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## Response to Perryman comment on Siemer et al. (2013)

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**WE ARE PLEASED** to have an opportunity to respond to Heidi Perryman's commentary on our article appearing the spring 2013 issue of *Human Wildlife Interactions* (Siemer et al. 2013). Some of the content in Dr. Perryman's commentary is an expression of her personal views on trapping and the appropriate relationship between humans and beavers (e.g., "Massachusetts truly has a remarkable opportunity to learn about the relationship between humans and wildlife, but this cannot happen if the term 'beaver management' continues to be synonymous with the term 'beaver trapping.'). While public discourse on such topics is healthy, we offer no response to such comments here because they are tangential to the purpose and focus of our manuscript. On the other hand, Dr. Perryman does proffer a few research critiques to which we here respond. Those critiques include the following: (1) the data on which the research is based is 10 years old; (2) the data were not adjusted to account for potential nonresponse bias; and (3) the manuscript fails to acknowledge "contrasting" results found by Needham and Morzillo (2011).

First, the data we mined for our analysis were indeed 10 years old. We see no problem with using such data for hypothesis testing. A wealth of human dimensions data is accumulating, and we believe that secondary analyses of such information should be encouraged. Based on other statements in the commentary, we speculate that Dr. Perryman was critical of the age of the data because she, mistakenly, concluded that Siemer et al. (2012) were attempting to represent public attitude changes that have transpired in Massachusetts since passage of the 1996 Massachusetts Wildlife Protection Act. That was not the purpose of our analysis.

Second, with regard to nonresponse, we stand

by our decision not to weight the data to adjust for nonresponse bias. Although we did conduct nonrespondent follow-up interviews and found some differences between respondents and nonrespondents, we decided not to weight the data because it was not necessary for the purposes of this analysis (i.e., to test hypothesized relationships among beaver density and damage experience, attitudes toward beavers, and norms about beaver management actions). Our research was not conducted to make generalizations about the prevalence of particular attitudes or perceptions across the populations of Massachusetts or New York State (a point we stated clearly on page 109 of Siemer et al. 2012). In previous publications from this line of research we have cautioned readers against using our data to make generalizations about statewide attitudes toward beavers (i.e., in Jonker et al. 2006). We regret that a similar cautionary statement was not included in Siemer et al. (2012).

Third, Dr. Perryman suggests that our findings are inconsistent with findings from a landowner survey conducted in Oregon (Needham and Morzillo 2011). We were not aware of that agency project report at the time we submitted our manuscript for review. In retrospect, we would argue that much of what is reported in Needham and Morzillo (2011) is actually quite consistent with our findings.

Needham and Morzillo (2011) surveyed a sample of 5,200 landowners (households) in 4 regions of Oregon. They had 8 research objectives, including an assessment of landowners': (1) attitudes toward, and experiences related to beavers; (2) perceptions of safety and emotional reactions to beavers and their impacts; and (3) acceptance of management actions to address beavers and their impacts (e.g., do nothing, educate landowners, water control, capture

and relocate, lethal control), and situational conditions where each of these actions would be either acceptable or unacceptable (e.g., if beavers are seen on property, chew trees, cause major property flooding). Their overall survey response rate was 32% (ranging from 25% in the Portland, Oregon, region, to 37% in the eastern Oregon region). Based on results from a small number of nonrespondent interviews, they concluded that no adjustments were necessary to account for potential nonresponse bias.

Consistent with previous research, Siemer et al. (2012) found a correlation between personal experience with beaver-related problems, lower acceptance capacity for beavers, and higher acceptability of lethal beaver management actions. Siemer et al. (2012) also found that residents were generally accepting of using water control devices to reduce any type of negative beaver impacts, and expected officials to take some action to mitigate beaver-related flooding of roads or property damage, regardless of whether they had personally experienced beaver-related problems. Findings from Needham and Morzillo (2011) and Siemer et al. (2012) are consistent on those issues. For example, on pages iv–v, Needham and Morzillo (2011) reported that:

“Those in the East [region] and who have experienced beaver impacts were more likely than those in other regions to disagree with statements that reflected beavers in a positive manner and more likely to agree that there is a need to control beavers, damage caused by beavers is a major problem, and beavers are a nuisance.

“Lethal control, capturing and relocating beavers, frightening beavers away, and removing beaver dams were most acceptable among landowners in the East and those who have experienced beaver impacts, and least acceptable among those in Portland, on the Coast, and who have not experienced impacts.

“Doing nothing and leaving the beaver alone were acceptable in cases of seeing a beaver and a beaver chewing trees, but not acceptable for more substantial impacts such as flooding of private property.

The majority of landowners believed that wrapping trees, installing control devices, and installing fences or screens

were acceptable strategies for addressing beaver impacts.”

Needham and Morzillo (2011) found that most respondents, including those who had experienced beaver damage, found lethal control of beavers to be an unacceptable approach to managing negative impacts associated with beavers. Perhaps that is the result that led Dr. Perryman to discount our findings. We do not refute the possibility that overall acceptability of lethal removal of beavers may differ among regions, such as the West Coast and northeastern United States. We hope that readers will understand that such differences do not represent a threat to the validity of the findings reported in Siemer et al. (2012).

### Literature cited

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