

# Perceptions of environmental damage improves over time, despite lack of real change

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Invasive pests known as spruce bark beetles have been attacking Alaskan forests for decades, killing more than 1 million acres of forest on the Kenai Peninsula in southern Alaska for more than 25 years. Beyond environmental concerns regarding the millions of dead trees, or "beetle kill" trees, inhabitants of the peninsula and surrounding areas are faced with problems including dangerous falling trees, high wildfire risks, loss of scenic views and increased soil erosion. Now, a researcher from the University of Missouri and his colleagues have found that human perception of the beetle kill problem in the Kenai Peninsula has improved over time, despite little improvement in the environmental conditions. Hua Qin, an assistant professor of rural sociology and sustainable development at MU, says this trend in how time affects human attitudes and behavior is important to understand as environmental changes increase around the world.

"Although the beetle outbreak remains a significant issue on the Kenai Peninsula, the perceptions of residents about the level of seriousness of the beetle kill problem in the area have actually decreased during the study period," said Qin, who is housed in the MU College of Agriculture, Food and Natural Resources. "This shows the importance of understanding and addressing the human elements associated with natural hazards and other environmental problems. Human perceptions of events are not always in line with the realities of situations, so it is important for government agencies and other responding organizations

to realize this complex phenomenon and address it when dealing with these types of problems."

The study drew on household survey data collected in two phases across a 4-year time period. In the first phase, more than 1,000 people living in six communities located throughout the Kenai Peninsula completed a mail survey that asked participants about their perceptions of the beetle kill in the area and how they felt about its economic and social effects on the community and themselves individually. The survey also asked participants to rate the effectiveness of government responses to the beetle kill problem. In the second phase, the team re-surveyed 766 of the original respondents.

Despite little change in the degrees of tree mortality and natural regrowth in the affected areas, the analysis revealed that participants perceived the problem to be less serious over time. Qin and colleagues found that satisfaction with government response to the problem generally improved as well across the study area, particularly in those communities experiencing active beetle impacts. Also, the researchers found some forest risks such as forest and grass fires remained the focus of people's attention longer than other problems.

"It says much about human adaption to find that perceptions of environmental problems change over time," Qin said. "As we see increased environmental effects due to climate change in the future, it is important for those working in government agencies, such as the US Forest Service, Environmental Protection Agency, and the Federal Emergency Management Agency, to understand this temporal effect on human attitudes about environmental problems as it could provide valuable information about how to handle the social aspects of future environmental issues."

While this study focused on spruce beetle kill in Alaska, Qin believes

these findings could be applied to similar environmental issues around the country, such as the mountain pine beetle disturbance in north-central Colorado and southern Wyoming. This study was published in the February 2015 issue of an interdisciplinary environmental social science journal, *Human Ecology*. Qin's coauthors on the paper include Courtney Flint from Utah State University and A.E. Luloff from Pennsylvania State University.

Provided by University of Missouri-Columbia

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