



West Virginia Division of Natural Resources

## Furbearer Management Newsletter

Winter/Spring 2023

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: Holly Morris, WVDNR, 2006 Robert C. Byrd Drive, Beckley, WV 25801 [holly.n.morris@wv.gov](mailto:holly.n.morris@wv.gov) . Please note – this is edition serves as a research update.

### Project Completed – Eastern Spotted Skunk Study

WVDNR partnered with Frostburg State University to conduct a research project on Eastern Spotted Skunks (*Spilogale putorius*) in Pendleton County, WV. Kendyl Hassler worked on this project as a M.S. student under the supervision of co-advisors Dr. Thomas Serfass and Dr. Kelly Pearce at Frostburg State. The main objective of the project was to identify if Eastern Spotted Skunks selected specific habitat features for den sites. Eight Eastern Spotted Skunks were trapped, radio-collared, and tracked from March 2017 to March 2020 to determine their habitat preferences for den sites. The likelihood of a skunk selecting a den focused on presence of mountain laurel, blueberry and huckleberry, medium and large rocks, and coarse woody debris. Habitat management to promote or conserve these areas would be beneficial to Eastern Spotted Skunks. During this study, it was noted 2 male Eastern Spotted Skunks crossed the South Branch of the Potomac River on 9 occasions! Based on these observations, rivers of similar size should not be prohibitive to Eastern Spotted Skunk movements.

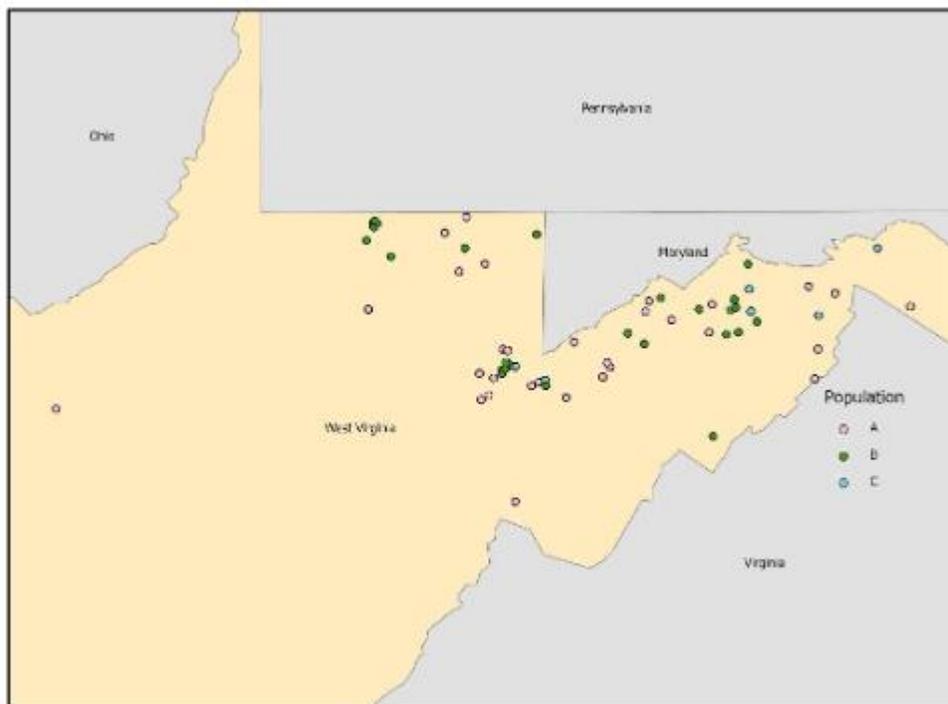


Pictured above are fragments of an Eastern Spotted Skunk recovered from a Barred Owl pellet. This pellet was found near a deceased female Eastern Spotted Skunk tracked via telemetry on Nathaniel Mountain Wildlife Management Area. This was the first documentation of Barred Owls preying upon Eastern Spotted Skunks.

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## Project Completed – Fisher Study at WVU

Fishers were reintroduced into West Virginia in the late 1960s from source populations in New Hampshire. Genetic analysis of this reintroduced population had not been studied until in 2018, when Caroline Harms began work on this project. Caroline was a M.S. student at West Virginia University under the direction of Dr. Amy Welsh, Dr. John Edwards, and Rich Rogers. DNA samples of fishers from West Virginia, Pennsylvania, New York, and New Hampshire were analyzed. This project was completed in 2021 and found that 3 distinct genetic populations of fishers exist across WV, PA, NY, and NH. In addition, 3 distinct genetic populations were found in WV, and indicates that the original fisher population in WV was never totally extirpated. Thanks to trappers who provided samples from their harvests!



This map displays the location where the fisher DNA sample originated from and to which unique fisher population the sample belongs.

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## Project Completed – Bobcat Study at WVU

Although bobcat research had been conducted in West Virginia, questions still existed regarding bobcat survival, home range, and habitat selection. To address these issues, WVDNR partnered with WVU in 2018 and began a new research project using GPS transmitters on bobcats. This project was led by Dr. John Edwards and Dr. Christopher Rota, along with Kirsten Belcher working in the field collecting data. Research found that annual survival rate was ~74%, with the greatest mortality occurring during breeding season (February – May). Home range size was estimated to be 2,201 ha (5,438 acres); typically, males had larger home ranges than females and juveniles had smaller home ranges than adults. Home ranges were at their smallest in size during winter. As for habitat use, bobcats favored forested areas along streams and rivers, oak-pine forests, and northern hardwoods/mixed mesophytic forests. Many thanks to trappers that assisted the project!

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## River Otter Studies - Food Habits, DNA Analysis, Health, & Survival

Some members of the trapping community, anglers, and the general public have made requests to liberalize the trapping season for otter. The DNR has been reluctant to support these proposals without sufficient data to ensure the proper management of this species. River otter populations exhibit low fecundity and typically must be a few years old to successfully reproduce; therefore, they do not easily recover from overharvest, and caution must be used to ensure trapping regulations do not have a detrimental impact on otter populations.

In addition to its longstanding carcass collection efforts, the DNR has embarked upon a number of research projects designed to evaluate the health, food habitats and population ecology of the river otter in West Virginia. These extensive research efforts are described below.

The DNR has two current graduate students working on river otter diets with a third to start in August 2023. Under the guidance of Dr. Thomas Serfass, Professor of Wildlife Ecology at Frostburg State University and worldwide otter expert, a M.S. student is conducting research on “Food Habits of the North American River Otter (*Lontra canadensis*) in West Virginia.” This study will focus on the prey that is identifiable in scat and stomach of otters. In addition, a M.S. student at West Virginia University under the guidance of Dr. Amy Welsh, Associate Professor of Wildlife and Fisheries Resources, will examine the genetic content of prey items in the river otter diet and population genetics with her thesis titled “River Otter (*Lontra canadensis*) Diet and Population Genetics in West Virginia.” These two theses will provide valuable information into prey items consumed by otters in West Virginia.

In conjunction with these two M.S. projects and using samples (primarily liver) from the diet study, the DNR is collaborating with the University of California at Davis, Southeastern Cooperative Wildlife Disease Study, and Frostburg State University to conduct a toxicology assessment of river otter samples that may impact individual otters and thus the population ecology of the species. The assessment will focus on the following contaminant categories: 1) Insecticides (a general screen of the occurrence of commonly used insecticides); 2) Organochlorines (a screen of occurrence and concentrations of specific organochlorine insecticides); 3) Toxins associated with cyanobacterial blooms (e.g., microcystin, nodularin and anatoxin-a); and 4) Heavy metals including selenium. Dr. Robert Poppenga, Head of the Toxicology Section in the California Animal Health and Food Safety Laboratory at the School of Veterinary Medicine for the University of California, serves as principal investigator for this project.

The DNR collaborates with Dr. Christopher Rota, Associate Professor of Wildlife and Fisheries at West Virginia University, on a variety of issues relating to statistical analysis and research design to evaluate wildlife biological data and population modeling. Dr. Rota has recently analyzed West Virginia's river otter data previously collected by the Game Management Unit. This data included 175 river otter carcasses collected between 1993 and 2019. In summary, Dr. Rota concluded that more accurate survival rates for river otter were needed to model population growth rates and determine the impacts of trapping regulation changes. To address this need, the DNR will initiate a new study in April 2023 to investigate river otter survival and population ecology. This work will be led by Dr. Laura Gigliotti, Assistant Unit Leader for the West Virginia Cooperative Fish and Wildlife Research Unit. The objectives of this study are to: 1) estimate river otter annual survival and harvest rates in West Virginia; 2) evaluate river otter home range sizes, habitat use, and movement rates in relation to fish stocking in West Virginia; and 3) estimate population growth rates. Wildlife biologists and managers with the DNR will work with a West Virginia University M.S. student to install radio transmitters on otters to complete these objectives of the project.

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## Otter Carcass Collection Continues

In order to determine otter population size and effect of harvest, WVDNR will continue to collect otter carcasses. A \$20 gift card is being offered for any useable carcass turned in to WVDNR. Carcasses may be brought to any district wildlife office or arrangements can be made to have them picked up by WVDNR personnel. Canine teeth and female reproductive tracts will be used to collect demographic data. Population age structure, survival, and reproductive rate from year to year will be determined to give biologists a picture of population health and assist in determining whether the bag limit needs to be changed.

Contact any WVDNR district office if you would like to turn in a carcass. You can also call: Holly Morris, Furbearer and Small Game Project Leader, at (304) 256-6947.

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## Links

West Virginia Division of Natural Resources

[www.wvdnr.gov](http://www.wvdnr.gov)

West Virginia Trappers Association

[www.wvtrappers.com](http://www.wvtrappers.com)

Guide to State Game Depts.

<https://www.identicons.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](http://www.nationaltrappers.com)

Fur Takers of America

[www.furtakersofamerica.com](http://www.furtakersofamerica.com)

Conserve Wildlife

[www.conservewildlife.org](http://www.conservewildlife.org)

Furbearers Unlimited

[www.furbearers.org](http://www.furbearers.org)

CITES

[www.cites.org](http://www.cites.org)

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