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Visitor perceptions of protected areas after tree-feeding beetle infestation

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Ongoing research concerning the biological and ecological impacts of the emerald ash borer, *Agrilus planipennis*, and other beetles (e.g., spruce bark beetles, *ips typographus*) continues. However, there has been less research regarding the social impacts and management of these beetles. One concept used to understand people's perceptions of negative environmental impacts is place attachment—the intensity of the human-place bond (Kyle, et al., 2003). Past research has shown impacts are correlated with a decrease in place attachment (Stedman, 2003; Vorkinn & Riese, 2001). However, for those already attached to a setting, researchers observed a positive association between place attachment and awareness of negative environmental impacts and propensity to seek information about the impacts' mitigation (Wynveen et al., 2015). Hence, this investigation sought to identify the relationship among protected area visitors' perceptions of the presence of beetle impact at two sites (Minnesota & Austria), common antecedents to place attachment, the respondents' intensity of place attachment to the protected area, and in turn, the respondents' self-reported knowledge about the beetle. Data were collected via on-site instruments (via English—German back-translation) to protected area visitors in the select countries. A series of confirmatory factor analyses and OLS and logistic regression analyses were used to identify and describe the relationship between the constructs. Results indicated that perceptions of beetle impacts were negatively associated with place attachment, but higher levels of attachment were associated with greater knowledge of bark beetles. Implications for managers seeking to engage stakeholders to mitigate bark beetle impacts will be discussed.

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