EFB 390 Final Paper

Pekania Pennanti

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Due 12/14/22

The North American continent was once thought to have an endless amount of natural resources. Colonial Settlers collectively and ignorantly decided that we as humans could not possibly use up the tremendous amount of resources. However, overexploitation of our natural world over the past hundreds of years has led to clear and present environmental degradation, habitat loss and population declines of many animals. One animal that has been harshly affected by these factors is the fisher, which is also referred to as *Pekania Pennanti*. In the past, fishers have thrived in North America but over trapping and deforestation in the 18th and 19th centuries have decreased the fishers population and its range (Forgarty 2022). In the 1930s most U.S states banned the hunting and trapping of fishers because the species was on the brink of extinction (NYSDEC 2016). Fortunately, there have been reintroduction efforts in areas where the fisher has historically thrived. These efforts have had success in some areas such as Albany, New York but some reintroduction efforts in the Pacific Northwest have not had the same result. This paper will be taking a deep dive at the question “Why have reintroductions of *Pekania Pennati* failed in the Pacific Northwest while the efforts in Northeast areas, such as Albany, New York, have been thriving?”

To understand why some reintroductions have been successful and others have not, we need to understand the fisher’s behavior and habitat first. Due to its behavior, some people have referred to the fisher as the ‘fisher cat’ although it is not a cat. *Pekania Pennanti* are large, dark haired members of the weasel family. They move on four short legs that keep them low to the ground(NYSDEC 2016). Male fishers tend to weigh between seven and thirteen pounds while female fishers are between three and seven pounds. Fishers are land and tree dwelling mesocarnivores who are native to North America. Their range spans coast to coast across the northern part of the continent from Nova Scotia in the east to British Columbia in the west. Fishers prefer to live in closed canopy forests. They use deciduous, coniferous and mixed forests (NYSDEC 2016). They historically depend on old growth forests. Fishers are great climbers and they use large trees with cavities as well as downed logs and snags to nest and rest in. This is also where their young are raised (NatureWorks n.d). Mating season for fishers is through March and April. They typically have anywhere from one to six baby fishers which arrive around ten or eleven months after mating. In the wild, fishers usually live to be around ten years old (Natural History 2022). A single fishers range is usually ten square miles and can very well overlap with other fishers ranges (NatureWorks n.d). In their range, a fisher will hunt smaller or similar sized animals for the majority of their diet. Some of these animals include squirrels, mice, birds, and even porcupines. It has been documented by the NYSDEC that fishers can travel over one hundred miles over a few week span in order to fill their dietary needs. When meat is not on the menu, fishers will consume fruits, berries, plants and sometimes already dead animals. Despite the fishers name, it almost never eats fish. Understanding the fisher's role in the environment will help us recognize the reasons it has been failing and succeeding in different parts of the continent.

Throughout the entire history of humanity, animals have been harvested for their fur coats. People were highly dependent on furbearers as a food source and to provide other critical survival needs such as warm clothing and bedding (White et al. 2015). Hunting fur bearing animals is a human trait that has been ingrained in society. Additionally, people continued using animal furs for fashion. Thanks to modern technology and agriculture, humans depend much less on furbearers for survival (White et al. 2015). Additionally, there are now laws that prohibit hunting and trapping of endangered species. Unfortunately, before these laws were in place lots of damage was already done. The fisher population began to quickly decline in the 18th and 19 centuries (Fogarty 2022). The fisher, along with many other fur bearing North American animals were hunted and trapped extensively by humans. By 1930, fishers were almost extinct and laws were created to protect the fisher. Even when fishers are not being targeted by traps and hunters, they tend to weasel their way into poor situations and can still end up being unwantedly trapped and killed. With a background on fishers history and way of life, we have a necessary foundational understanding on why their population declined.

Historically, fishers lived throughout the Pacific Northwest. It was thought that the reintroduction efforts in the Pacific Northwest would work better than they have. It was assumed by researchers that since they lived here in the past that the fishers should be able to live here again. To understand these reintroductions, an interview was conducted with Dr. Jeffery Lewis, a mesocarnivore conservation biologist with the Washington Department of Fish and Wildlife in Olympia, Washington. Dr. Lewis, along with many other researchers in the Washington Department of Fish and Wildlife, developed a plan for fisher reintroduction in the state of Washington. The group decided that reintroductions to the Olympic Peninsula and the Cascades of Washington were biologically feasible(Lewis and Hayes 2004). With the National Parks Service on board and approval of the environmental assessment, the reintroduction of Pekania Pennanti began in the fall of 2007. Over a three year period, one hundred fishers were released into Olympic National Park. The goal of this reintroduction was to create a self-sustaining fisher population in the Pacific Northwest. By the end of this three year period, forty six of the one hundred fishers were dead. Most of the other fishers were of an unknown status (Lewis 2011). Most of these fishers died from predation, some from vehicle accidents and others had reasons unknown. Very little reproduction occurred over this time which is a strong indicator that the fishers were not super comfortable living here. The work done by Dr. Lewis and the Washington Department of Fish and Wildlife struggled to find a concrete way to establish the fisher population here again. Reintroducing fishers to a habitat that they used to thrive in seemed like a project that would be successful. On the other hand, fishers that live in Albany, New York are having success despite living in an unnatural urban environment. By comparing these two populations and areas, we can begin to see why the fisher is able to live easier in certain areas.

Habitat fragmentation along with urbanization had displaced many animals and caused them to struggle to adapt and survive. Most species cannot adapt to the quickly changing human world yet some have flipped the script and use urban areas to their advantage. The fisher is one of these animals that has changed its behavior such as the time of their activity and their movement-habitat patterns as a consequence of human activity. A study was conducted at the German university Universitat Konstanz. In this study, Scott LaPoint and his team captured thirty-three free-ranging fishers from Albany, New York. The fishers were given GPS units to gather data on their movement ecology. From the data, it was concluded that these fishers adjusted their common behaviors to better survive in a semi-urban environment. During busy traffic times, the fisher will not be out looking for food (LaPoint 2013). These fishers also were able to fulfill their needs in the less mature forest settings that are provided by the area. Commonly thought to need old growth to survive, these fishers in Albany do not! Urban architecture has given fishers an unlikely way to travel and hunt. They make and use natural city corridors to travel and hunt in these areas. (LaPoint 2013). Another interesting theory why fishers are doing so well in Albany is due to naive prey. Dr. Lewis discussed in our interview that some prey in Albany are oblivious to the threat that fishers pose. Since fishers are relatively new to urban areas, some animals do not quite understand the danger fishers pose before it is too late. Sometimes, fishers in urban areas are able to hunt easy meals due to some animals being naive to these foreign creatures (Lewis 2022) Fishers have quickly adapted to their environment in the North Eastern United States. By comparing the population in Albany to one in Washington, we may finally understand the reason for success in some areas and failure in others.

When an animal population gets put on the brink of extinction, it is usually not for just one reason. In this case, fishers were over hunted and trapped repeatedly throughout the past four hundred years. Deforestation and habitat fragmentation led to a decrease in range and population which pushed most populations of fishers out of the United States. Forest fires, logging and predators are fishers' biggest modern concerns. Today, the conservation status of fishers is of ‘least concern’. The population has increased over the years due to laws that prohibit trapping and hunting. In some areas, we see fishers adapt in unique ways in order to survive however in other areas the fisher hasn't been succesfull. One of the main reasons the fishers in Albany have been more successful than the fishers in the Pacific Northwest is because of behavior changes. By adapting to urban life, the fisher has carved a niche for itself in Albany that it has been unable to find in Washington State. One of the main reasons why the fishers cannot establish itself in Washington is due to the unregulated growth of its closely related member of the weasel family, the American Marten. Martens are very similar to fishers and occupy similar niches. Martens are established in Washington state and their success here has led to the downfall of fishers reintroduction (Hiller 2013).

The ability to adapt to the surrounding environment is one of the most important abilities animals can have. Humans are continuously creating more and more of a benign world for animals to live in. Like the fisher did in Albany, some animals must adapt to human environments or they could be left behind. If animals can find a niche in these urban environments they can succeed. If the niche is already filled, the animal must adapt or it will face the same consequences as the fishers in the Pacific NorthWest did.

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