West Virginia Division of Natural Resources

Furbearer Management Newsletter

Spring 2025 Wildlife Resources Section

This newsletter is specifically written to keep trappers, hunters, and the general public informed regarding the West Virginia Division of Natural Resources furbearer management program. We would appreciate any suggestions on how to improve this newsletter for your use. Please direct correspondence to:
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Research Project Complete – River Otter Diet and DNA

In the summer of 2024, Eden Nitza completed her Master of Science degree at West Virginia University. Her thesis is titled: Diet and Population Genomics of River Otters (*Lontra canadensis*) in West Virginia. Eden provided a summary of her project and findings below. Many thanks to Eden for her hard work and best wishes on her next chapter – pursing a PhD in Wildlife Conservation.

Otter Diet

To study otter diet, we examined the contents of approximately 100 otter stomachs that were donated by trappers, collected under nuisance permits, or found as roadkill. We used a DNA metabarcoding approach to examine the DNA fragments found within the stomachs and identify which species they belonged to. Overall, we found that sunfishes and crayfish were the most common diet items. Trout were not common diet items, and were found in only 9 of the total stomachs. Out of the 9 total stomachs with trout, none contained only trout and 4 were collected under nuisance permits. We did not find diet to be significantly related to age, sex, or ecoregion where the otter carcass was collected, which supports the idea that otters are opportunistic hunters.

Management Implication: This study found evidence that otters do not consume trout as a main diet item, and that the nuisance collection system is an appropriate measure to reduce human-otter conflict.

This table shows all the diet items that were found in the otter stomachs and what percentage of the total stomachs each diet item was found in.

Prey Item	Percentage (%) of Otter Stomachs that Contained each Prey Item
Sunfishes 	51.2
Crayfish 	50.0
Minnows 	22.1
Suckers 	19.8
Sculpins 	16.3
Darters 	15.1
Trout 	10.5
Eastern Mosquitofish 	9.3
Catfish 	4.7
Drums 	2.3
Frogs 	2.3
Birds 	2.3
Silversides 	1.2

Otter Genetics

To study the impact of the otter reintroduction, we examined genetic patterns in otters from West Virginia and surrounding states. We also examined the genetic patterns of otters in North Carolina and Louisiana, which is where otters were sourced for the reintroduction program.
Our genetic analysis provides evidence that there are two genetic populations of otters across the study region: otters in northwestern Ohio are genetically distinct from otters elsewhere in the study area. This led us to conclude that otters in western Ohio are not descendants from a reintroduction program, but naturally recolonized northwestern Ohio from Michigan (where otters were never extirpated). The otters elsewhere in the study area appear to be descendants of the reintroduction program because of their genetic similarities to otters in Louisiana and North Carolina. Overall, this analysis provides evidence that the West Virginia reintroduction program was successful in restoring otter populations.

Management Implication: This study found that the otter reintroduction program in West Virginia was successful in restoring otter populations to the state. To ensure long-term persistence of otters across Appalachia, this study recommends that managers focus on landscape connectivity across Ohio. Increased connectivity from the distinct western Ohio population could increase genetic diversity for otters across Appalachia, which could increase their potential to adapt to future habitat changes or diseases.

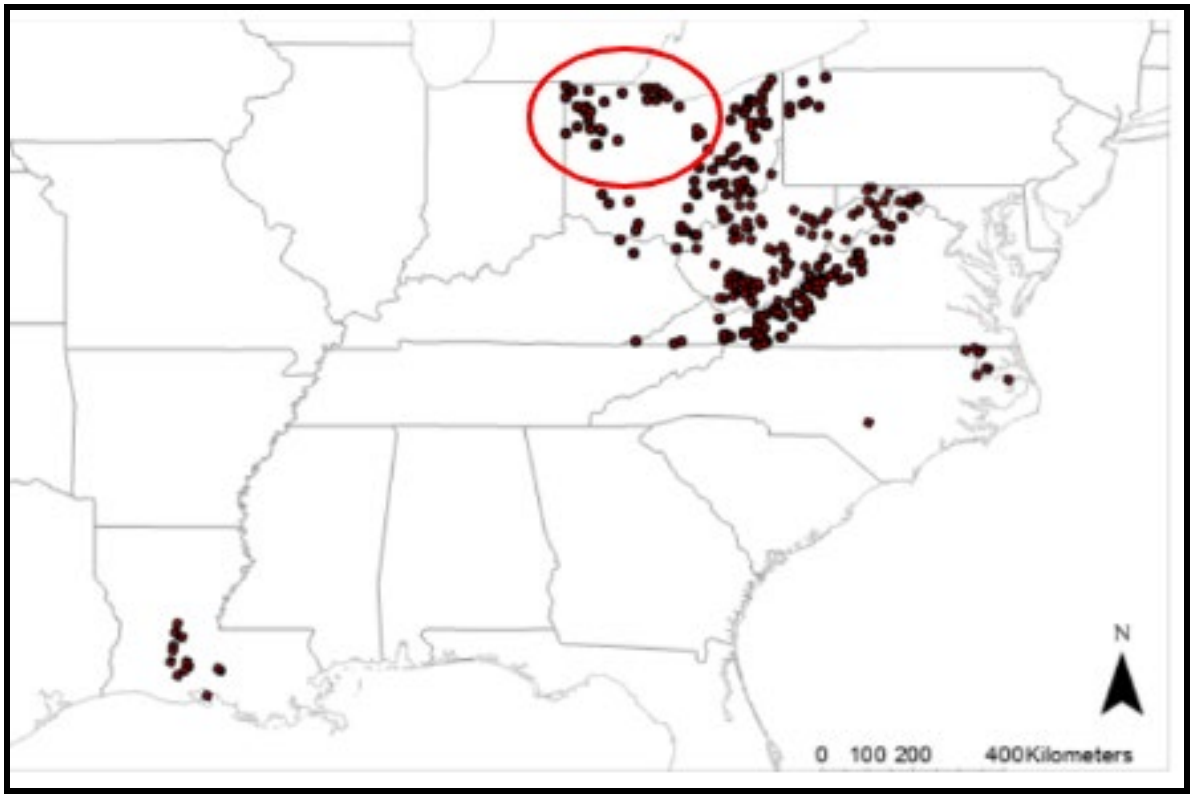


Figure 1. This map shows where the otters in the DNA study were collected from. Each red dot represents an individual otter. The red circle roughly represents the northwestern Ohio area where otters were found to be genetically different from the rest of the study area.

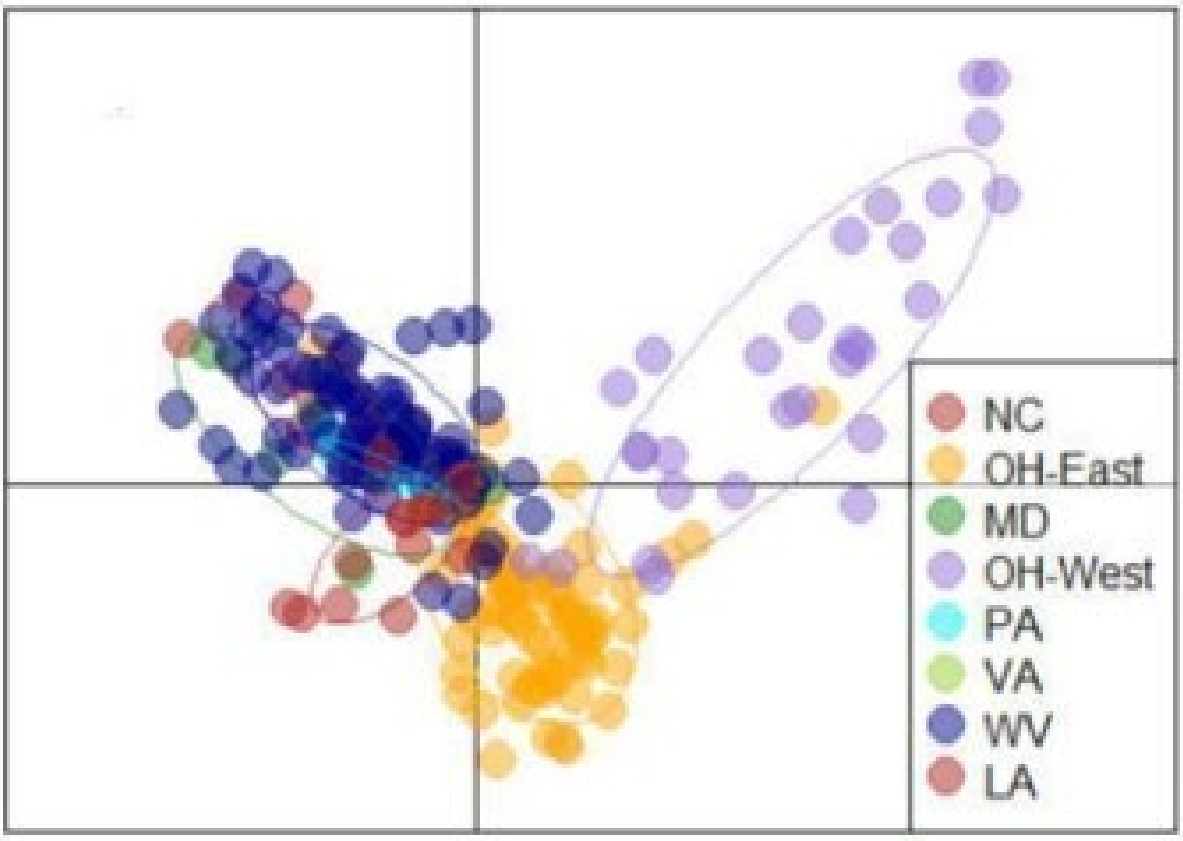


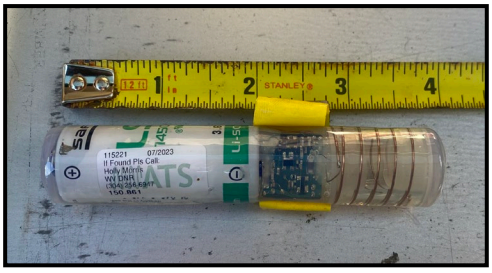
Figure 2. This figure represents the genetic similarities and differences amongst all the otters we analyzed. Each dot represents an individual otter, and each color represents a potential population of otters. The distance between dots represents the genetic relationship between the otters: the farther apart the dots, the greater the genetic difference between them. The circles help to visualize the populations. The main takeaway from this figure is that western Ohio is farther apart than any of the other populations, meaning that otters in western Ohio have different ancestry than the otter populations analyzed.

River Otter Survival Project Continues

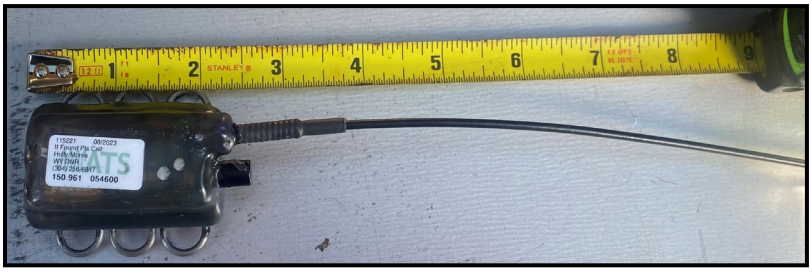
The otter trapping portion of the project is complete, and we are monitoring the for daily survival. In summary, we trapped and tagged 36 river otters, and at the time of this writing, have documented 4 mortalities. One of these mortalities was an illegal kill – the otter was shot.

The weather this winter has made tracking tagged otters very difficult. Snowpack and frequent flooding have made road access difficult, especially compared to last winter where snow was light and infrequent. In addition to tracking by vehicle and foot, we sought assistance from other agencies to assist us in finding otters from the sky. We have used helicopters to find otters and also will utilize this method to find radio-tagged wild turkeys for the concurrent DNR turkey study.

Radio-tagged otters are legal game during trapping season. If you harvest a radio-tagged otter, please call Holly Morris at the District 4 office at (304) 256-6947 to report the tag number and return the transmitter. Transmitters will be located inside the abdominal cavity and some otters also will have an external transmitter sutured on the otter's back. Your participation is essential to the success of this project. Results from this project will guide management decisions for river otter, including possible changes to the bag limit.



Internal VHF Transmitter



External GPS Transmitter

Example of Placement of GPS Transmitter

Ear Tag on River Otter

River Otter Dens – Interesting Observations

Through the survival study, we observed some of the different dens river otters are using. We found otters to be using beaver lodges, caves, and other crevasses when we recovered GPS transmitters that dropped off otters. These are some neat observations as a by-product of our habitat use and survival study.

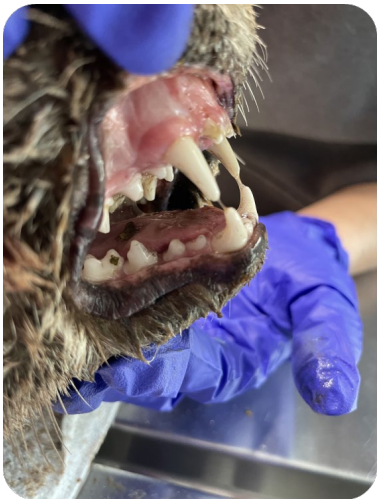
Radio-tagged female otter going to rock den with shaved spot from surgery to implant transmitter. We were able to set up a trail camera on a den site a female otter was using routinely in hopes of capturing young on camera, but she moved locations in mid-May and we were not able to document any pups. This site in particular reminded us more of a bear den – it was a couple hundred yards from the river and on a face of a mountain! We would have never believed this if we didn't document it with GPS units!

Tracking otters led us to numerous rock outcroppings, caves, and lodges like below. We also recovered GPS units at sites where otters groomed themselves on lake and river shores.

Carcass Collection Projects

We will be collecting carcasses at the WVTA Fur Sale. You may also contact any WVDNR district office if you would like to submit a carcass. Thanks to those for voluntarily donating their muskrat, gray fox, and fisher carcasses!

The otter carcass collection continues, and data is being used in current survival study to assess population structure and reproductive rate. On average, we receive 20 carcasses per year from trappers. I hope to utilize a new method of purchasing and distributing gift cards this year for otter carcasses with the goal of speeding up the process!



Reminders…

CITES Tags

If you need to obtain a CITES tag for bobcat or river otter, please contact your local DNR District office to ensure a biologist is available before you visit an office with your pelts. As in years past, we will have DNR personnel at the West Virginia Trapper's Association Fur sale Feb. 28 – March 1 available to apply CITES tags to pelts.

Trapper Surveys

Please turn in your voluntary trapper effort surveys. If you have wildlife management area (WMA) trapping permits, they must be turned in with your harvests in order to be eligible for a permit in 2025-26. These surveys help us collect trapper effort data, such as how many trap nights it takes on average to catch target animals and how many furbearers are harvested on WMAs.

Introduce someone to hunting or trapping!

Links

West Virginia Division of Natural Resources	www.wvdnr.gov
West Virginia Trappers Association	www.wvtrappers.com
Guide to State Game Depts.	
https://www.identicards.com/productcart/pc/State-DNRs-d39.htm	
Assoc. of Fish and Wildlife Agencies Furbearer Resources	
https://www.fishwildlife.org/afwa-inspires/furbearer-management	
National Trappers Association	www.nationaltrappers.com
Fur Takers of America	www.furtakersofamerica.com
Conserve Wildlife	www.conservewildlife.org
Furbearers Unlimited	www.furbearers.org
CITES	www.cites.org

Locating our GPS transmitters once they dropped off was a real game of hide and seek! Our GPS transmitters took a beating, too!