

Ryan Ronan  
AP Biology Honors  
Mr. Dickson  
2012, April 12

GLOBE: The Animal Population of Cover Rive

**Introduction**

The interrupted forests of Cover River and the endless marshes of the foreign phragmites are home to a number of animal populations. A person can find raccoons, deer, birds, squirrels, and the focus of our research, the Red Fox. Through intense research and prolonged observations, evidence was found in the surrounding Cove River area that the forest is home to at least one family or small population of Red Foxes.

Red foxes are known to be sighted in most countries of the northern hemisphere, and found in various environments, including: tundra, desert, forests, and mountains. This species of fox has coats varying from gold to red to dark browns. Red foxes are solitary hunting omnivores, and feed on fruits, vegetables, fish, and frogs. In environments close to human populations, foxes have been known to eat pet food and garbage.

Cove River facilitates all of the Red Foxes needs; it provides a forest, camouflage, and a proper diet. The edge of the forest borders a busy street, crowded with houses and a small business plaza that has two dumpsters in the back. The businesses near Cove River are mostly food service or convenience stores, giving the foxes a steady income of food. Also nearby the forest are many neighborhoods of residential homes. There is one home that is separated by a 30-inch wide stream, so, the owner's backyard melds with the forest.

Red foxes use their tails for communication and balance. Foxes wave their tails around to alert other foxes that they are present or even to forewarn one another whose territory is whose. An easier way to detect the presence of a fox is to look for signs of defecation, which they will leave on fallen trees. Each month we visited Cove River, we returned to a fallen tree and found both new droppings, and urine stains. The droppings were very important in letting us know that the fox was living nearby because this is a way they mark territory. One sample of the fox's feces provided evidence of its dietary habits and showed that it currently feasted on a squirrel.

## **Observations**

### **September**

No signs of fox

### **October**

Possible sighting of a fox within brush near entrance to Cove River.

### **November**

No signs of fox

### **December**

First secondhand signs of a fox. Feces found on a fallen tree halfway from the forest path to the edge of the marsh near the first sighting. Dr. Graves pointed out an old fox hole, no sign of current inhabitant.

### **January**

More feces found on the fallen tree. Also found some deer droppings. Took a sample of the feces back to class. Upon examination, it showed many short, fine hairs similar to those of a squirrel.

### **February**

The winter has been warm, so the fox may not have gone into hibernation. Found more droppings on the same fallen tree. Found some prints and a possible fox hole. Nothing seemed to be in it, though.

### **March**

Found a ton more prints and reexamined the possible fox hole, still nothing. No new feces on the fallen tree, but there were some claw marks on the side. It seems as if the fox was struggling to climb up the tree. There was a urine stain close to the marks. Found tracks on the forest path and near the marsh shore.

## **Conclusion**

Conclusively, there was proof that Cover River is home to a fox. However, there was no evidence that led us to a definite home for our fox. Cover River provides an excellent habitat for the fox and also the other woodland species found within. To improve this experiment, more prior research to fox habits would have been helpful. If we had more time to observe the forest, and longer than an hour time span on days we went, we may have actually seen our fox. It would have also been helpful to have better analytical equipment and more samples to examine. If we had the funds, establishing video

cameras near the supposed fox hole would have been extremely helpful. Video cameras placed within small bird houses perched in trees could survey the area for the weeks the research team could not. Monitoring the foxes behaviors could assist in the everyday occurrences of the forest; what happens at certain times of day.

## THE EFFECT OF FOX INHABITANCE ON COVE RIVER SUITABILITY

Kori Wilkerson  
May 9, 2012  
Mr. Dickson

### I. Introduction

Cove River is an area of approximately fifteen acres filled with all kinds of plant and animal life. For over seven thousand years, Native Americans inhabited the area of Cove River. They were very interactive with the environment and the wildlife became an essential part of their lives. There are many types of wildlife in Cove River. These include deer, fox, rabbits, squirrels, birds, insects, etc. The main focus of this research was on the fox. Foxes have been around since the time of the Native Americans. The type of fox living in Cove River is a red fox. They like to live on the edge of residential wooded areas so there is plenty of water. They also like to dig holes in the ground to use

as their den. The fox is an omnivore so it feeds on plants like fruits, nuts, insects, etc. It also eats small animals such as reptiles, birds, rabbits, squirrels, etc. The objective of this research is to determine that if evidence of fox inhabitation is found, then the Cove River animal habitat is still suitable because the fox have been there for many years. The independent variable is the fox evidence. The dependent variable is to determine if the habitat is still suitable for animal life.

## II. Materials

- Notebook
- Writing utensil
- Camera
- Proper attire for climbing
- Petrie dishes
- Gloves
- Tongs
- Plastic Ziploc bags
- Microscope

### III. Procedure

1. Arrive at Cove River.
2. Go to sights where previous evidence was found of fox inhabitation.
3. Search for more evidence.
4. Record observations and take pictures of any evidence found.
5. Go to a new sight to see if new evidence is any place else.
6. Record observations and take pictures if any new evidence is found.
7. Repeat steps 5 and 6 until time is up.
8. Return to WHHS labs and dissect and animal waste samples.
9. Look for signs of food, disease, pollution, etc.
10. Review observations and form temporary conclusions based on findings.

### IV. Data Table

Date	Weather	Evidence Found	Type of Evidence
09/30/2011	Rain from previous night.  Nice day, a little hazy.	Yes	Paw prints and excrement.
10/21/2011	50% cloud cover, cumulous clouds.  A little windy and a little chilly.	Yes	Excrement and possible sighting of fox.

11/18/2011	No clouds, sunny day.	Yes	Excrement and possible den.
12/09/2011	Most of the leaves have fallen off of the trees. Hazy day, and cloudy.	Yes	Possible den.
01/20/2012	Sunny, no clouds, snow previous night.	Yes	Excrement
02/17/2012	Rain previous night and this morning. Overcast. Cloud layers are moving in different directions	No	
03/30/2012	Sunny and windy. Has been relatively warm but today is	Yes	Excrement, paw prints in trail, scratches on tree, possible den, and

	windy and chilly. No clouds but a little haze. Trees are starting to form buds and spring is coming early. Soil is very rich.		fresh urine on a log.
--	--	--	-----------------------

## V. Observation

In September, it was decided that the fox was going to be the focus of this research when paw prints and excrement was found on a log. It was known that it came from the fox because that is the only animal that drops its waste on trees to mark its territory. The next month, my partner and I were observing the outer edges and we heard something moving in the trees so we stopped and looked and saw what looked to be a fox passing through. For the next few months of research we continued to see the fox's den and signs of its excrement. In March, we not only found excrement and its den, but fresh claw marks and urine were located on the log with its waste. One limiting factor that was noticed was that the weather patterns were different every time research was conducted therefore it may have impacted the samples of animal waste also if the fox would leave its den.

## VI. Conclusion

The objective of this research is to determine that if evidence of fox inhabitation is found, then the Cove River animal habitat is still suitable because the fox have been there for many years. The fox can be used as an indicator species of a healthy environment, evidence supports that the Cove River is a suitable habitat for diverse wildlife. Although they still inhabit the area, the population size of the animals has decreased overtime. The human residency has increased immensely around that area as well as human activity within Cove River itself. There are pollutions and motor vehicle activity on the trails of Cove River. This affects the animal's homes as well as their food and water sources because they could be contaminated. This in turn would kill the species. To improve the land and possibly increase the population sizes of the animals, pollution and motor vehicle activity would need to decrease or be regulated. To improve this experiment, one could spend more time observing the area because the time dedicated to this experiment was not enough to form a solid conclusion. One needs more than a year to develop a



definitive answer to the hypothesis. More experiments can be done to further investigate this. For example one could post “Beware of fox” signs or distribute information to local residents and then make observations to see if populations increase. As well as monitor the fruits, fish, and amphibian species that they eat to see if they are declining as well due to habitat loss or pollution of the water. The importance of this research was to first observe the habitat of the fox and determine if there is still foxes living there and second to determine if the population decreased and if so why is this happening and what possible solutions there are to increase the population size so they do not go extinct in this area. If they were to go extinct, hypothetically, then the food chain of Cove River would be changed greatly.

VII. Graph

