

MOUNTAINS

Word from Smokies: Wildlife biologist helps elk return to Appalachia



Aaron Searcy
Word from the Smokies

In the not-so-distant past, red wolves and bison roamed the Great Smoky Mountains, passenger pigeons flew en masse overhead, and Carolina parakeets chattered in the welcoming branches of American chestnut trees. Today, every one of those species has disappeared from the Southern Appalachian landscape — hastened along the way by the arrival of European settlers, new diseases, and new hunting and farming practices that dramatically reshaped the region's flora and fauna.

Among the largest and most conspicuous species lost to human activity were eastern elk, a regional subspecies that vanished in the 1800s. But now, thanks to an ambitious project launched 20 years ago in Great Smoky Mountains National Park, the resonant bugling calls of elk can be heard echoing across North Carolina's Cataloochee Valley.

"The great pie in the sky would be to have one large, contiguous population throughout the East Coast again," said Wildlife Biologist Joseph Yarkovich. "But that's still way, way down the road."

Yarkovich has spent much of his career with the National Park Service working to ensure the success of the elk's reintroduction to the Smokies, mostly on the North Carolina side of the national park. After two decades of accumulating small wins, the park service is now looking to make the new herd more resilient and improve standard practices for tracking and managing reintroduced wildlife.

One of the biggest challenges for the moment is simply getting a reliable count of how many elk are now living in the Smokies.

"What we've been doing up until now is conducting a minimum count," said Yarkovich. "The park in collaboration with the Eastern Band of Cherokee Indians and the North Carolina Wildlife Commission will coordinate for three days in a row to count as many elk as we can see and come up with a minimum estimate for the population."

But even when paired with ear tagging and radio collaring, this process still falls short of providing hard numbers for current populations. It also tends to be difficult in the dense forests of Western North Carolina and East Tennessee.

"Basically, the way you typically survey elk populations is based on western landscapes and methodologies where you have really high sightability," said Yarkovich. "Those methods really aren't as effective here in the Southern Appalachians where everything is just so thick."

While the park service continues to closely monitor the herd through strategies already at hand, researchers in the Smokies are also at the forefront of developing new counting system that may be a game changer for tracking wildlife populations in the eastern US. If the current trial proves successful, it could provide



A group of elk graze in the Cataloochee Valley area on the North Carolina side of Great Smoky Mountains National Park. Collars outfitted with very-high-frequency (VHF) radio transmitters help wildlife managers track elk survival and reproduction. PHOTOS PROVIDED BY JOYE ARDYN DURHAM

much more reliable data to help inform important regional land management decisions and shape future hunting regulations.

The tactics of the new trial, however, focus less on counting the elk themselves and more on what they leave behind.

"What we're looking at now is a study using elk fecal DNA," said Yarkovich. "It consists of walking transects all over Western North Carolina for three years, finding elk pellets, and swabbing them for DNA. Those samples can then be sent off for genetic analyses down to the individual level, which will help us capture records of a lot of the animals that we're not seeing."

With roughly 400 such transects to be studied altogether — each one covering rugged, off-trail areas up to a mile long — the DNA-based counting system is labor intensive. But the detailed information it reveals could be a lifeline for a reintroduced population that is still relatively fragile.

"Twenty years of elk back on the landscape can seem like a really long time, but when you look at the big picture, it's still not a big population," said Yarkovich. "Smaller elk populations can be really sensitive to disease, changes in the environment, and changes within their own group dynamics."

According to Yarkovich, the painstaking, multifaceted monitoring of the park's elk herd is necessary if humans hope to successfully restore a single missing piece of the region's ecological puzzle. But at least for now, elk join river otters and peregrine falcons on the small-but-growing list of once-lost animals now returned to the mountains.

"If this project works as well as we hope, I would expect other states like Tennessee, Kentucky, Virginia, and Pennsylvania to pick it up too," said Yarkovich.



Brightly colored ear tags allow park biologists to identify individual elk from a safe distance. Willfully approaching elk within a distance of 50 yards is prohibited in Great Smoky Mountains National Park.

"That's a big step toward restoring a healthy, self-sustaining herd for Southern Appalachia."

Yarkovich will be sharing more about his work in the Smokies on Friday, September 17, as part of Discover Life in America's Science at Sugarlands speaker series. Registration for the free online event is currently available at dlia.org/sas.

Aaron Searcy is a publications associate for the 29,000-member Great Smoky Mountains Association, an educational nonprofit partner of Great Smoky Mountains National Park. A lengthy article on the elk reintroduction can be found in GSMA's new issue of *Smokies Life* magazine available at SmokiesInformation.org. Reach the author at aaron@gsmassoc.org.

Judge sets deadline for North Carolina to boost school funding

ASSOCIATED PRESS

RALEIGH — A North Carolina judge has set a mid-October deadline for state lawmakers to follow a court-ordered plan to provide full funding for improving public education or he will take action himself.

State Superior Court Judge David Lee said he was "very disheartened" that the General Assembly is funding a small part of a plan calling for at least \$5.6 billion in new education funding by 2028, news outlets reported.

Lee has scheduled a court hearing on Oct. 18, and said if the plan isn't fully funded by then, he will consider options on how the court can resolve the matter.

Pat Ryan, a spokesman for Senate leader Phil Berger, also accused Lee of overstepping his authority, *The News & Observer* of Raleigh reported.

"I don't know how much clearer we can be," Ryan said in a statement Wednesday. "If Judge Lee wants to help decide how to spend state dollars — a role that has been the exclusive domain of the legislative branch since the state's founding — then Judge Lee should run for a seat in the House or Senate."

Lee's warning marks the next stage in the Leandro

school funding case first filed in 1994 by low-wealth school districts to get more state funding. The case is named after a Hoke County student who has since graduated from college. The N.C. Supreme Court assigned Lee to oversee the case after Judge Howard Manning retired.

Over the years, the state Supreme Court has ruled that the North Carolina Constitution guarantees every child "an opportunity to receive a sound basic education" and that the state wasn't meeting that standard.

In June, Lee approved a seven-year plan agreed to by the State Board of Education, Democratic Gov. Roy Cooper's administration and the plaintiffs. The \$5.6 billion plan includes a 5% pay raise this year for teachers, more money for low-wealth school districts and expanding the NC Pre-K program.

Republicans in the House and Senate each passed their own versions of the budget and are trying to reconcile the differences.

The Leandro plan calls for \$690.7 million in new education funding this year and \$1.06 billion next year. The Senate budget included \$191.6 million this year and \$213.7 million next year. The House had \$370 million this year and \$382.1 million next year.



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