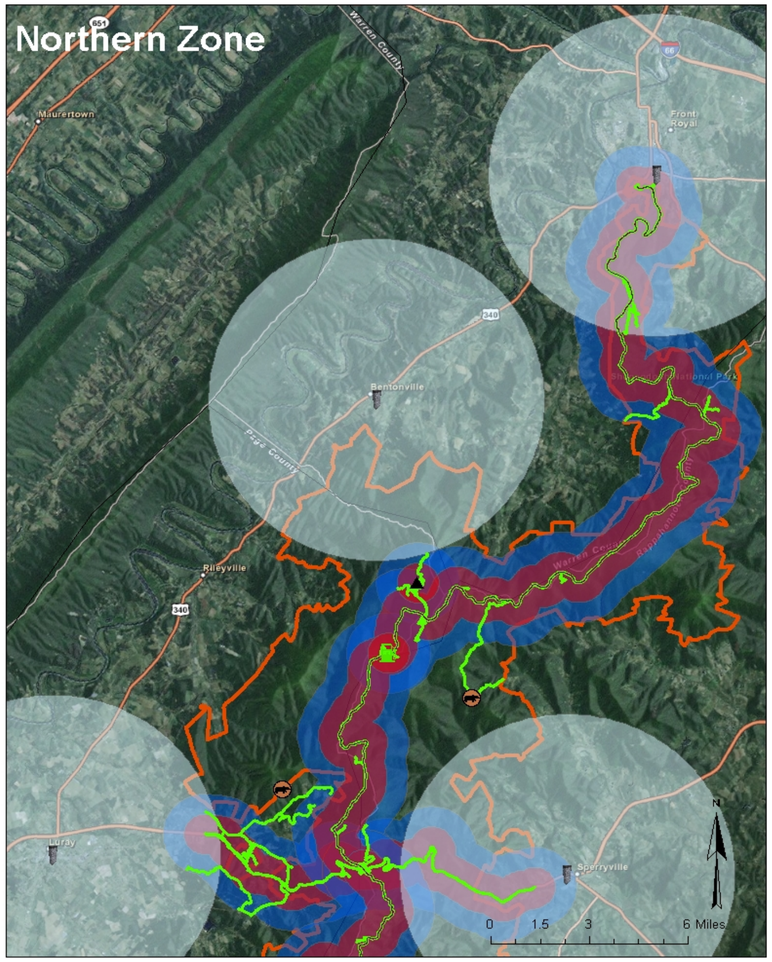
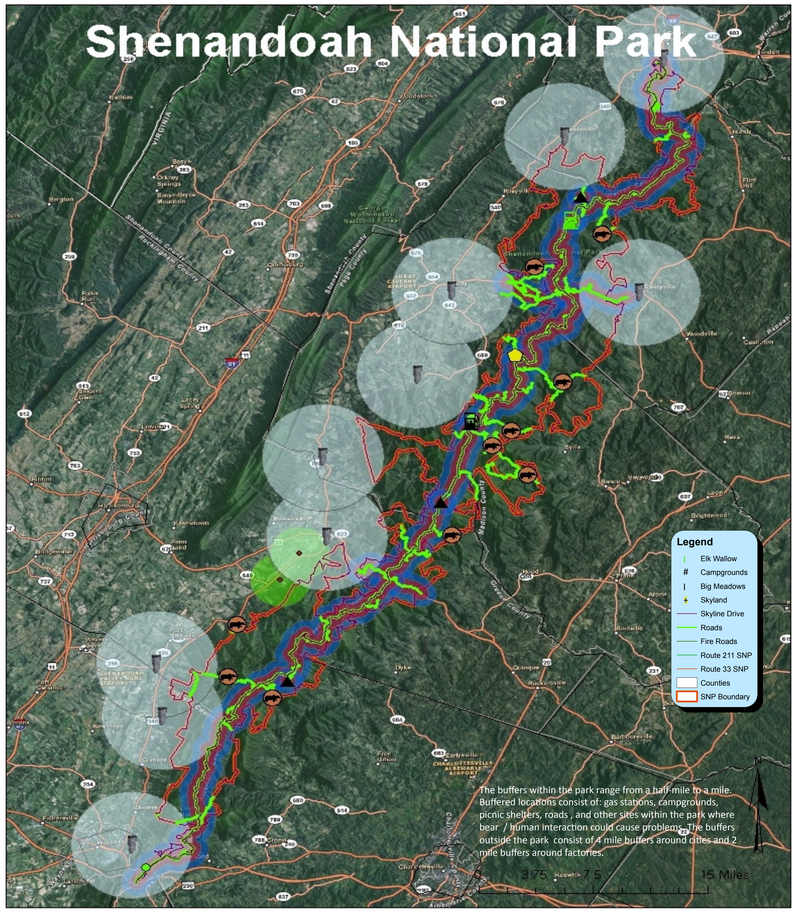
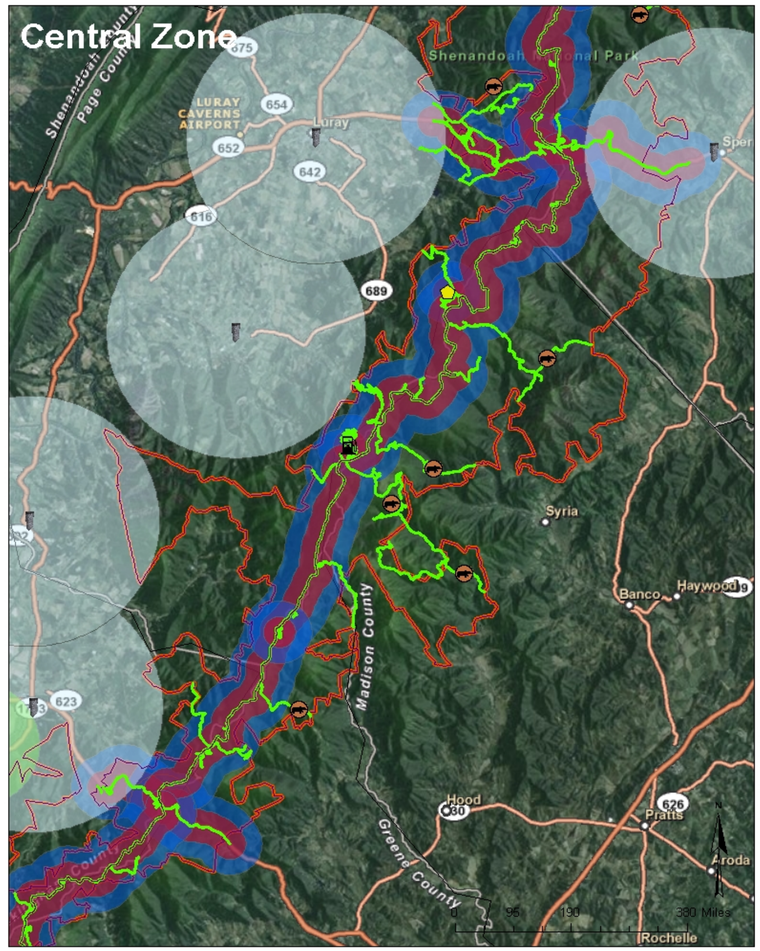
Bearly Relocated

Introduction

Where are the ideal locations within the Shenandoah National Park that bears can be safely relocated away from tourists? Our project objective was to use ArcGIS to create buffers to help identify the dangerous areas where bears could be a nuisance to humans. Bears sightings have become more common in the state of Virginia because the population of bears, particularly Black Bears, has increased over the past years. Therefore by taking steps to relocate nuisance bears these encounters can be decreased and the two species can live in the ecosystem with minimum problems. This project was of interest to us because we are both avid outdoorsman and both love wildlife.

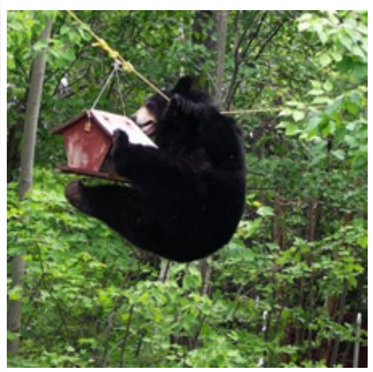


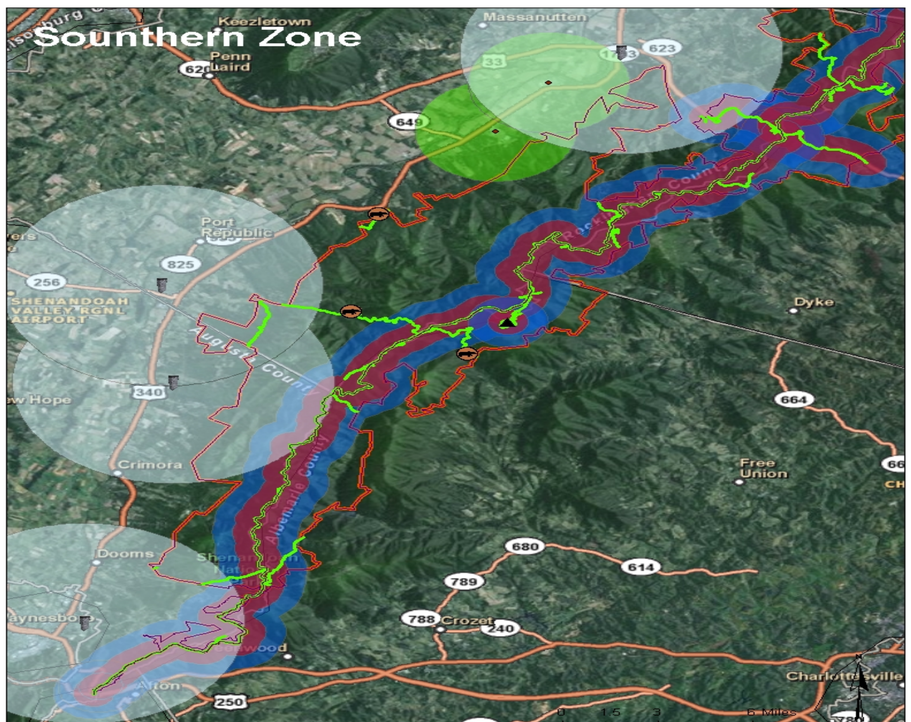




Analysis

We created buffers for developed areas both inside and outside of the Shenandoah National Park boundary. Within the park we buffered features such as campgrounds and shelters along with any other places where human and bear interactions might occur. We also created buffers on the roadways within the park to help protect the bears from being hit by vehicles. These buffers we created will not keep the bears form wondering into these locations. The buffers were created as a visual reference to locate the ideal site for relocation. Through this analysis of the Shenandoah National Park we have found ten locations, accessible by vehicle, where bears can be released back into the wild to live in their natural habitat once more. We have also created buffers around nearby towns and other developed areas outside the park to help visualize areas that are not appropriate for relocation We were surprised to find ten locations that were appropriate bear relocation sites. We were anticipating fewer acceptable sites.





Hypothesis/Experiment

When we began our search for the best locations for bear relocation, we started off marking the towns and cities that are in close proximity to the Shenandoah National Park. After we identified the surrounding towns and cities, we put four mile buffers around them due to the fact that towns and cities have many people in one centralized location. We also found two factories that needed a buffer that were located right beside the park boundary. We decided a two mile buffer around them would be necessary. Half mile and mile buffers were constructed around the highways that go through the park. We also put half mile and mile buffers around developed areas in the park such as campgrounds, gas stations, shelters, and other areas where visitors might gather. Then, after eliminating all the locations that are not ideal for the bear relocations, we found the acceptable sites for relocation. Bear relocation sites had to be outside of the buffered areas and had to have road access available. We identified areas where bears could be relocated comfortably, away from human development. The Shenandoah National Park, at its widest east/west point, is only 13 miles wide. Thus, we thought the number of these relocation areas would be limited.

Conclusion

In our assessment of the buffers we made around the roads, towns, factories, and developed areas we found that there were ten locations suitable for relocating bears in the Shenandoah National Park. These relocation areas had to be located outside the buffered regions. They also require road access for a truck carrying an actual bear to be relocated. When a bear needs to be relocated a full size vehicle is necessary for carrying a bear to these locations. Our project has identified areas where bears can safely be relocated away from human development.

Sources

Mr. Dan Hurlbert, Shenandoah National Park , GIS Specialist

www. DGIF. Virginia.gov, Department of Game and Inland Fisheries

Jim Atkinson, Wildlife and Fisheries Biologist , "Wildlife Management Update: Tagging Strategies and Tag Returns."

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