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Managing elk Two more



A cow elk moves through a wooded area. According to a recent DNA study, 240 elk were estimated to be living in Western North Carolina as of 2022. Of those, 178 were female. PROVIDED BY PAUL STUBBS

DNA study yields estimate of Smokies population





Word from the Smokies Steve Kemp and Holly Kays **Guest Columnists**

Over the decades since 52 elk were reintroduced to Great Smoky Mountains National Park's Cataloochee Valley in 2001 and 2002, wildlife biologists have longed for a statistically accurate count of the population in Western North Carolina.

While one might assume that, relatively speaking, counting elk would be easier than, say, tallying rough greensnakes or rock voles, achieving an accurate, scientific population census for elk is more complicated than it seems. Elk are big (standing up to five feet tall and weighing 850 pounds or more) and like to graze open meadows, in plain view, but when they drift into the woods, they essentially vanish. Counting them has proven challenging.

To crack the conundrum, the biologists on the case elected to count elk poop, rather than the elk themselves. Adapting methods used to estimate elk populations in Oregon and elsewhere, University of Tennessee Ph.D. candidate Jessica Braunstein designed a research project that required upwards of 50 people from the North Carolina Wildlife Resources Commission, Eastern Band of Cherokee Indians, National Park Service and UT to spend three winters bushwhacking through impenetrable rhododendron and mountain laurel thickets along near-vertical slopes in an unrelenting quest for elk scat. Over three years, researchers surveyed more



Collisions with vehicles are a significant cause of death for North Carolina elk. The Oconaluftee area pictured here is a hotspot for such accidents. PROVIDED BY EMMA OXFORD

than 1,200 randomly selected transects, located not only on public lands such as GSMNP, the Blue Ridge Parkway, Pisgah National Forest and William H. Silver Game Lands, but also on tribal lands

and numerous private properties. The collected elk scat went off to a lab for DNA analysis, which revealed important information about each sample, including which individual elk produced it and whether that elk was male or female. Braunstein used this data to estimate not only how many elk live in the Smokies but also where they live, adult survival rates and population growth rates. That's "really, really important" information for the wildlife professionals who manage the elk herd, said Justin McVey, district biologist for

Braunstein's study concluded that, as of 2022, approximately 240 elk lived in Western North Carolina more than quadruple the original 52. That increase comes despite an initial population dip as the newly released ungulates learned how to adapt to the challenges of their new home, such as predation from black bears.

Nearly three-quarters of the estimated elk population is female, Braunstein found, and these female elk had a much higher year-to-year survival rate than their male counterparts. Such lopsided statistics are "pretty normal," but Braunstein was "honestly surprised to see how much higher" the survival rate was for female elk.

See STUDY, Page 4A

principals named

Sarah Honosky

Asheville Citizen Times USA TODAY NETWORK

ASHEVILLE - Buncombe County Schools Superintendent Rob Jackson has announced two additional new school principals for the 2024-25 academic year, according to a June 14 news release.

The announcement follows five new principals named earlier in June.

"We are looking forward to the leadership of both of these principals," Jackson said in the news release of the most recent appointments.

"Having each been students and teachers in our school system, they have a deep appreciation for the

See PRINCIPALS, Page 3A



Administrator **Assignments**





Buncombe County Schools Superintendent Rob Jackson has announced two additional school principals for the 2024-25 year. PROVIDED BY BUNCOMBE COUNTY SCHOOLS

Biden, Trump prep for coming debate

David Jackson USA TODAY

WASHINGTON - With one week to go, President Joe Biden and former President Donald Trump are in full-on debate mode.

The presumptive Democratic and Republican nominees are starting the final stages of preparation for their first in-person showdown since 2020. Biden will take campaign briefings at Camp David this weekend, while Trump will also meet with policy advisers, all activities leading up to Thursday's encoun-

The former president will also engage Saturday in his favorite form of debate prep: a campaign rally, this one in the politically pivotal state of Pennsylvania.

See DEBATE, Page 5A



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Vol. 155 No. 147 @2024



Study

Continued from Page 1A

Several factors likely contribute to that disparity. Poachers are more likely to target bulls for illegal hunting, and male elk tend to disperse after the rut, incurring more risk than females — car collisions are a significant source of mortality for North Carolina elk. Some male elk may simply venture so far away that they leave the study area, evading detection.

Weaknesses in the data could also play a role. Three winters' worth of sampling yielded two intervals during which statistics like survival rates could be detected. For both males and females, this rate varied significantly between the two periods, but the swing was much more dramatic for the males, with the estimated survival rate for the second period only about half that of the first period. Braunstein said the level of variability makes her hesitant to discuss those numbers yet.

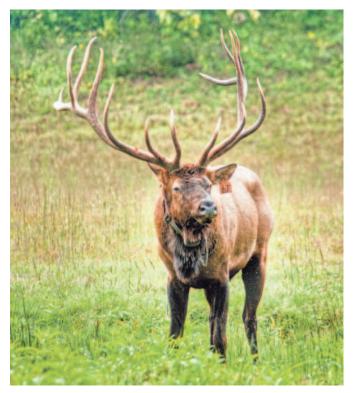
"The more data you collect over time, the more it'll help those numbers stabilize and shrink those confidence intervals," she said. "But that's just going to take repeated sampling."

That's just what NCWRC plans to do. Using the techniques learned from Braunstein's study, the agency will continue collecting data for the next 3-5 years, said Brad Howard, chief of the NCWRC Wildlife Management Division. While the population estimate is the "biggest end result" of Braunstein's research, perhaps just as important is the direction it gives the agency on how to continue monitoring the herd.

"Having that ability now certainly provides greater confidence in understanding what does the standing the elk herd look like, where is it, those kinds of important pieces of management information," said Howard.

Managing elk is a complex task. The herds are spread across three jurisdictions — the park service, EBCI and North Carolina — and because they favor fields over woods, their presence on private land can often cause problems, especially when the private land in question is an agricultural field. Many landowners have reported issues with elk interfering with agricultural operations or behaving aggressively. The NCWRC has a variety of programs in place to help mitigate these impacts, and McVey believes attitudes toward elk "have gotten better" over the





Elk are vegetarian, relying on a diet of grasses, forbs, and acorns as well as bark, leaves, and buds from shrubs and trees. PROVIDED BY **SMOKIES LIFE**

Wildlife biologists closely monitor the movements of individual members of the Smokies elk herd, like the bull elk pictured here, with the help of radio collars and ear tags. **DNA** studies offer yet another means of tracking and understanding the growth of local elk populations. PROVIDED BY LORI DOUTHAT

several hundred range," barring significant landscape changes in the years ahead. That means that any hunting season approved for the foreseeable future will be extremely limited — just a handful of permits, and potentially periodic rather than annual.

holders. Additionally, the elk are not uni-

formly distributed across the landscape.

They stay together in distinct herds, and

some herds are not large enough to sur-

to continue growing, it remains to be

seen how long that growth might con-

tinue. Because Western North Carolina is

so heavily forested, Howard doubts the

population will ever grow beyond "the

Though the elk population is expected

vive losing any bulls to hunting.

might hold for Smoky Mountain elk is like "looking through a foggy crystal ball," said Howard. But wildlife managers at all three agencies are grateful for the new population data they have to guide them.

Trying to forecast what the future

These techniques were unheard of 30 years ago, and so it's phenomenal what can be done now," Howard said. "It's a very exciting time."

Steve Kemp is the former interpretive products and services director for Great Smoky Mountains Association, which rebranded this year as Smokies Life.

Holly Kays is the lead writer for this 29,000-member nonprofit dedicated to supporting the scientific, historical, and interpretive activities of Great Smoky Mountains National Park by providing educational products and services such as this column. Learn more at Smokies-Life.org.

last few years.

In North Carolina, the big question is when — and if — the first elk hunting permit might be issued. In preparation for a future hunt, the NCWRC adopted a rule in 2016 that removed elk from the state's list of species of special concern and allowed for a permit-only October hunt. No permits have been issued so far, but Braunstein's study showed that a "very limited" bull harvest would be sustainable for the current population. However,

the agency may still decide to wait a

"When we say 'minimal,' at this point in time we're talking one or two," Howard said. "The logistical challenges of elk hunting in that general area have not and will not go away."

Braunstein estimated that, of the 240 elk, 154 live on lands under state jurisdiction. However, many of these elk are on private land whose owners may or may not want to open their property to permit

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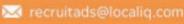


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