

MOUNTAINS



Warblers like the Black-throated Green Warbler are at the highest risk of illness and death from ground-level ozone, which not only harms avian respiratory systems but also damages vegetation that they depend on for food and shelter.

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Ivan Rudik
Cornell economist

from annual volunteer counts such as the Breeding Bird Survey and the Christmas Bird Count. Super said the park paid for an extensive baseline survey of birds in the 1990s, which has helped with an analysis of the impacts of prescribed fire on bird populations and communities and is being revisited for high-elevation birds Dr. Andrew Laughlin at University of North Carolina–Asheville.

The park has also benefited from a number of bird surveys by independent researchers, including Fred J. Alsop III whose work provides a long-term picture of the changes in the community of birds using the spruce-fir forest due to the loss of Fraser fir. “These retrospective studies – revisiting sites across a long period – will help us understand what is happening with our bird populations,” Super said.

Renfro says ozone levels have dropped 39 percent since the late 1990s due to reductions in nitrogen oxide emissions from power plants, motor vehicles, and industrial sources throughout the U.S. The entire park was finally designated in ‘attainment’ by the EPA in 2015 for meeting the current standard. But GSMNP’s ozone levels remain under scrutiny to ensure the park stays in compliance.

Renfro’s air quality work and Super’s research facilitation are making big strides for the conservation of birds as well as for mammals, fish, reptiles, and amphibians. As the world continues to face species decline, it becomes more and more critical for land managers and scientists alike to collaborate to understand the causes of wildlife loss and discover solutions.

Frances Figart is the editor of Smokies Life magazine and the Creative Services Director for the 34,000-member Great Smoky Mountains Association, an educational nonprofit partner of Great Smoky Mountains National Park. Learn more at smokiesinformation.org and reach the author at frances@gsmassoc.org.

Smokies birds may have benefited from Clean Air Act



Word from the Smokies

Frances Figart
Columnist

The World Wildlife Fund’s Living Planet Report released in September of 2020 brought the sad news that population sizes of mammals, fish, birds, reptiles, and amphibians have declined an average of 68 percent between 1970 and 2016 across the globe. Locally, within that greater reality, there is some good news.

It is likely that the work of land managers and scientists in Great Smoky Mountains National Park may have helped to preserve large numbers of species of birds. According to a paper published recently in the Proceedings of the National Academy of Sciences, since 1980, requirements set forth in the Clean Air act passed 50 years ago may be to thank for saving 1.5 billion birds across the globe that otherwise would have been lost.

“Our research shows that the benefits of environmental regulation have likely been underestimated,” said Ivan Rudik, a Cornell economist and one of the paper’s lead authors. “Reducing pollution has positive impacts in unexpected places and provides an additional policy lever for conservation efforts.”

Great Smoky Mountains National Park may be one of those unexpected places. “The park is interested in trends in the populations: which species are increasing, which species are decreasing, and whether there are certain areas or habitats where many species are increasing or decreasing together,” said Paul E. Super, the Science Coordinator helping to facilitate research in the park.

Finches, warblers, and sparrows are at the highest risk of illness and death from ground-level ozone, which not only harms avian respiratory systems but also damages vegetation that they depend on for food and shelter. These species may have benefited from the Clean Air act’s ozone restrictions in many regions—including the Smokies. “Ozone is considered a secondary pollutant,” said NPS Air Resource Specialist Jim Renfro, who works to reduce pollution and improve the Smokies air quality. “It’s not emitted directly by sources but formed by the reaction of sunlight on nitrogen oxides and volatile organic compounds.”

Renfro says GSMNP has been monitoring ozone since the early 1980s. Five monitors throughout the park report data to the Environmental Protection Agency (EPA), which measures compliance with its public health standards in terms of meeting (attainment) or not meeting (non-attainment) any particular standard.

“The park was designated ‘non-attainment’ for violating the 1997 ozone National Ambient Air Quality Standard,” he said. “The Tennessee-side of the park was part of the Knoxville non-attainment area; the North Carolina-side of the park—comprised of just the portions of Haywood and Swain Counties inside the park—was named ‘the Great Smoky Mountains National Park non-attainment area.’”

Though the park doesn’t have exact numbers of bird species lost or preserved, it gets some good information

BRIEFS

3 North Carolina catfish records were broken during pandemic

RALEIGH – The coronavirus pandemic has given some people more time to fish. And that may be why three catfish records were broken last year in North Carolina.

The Virginian-Pilot reports that the North Carolina Wildlife Resources Commission announced the new records on Wednesday. They involved three catfish species.

The commission said that Pinehurst resident John Stone caught a 23-pound, 5-ounce channel catfish in a private pond in Moore County in September.

Joey Baird of Lawrenceville, Virginia, caught a 121-pound, 9-ounce blue catfish in Lake Gaston in July. That same month, Tyler Barnes of Pikeville, North Carolina, reeled in a 78-pound, 14-ounce flathead catfish from the Neuse River.

Mindy Wharton, spokesperson for the commission, said the state saw a spike in fishing licenses sold last spring.

“Certainly people had more time on their hands,” she said.

NC man charged in shooting of off-duty deputy

DURHAM – A North Carolina man

wanted in connection with the shooting of an off-duty deputy has been arrested.

Jerry Lamont Harris Jr., of Durham, was taken into custody Thursday at a home in the city, more than two months after the shooting placed him on Durham County’s “most wanted” list, the Durham County Sheriff’s Office said in a statement.

The off-duty deputy was driving his own car on Nov. 14 when occupants in a silver sedan fired shots into his vehicle, authorities said. Two other people, Armand Lewis-Langston and Chakera Mangum, were charged in connection to the shooting last year.

The deputy was hospitalized for non-

life threatening injuries, and has since returned back to work, Durham County Sheriff Clarence Sheriff Birkhead said.

Harris, 26, faces multiple charges, including conspiracy to commit murder and attempted murder. He was on federal probation at the time of the shooting, authorities said, and has had prior arrests in Durham County.

Harris is being held without bond and is scheduled to make a court appearance on Friday. It was not immediately clear if he has an attorney who could comment on his behalf.

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