

Fewer frogs died by vehicles in the outset of the pandemic

October 13 2021



Wood frog. Credit: Greg LeClair

Fewer frogs died from vehicle collisions in spring 2020, when the COVID-19 pandemic began, than during the season in other recent years, according to a new study led by a University of Maine graduate student and community science project coordinator.

Vehicles kill many adult frogs, [salamanders](#) and other amphibians that

cross roadways, particularly during their spring migrations. When traffic levels plummeted during the initial months of the pandemic, Greg LeClair decided to investigate how this slowdown in human activity would affect amphibian mortality.

LeClair, a UMaine master's student in ecology and environmental sciences, used data he accumulated from hosting the annual springtime community science project he founded called Maine Big Night: Amphibian Migration Monitoring. Volunteers participating in the effort collect data on frogs and salamanders that are crossing roads at sites across Maine from March 15 to May 15.

The team discovered that 50% fewer frogs died from [vehicle](#) collisions in spring 2020 in Maine than during the same periods in 2018, 2019 and 2021. When comparing it to collision data for other species from the Maine Department of Transportation, researchers identified a broader decline in animal road fatalities in spring 2020 in the state, a similar finding exhibited in other studies worldwide.

Zach Wood, a postdoctoral research associate with the UMaine School of Biology and Ecology, Matthew Chatfield, a UMaine assistant professor of evolution and eco-health; Jeffrey Parmelee, an evolutionary biologist and ecologist with the University of New England; and Cheryl Frederick, an animal behaviorist with the Center for Wildlife Studies, all participated in the study. They published their findings in the journal *Conservation Science and Practice*.



Spotted salamander. Credit: Nell Rux

"Meaningful impact to wildlife is well within reach of most people; you just have to try to not drive on those warm rainy nights in spring," LeClair says.

While the frequency of [frog](#) fatalities by vehicles significantly declined during the first months of the pandemic, no notable change was observed in road mortality among salamanders.

Researchers believe the discrepancy may involve precipitation, for salamanders typically travel less in rainfall, while frogs remain unaffected or increase their movement. More frogs than salamanders

died from vehicle collisions statewide from 2018–2021, particular during warmer and wetter weather, according to researchers.

The Maine Big Night project not only supports research like this latest study, but serves to monitor amphibian populations and identify locations where many are killed in vehicle collisions. Participants also help escort live frogs and salamanders across the road in an effort to reduce mortalities.

According to LeClair, 426 certified volunteers, with 149 of them providing data as a primary submitter, have surveyed 199 sites across Maine since 2018 as part of The Maine Big Night. His project has gained national attention, with articles about it published in the *New York Times* and *The Atlantic*.

"I've been moving frogs and salamanders out of roads since I was a kid," LeClair says, "hopefully this work will assist in the repair of these ecological wounds."

More information: Gregory LeClair et al, Influence of the COVID-19 pandemic on amphibian road mortality, *Conservation Science and Practice* (2021). [DOI: 10.1111/csp2.535](https://doi.org/10.1111/csp2.535)

Provided by University of Maine

Citation: Fewer frogs died by vehicles in the outset of the pandemic (2021, October 13) retrieved 12 September 2024 from <https://phys.org/news/2021-10-frogs-died-vehicles-outset-pandemic.html>

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