Bark Beetle in Minnesota: Select State Park Visitor Knowledge & Experience

UNIVERSITY OF MINNESOTA | EXTENSION

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Background & Methods

Viewing nature & enjoying scenery are primary reasons for outdoor recreation & tourism in Minnesota. Tree-feeding insects, including bark beetles, can impact scenery in a variety of ways, from defoliation to changing conifer colors. These forest pests, native to the United States, can significantly impact conifer populations during & after an outbreak (Photo 1).

Although MN has been less impacted than western states by bark beetles, warmer climates may lead to population growth and bark beetle migration. In 2015, MN issued a quarantine against mountain pine beetle, a bark beetle native to western North America, but not yet in the state (MDA 2015). Educating visitors about the origin & impacts of beetles may mitigate negative experience impacts. Understanding the current level of bark beetle knowledge is critical to develop effective educational programs (like *Play, Clean, Go*!, a recent initiative to increase awareness of terrestrial invasive species) & address potential visitor impacts.

Purpose Investigate visitor experience with & knowledge of bark beetle at a MN State Park & any differences between locals & tourists

Method Onsite questionnaire including beetle awareness, knowledge & experience in impacted forested-areas

Site Lake Bemidji State Park - Bemidji, MN; camping, hiking, biking, fishing

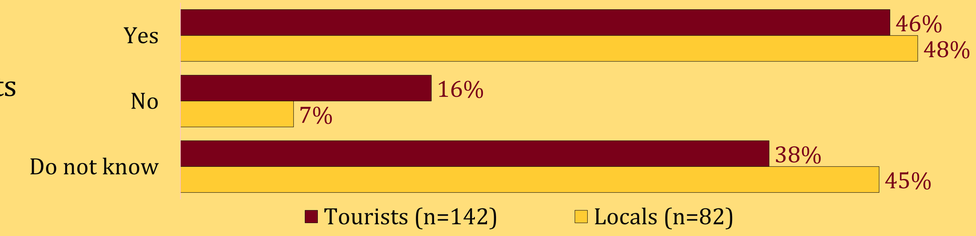
Sample State Park visitors 18+ years old (n=228; non response ~26%); Locals (travel <50 miles, n =82) & Tourists (travel 50+ miles, n = 142)

Photo 1.
Mountain pine beetle in CO forest

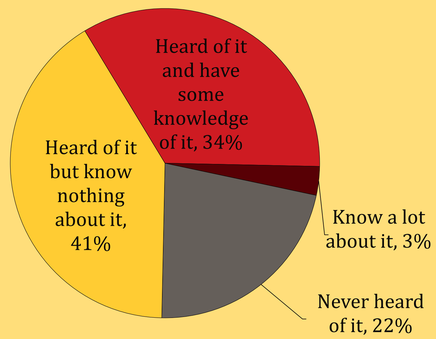
Results

Differences in experience, knowledge, and *Play, Clean, Go!* awareness between locals & tourists were not statistically significant

Experience in areas impacted by tree-feeding forest pests?



Bark Beetle Knowledge (all respondents)

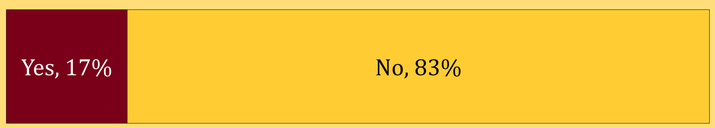


KNOWLEDGE
EXPERIENCE

Experience in areas impacted by tree-feeding forest pests **was positively & significantly related to knowledge** of bark beetle among all respondents, although it was a **weak relationship** (X^2=23.58, p <0.001; Cramer's V = 0.23)

Mountain Pine Beetle
(*Dendroctonus ponderosae*)

Heard of Play, Clean, Go? (all respondents)



Discussion & implications

- As about 2/3 of visitors have little to no knowledge of bark beetle, **opportunity is rich to increase understanding and awareness** of the impact of bark beetle among state park visitors, and others. Further supporting this idea is that more than 1/3 of visitors were unsure if they had experience in areas impacted by any pests although they were surveyed in an area with bark beetles. Not surprisingly, general experience with forest pests does not strongly significantly relate to bark beetle knowledge.
- Although the majority had not heard of the *Play, clean, go!* campaign, it is relatively new & **continued awareness monitoring** is suggested. Beyond monitoring, **assessing the impact of the campaign on behavior** is suggested.
- **Future research** could focus on what visitors know about bark beetles, comparing knowledge across visitor types & assessing impact on visitation.

University of Minnesota Tourism Center is a collaboration of
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