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Fisher (*Martes pennanti*) Research Proposal

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Fisher (*Martes pennanti*) Research Proposal

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Introduction

- The fisher (*Martes pennanti*) is a member of the weasel family.
- They are omnivores who eat nuts, berries, birds, small mammals and even porcupines. (Wharton, 2014). They primarily focus their diet on small birds and mammals but their diet changes throughout the seasons.
- Fishers survive in varying forest habitats but prefer mixed forests throughout the seasons (Aurthur, Gilbert, Krohn 1989).
- Fisher populations have declined since the early 1900s due to fur trapping and logging. Their distribution was historically: northwestern California, southwestern Oregon, southern Sierra Nevada, the Bitterroot Mountains in Idaho, west-central Montana, the Big Bog area of northern Minnesota, Adirondack Park in northern New York, and the White Mountains and Moosehead Plateau of northern New Hampshire and northwestern Maine but now has mainly shifted farther north. (Lewis, Powell, Zielinski, 2012).
- Fishers have few natural predators, their decline in population is mainly due to habitat loss and trapping which means conservation needs to focus on limiting trapping of fishers (Powell, Zielinski 1979).
- Conservation efforts, translocation, and trapping restrictions have positively impacted fisher populations.

Methods

- This study will be conducted in the St. John's Abbey Arboretum in Collegeville, MN.
- Researchers will set "Dukes Heavy Duty Live Cage Traps" along known fishers trails and fully stabilized and secured. Traps can be baited with cat food, raw turkey, or mice or other furred prey organisms rubbed with fish or skunk oil.
- 10 adult fishers will be caught in the Spring and sedated with 100mg of Ketamine.
- W500 *Wildlink* GPS Logger, Small Collar from ATS will be secured onto fishers and we will collect data on gender, weight, age, and general health.
- Researchers will remain with the sedated fishers and visually monitor them until they are awake and alert to avoid increasing their risk of predation as a result of human interference.
- Radio collars will be used to track their range every two hours, one day per two weeks for one year.

Saint John's Abbey Arboretum Trail Map

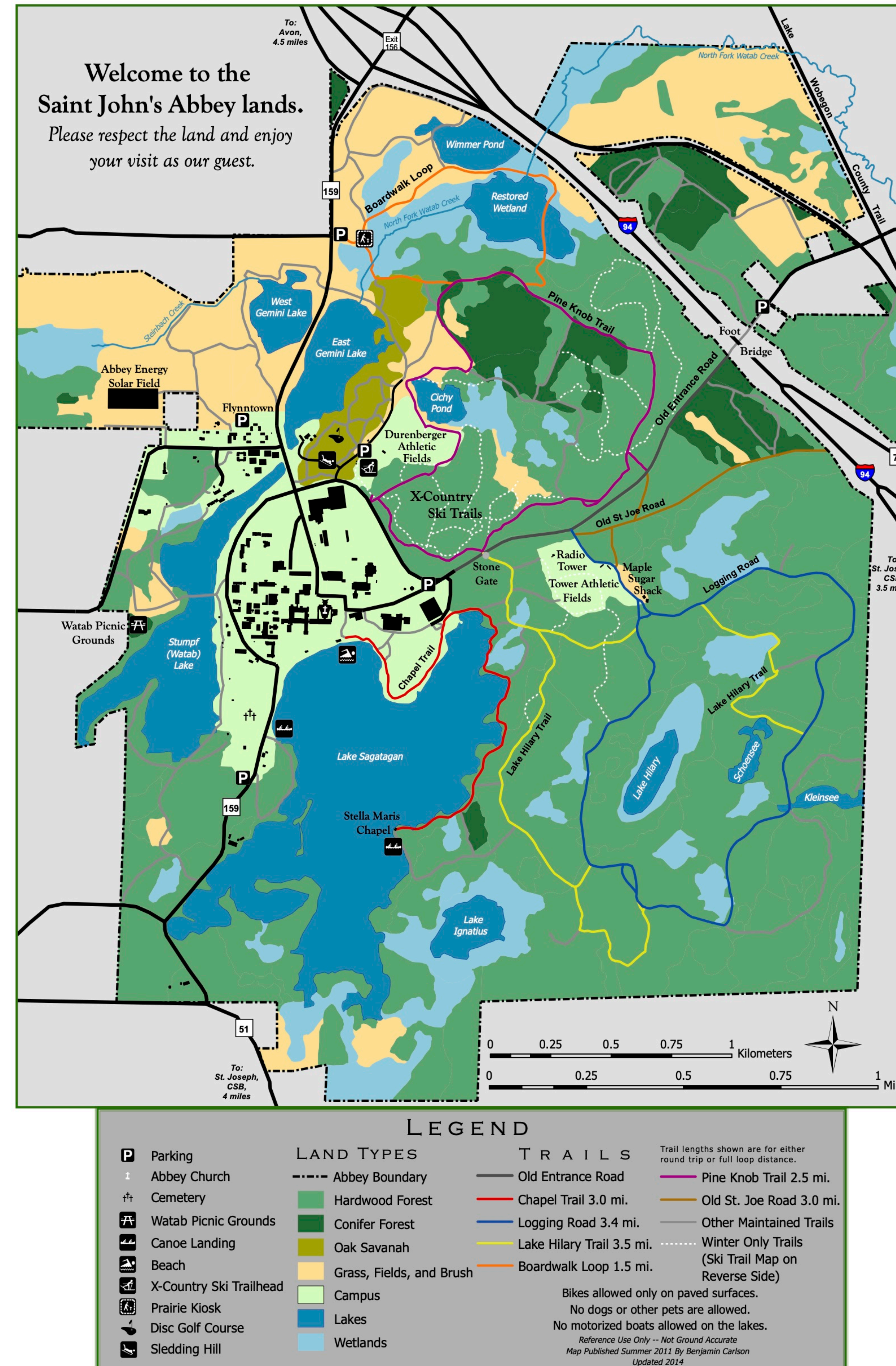


Figure 1: Saint John's Arboretum map from The Outdoor University

Literature Cited

- [Fisher Literature Review Spreadsheet](#)



Figure 2: Fisher on a deer carcass. Photo taken by Kyle Rauch, November 2017.

Results and Discussion

We hope to answer one or several of the following questions about *Martes pennanti*:

- How much time do they spend on the ground versus up in trees?
- How far do they travel from their dens on a daily basis?
- Where do they spend their rest time? Hunting time? Mating interactions?
- How does this spatial use change as the seasons progress and food availability changes?
- Do fishers interact with their neighbors?
- How does proximity to human activity affect their behavior and/or spatial usage?
- Does proximity to water and food resources affect how far fishers travel from their dens each day?
- How close do fishers consistently get to other non-familial fishers in the same geographic area?
- Do fishers remain in the same year-round?

Previous studies of fisher spatial use have shown that they spend significant amounts of time in forest canopies and that their diets are very diverse, suggesting that they can adapt to changing seasons and food availability without having to drastically relocate. Our research aims to better understand how fishers use specifically the St. John's Abbey Arboretum as seasons change and human activity and food availability fluctuates. With this research, we hope to achieve a more detailed understanding of fisher ecology in Minnesota.