

Study analyzes how manmade noise impacts bird decline

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Derrick Taff, researcher and assistant professor, works with a mountaineer during a soundscape study at Denali National Park and Preserve. Credit: Derrick Taff/Penn State

How noise can affect interactions between human and natural systems is the topic of a National Science Foundation grant awarded to researchers at Penn State and Boise State University.

The researchers are analyzing how traffic sounds influence interactions

between humans and [wildlife](#) in proximity.

The four-year, \$600,000 project is intended to determine whether manmade [noise](#) generated in wildlife areas with already declining bird diversity weakens people's perceived value of wildlife. If it weakens people's perceptions, does it also diminish the amount of support people offer for [nature conservation](#), further contributing to the decline of bird diversity?

The researchers also want to know if a greater awareness of the sounds of wildlife increases the value placed on environmental diversity and the overall human perception of nature.

"We are very excited about this study," said co-investigator Peter Newman, professor and head of the Department of Recreation, Park, and Tourism Management, Penn State. "We talk a lot about working across disciplines but actually doing it is another story. This study allows social scientists to work together with biologists to clearly define coupled human-natural relationships and how they work systemically. To me, these types of studies truly shed light on complex environmental challenges and help to train our grad students to tackle them in the future."

"Our hypothesis is that as manmade noise fills the soundscape and drives birds and other animals away, groups and individuals come to value wildlife less," said principal investigator and Boise State biologist Jesse Barber. "That decline then leads to a reduction in support for nature conservation, which spirals into a further decline in wildlife diversity."

The researchers are focusing on traffic sounds, but believe their data will apply to other human-caused noise as well. Because birds are much easier to observe and count in the wild than other animals, they will be at the heart of the study.

Birds will be counted along wilderness roadways with cars traveling at maximum speed, and again at reduced speed or during road closures. The researchers will survey people to determine if they believe slowdowns and the resulting decrease in [noise levels](#) are worth the transportation trade-offs if both people and wildlife benefit.

Provided by Pennsylvania State University

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