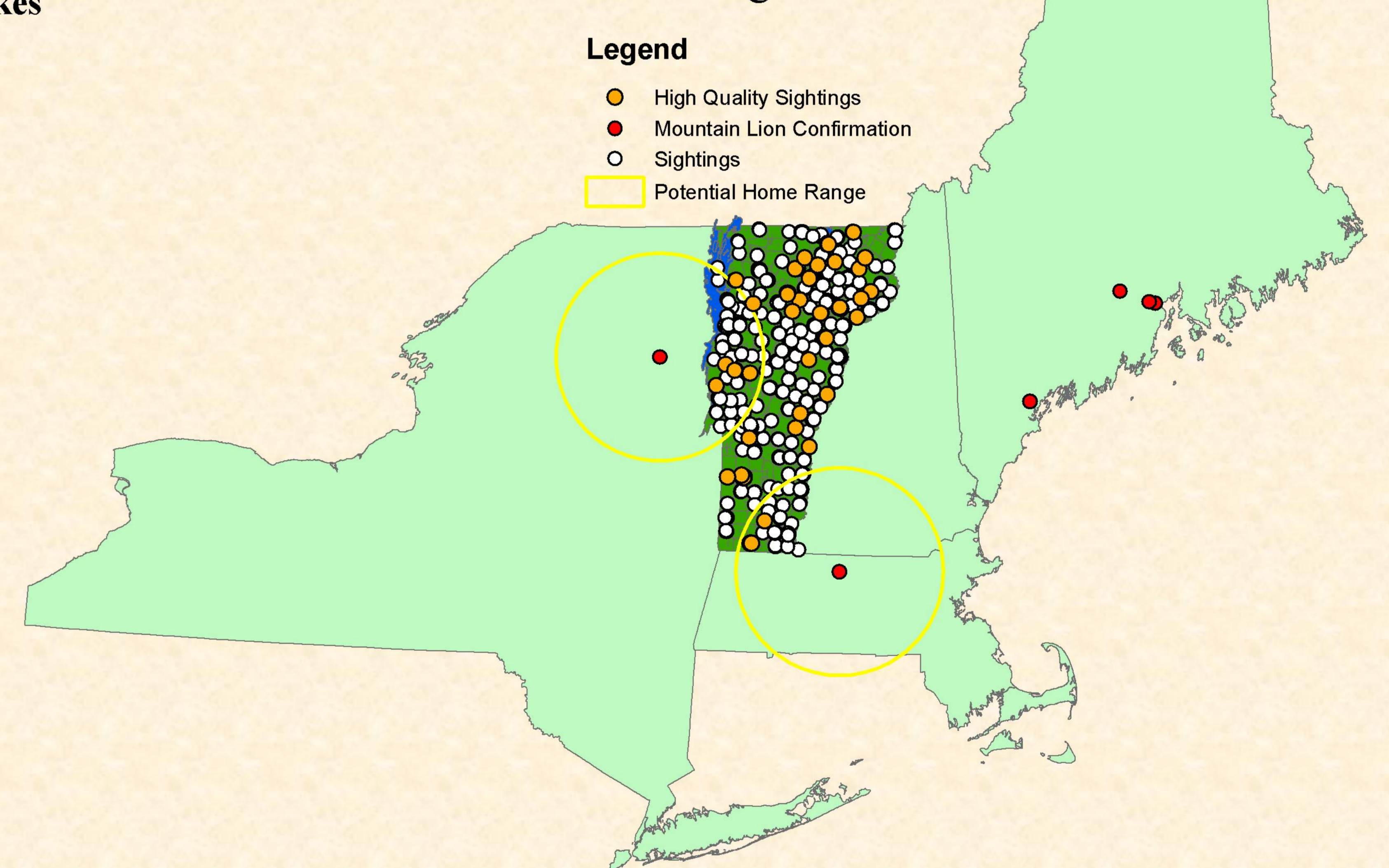
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Number of Sightings Per Year



I looked at sightings by year, starting with 1990, to see if any patterns either for location of sightings or number of sightings. I found was a sharp increase in sightings beginning in 1994, and since then the number of sightings per year has stayed at that level. The sudden rise of sightings may be for a variety of reasons: people may not have believed what they saw and didn't report sightings, or may have thought they would wouldn't be believed, or it may be that people didn't know where to report a sighting. It is also possible that mountain lions may be more prevalent now or that they feel more comfortable in the presence of people, and as a result more sightings are occurring.

Mountain Lion Confirmations in the Northeast and Potential Home Ranges in States Bordering Vermont



The criteria for classify sightings (by the Eastern Cougar Network) as “confirmed” is the presence of DNA evidence, the presence of a dead cougar, photographs, and tracks or sign verified by a professional. Vermont does not have a confirmation of a mountain lion within its borders, I looked to see if I could try to explain why there were so many sightings and yet no known existing mountain lions in the state. I digitized confirmed mountain lion locations from information obtained from the Eastern Cougar Network. Research reveals the home territory of an adult male mountain lion can range from 30 – 300 square miles, depending on the amount of available food. I used a 50 mile buffer around the confirmation sites to represent a potential home range

Based on the 50 mile buffers, it is feasible that many of the sightings are from visiting cougars from out of state. Sightings outside of the potential home range may be the same animals further exploring into the unclaimed territory or it may be that the home ranges are actually larger than I had estimated. Some issues with this as with the other potential home ranges is that the confirmations are where sufficient data was found is most likely not the center of the home range although it is possible. However the estimations of the home ranges gives an idea of how much area a single mountain lion may cover. Research suggests that mountain lions are moving east in search of new territory and it seems only a matter of time until it can be confirmed that mountain lions have in fact returned to Vermont like the numerous other species that have return to this area of the country after being forced out by man.