

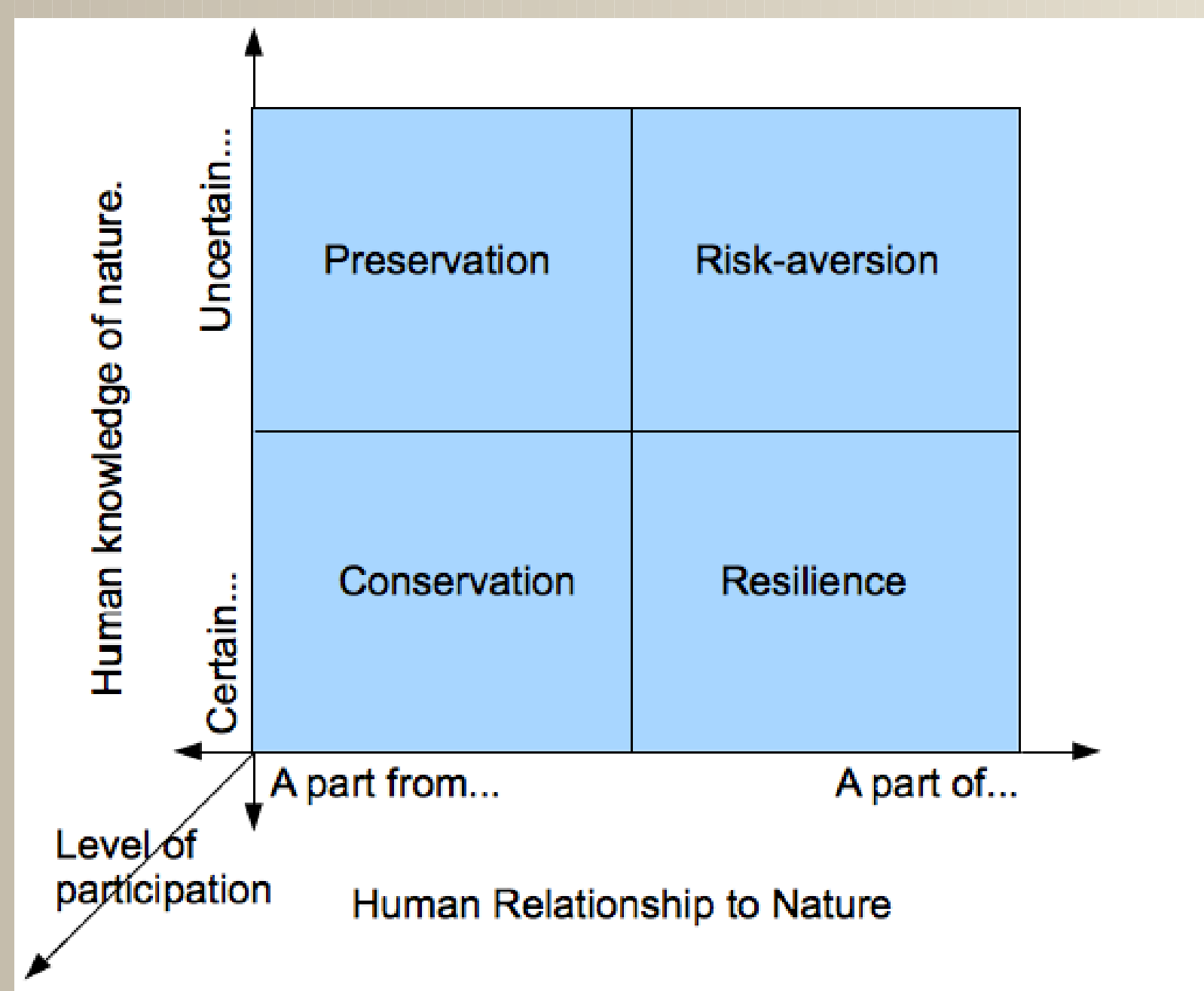
Introduction

While the theoretical advantages and limitations of ESM are well documented within ESM literature, significant knowledge gaps persist with respect to the operationalization of ESM theory in public and institutional practices (Daily et al. 2009, Turner and Daily 2008). Across this literature, sustainability scholars primarily focus on the ecological, sociological, and economic facets of sustainability and tend to neglect issues surrounding values (Adams 2006, Vucetich and Nelson 2010). Values inform environmentally relevant beliefs and behaviours and play a significant role in establishing support for management practices and policies (Dietz, Fitzgerald, and Schwom 2005).

Our proposed research explores the diverse values among ESM experts as well as farming communities in Michigan. Because values are informed by an individual's social, ecological, historical, and political circumstances, no single value system is likely to capture the plurality of values held within and between uniquely situated communities (Haraway 1988; Harding 1991). Awareness and analysis of situated community values can help bridge the gap between ESM experts and public stakeholders in order to best operationalize ESM theory.

Literature Review

The team conducted a preliminary literature review that will contribute to a deeper understanding of the diverse value-based arguments related to ESM. While developing the codebook, we recognized five distinct value systems, though (of course) multiple value systems frequently overlap in any given paper.



Resource Management: Ecosystems are valuable insofar as they contribute use value to individuals or communities.

Resilience: Ecosystems are valuable because they resist change through self-organization and self-renewal.

Preservation: Ecosystems are intrinsically valuable in their original state, independent of their instrumental contributions to human welfare.

Risk-Aversion: Ecosystems are valuable because they prevent catastrophic losses that we presently cannot anticipate.

Participation: Ecosystems are valuable because stakeholders value them, but for a plurality of reasons that we should recognize.

Recognizing Value Pluralism among Ecosystem Services Experts and Public Stakeholders: Stage One

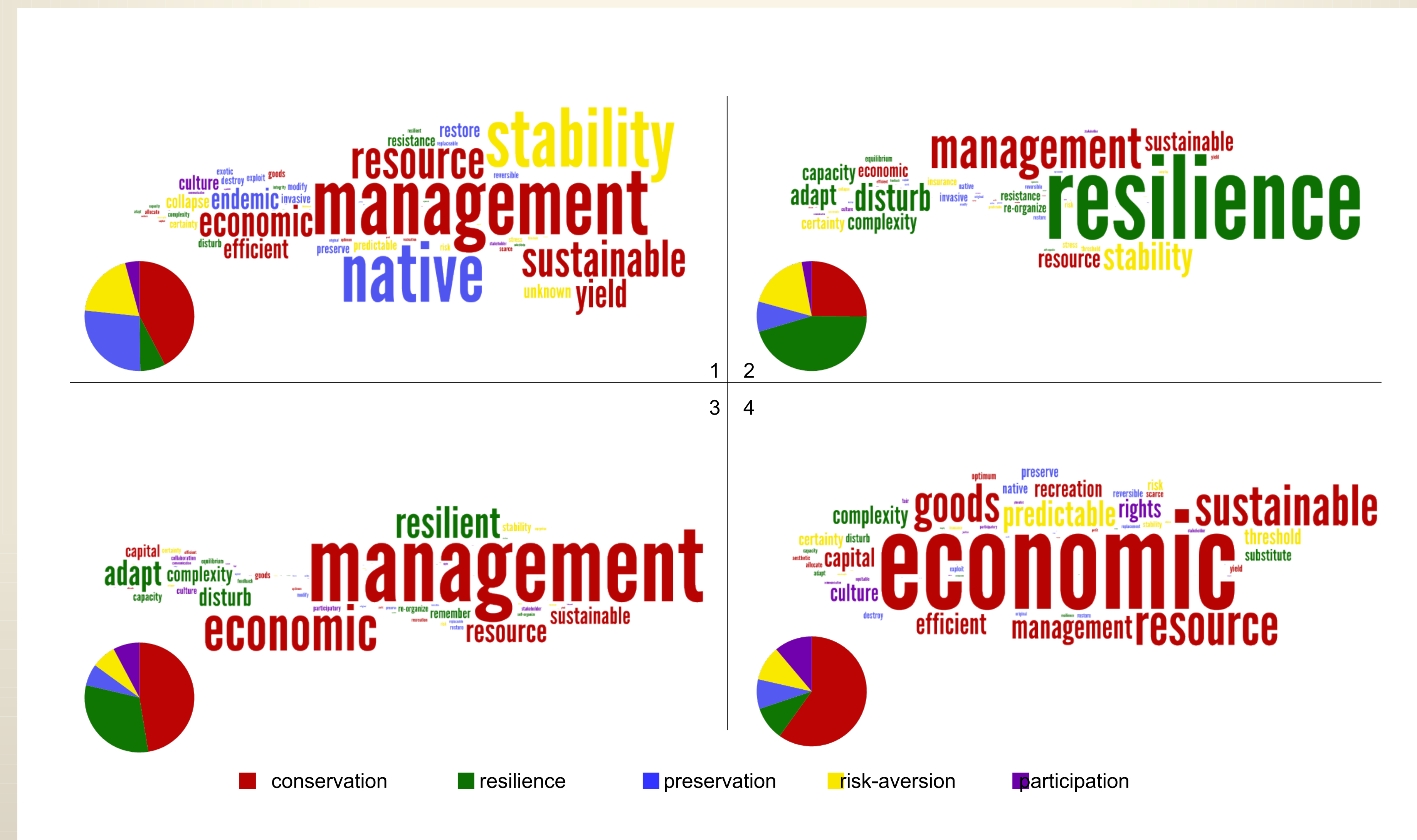
Samantha Noll, Zach Piso, Ian Werkheiser, Christina Leshko*

Department of Philosophy and Department of Sociology*, Michigan State University, East Lansing MI, USA 48824.



Literature Review Results

The following is based on the text from the ten most frequently cited ecosystem services articles from each of Natural Science (1), Management Science (2), Social Science (3), and Economics (4) based on a Web of Science literature search. Categorization was based on Web of Science's subject filter and revised based on the content of the abstract. Word maps represent proportional use of codebook terms.



Connection to Previous KBS LTER Research:

The Kellogg Biological Station's LTER lists ecosystem services among its primary focus areas for agricultural research. We have reviewed several of the excellent journal articles that have resulted from LTER research and believe that our research can contribute to the research station's emphasis on the social dimensions of ESM. LTER studies (such as Ma et al 2012 and Swinton et al. 2007) have keyed on the economic valuation of ESM, particularly on farmers' willingness to pay, and we expect values to play a prominent role in this willingness.

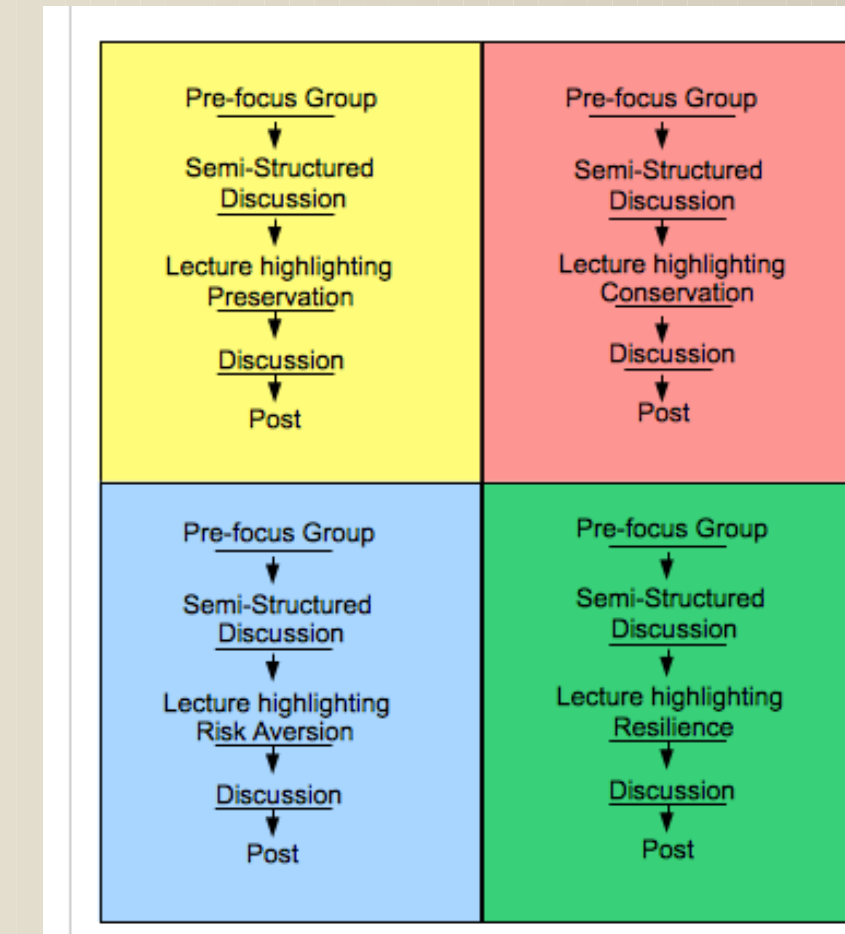
"A more thoughtful integration of participatory elements in agricultural research projects...does justice to the multidimensional and dynamic nature of stakeholder participation in varying contexts." (Neef & Neubert, 2010)



Looking Forward: Stage Two

In June, we will hold four focus groups at KBS that will serve as an assessment of farmer values toward ecosystem services, with particular attention to the specific value-based arguments that farmers employ and find most salient in a deliberative context. The focus groups will explore the four most prominent value systems revealed through the content analysis. Producers will be recruited to participate from the mid-Michigan area.

We will also develop a survey from the established codebook. Pre- and post-deliberation surveys will consider whether participants are more or less likely to begin or continue employing ESM. Additionally, deliberation will be recorded and transcribed based on the codebook developed through the content analysis.



- 1) In each focus group the independent variable will be the highlight of the lecture.
- 2) The dependent variable will be the pre and post surveys across the four focus groups.

Implications

Agricultural decision-making is influenced by a variety of factors, but many programs and policies are geared toward incentives, based on efficient choice models. A deeper understanding of how values operate in decisions surrounding ecosystem service practices can provide insight into alternative ways of framing specific practices to promote adoption. By addressing how values influence ESM decision-making, we hope to inform local, state, and federal programs as to how they may be better able to tailor communication and foster participation in ESM through utilization of specific value frameworks.

Selected References:

1. Adams, W. M. (2006) The future of sustainability: Re-thinking environment and development in the twenty-first century. *Report of the IUCN Renewed Thinkers Meeting*, 29-31 January 2006.
2. Daily, G. C., Polasky, S., Goldstein, J., Kareiva, P. M., Mooney, H. A., Shallenberger, R. (2009). Ecosystem services in decision making: Time to deliver. *Frontiers in Ecology and the Environment*, 7(1), 21-28.
3. Dietz, T., Fitzgerald, A., & Schwom, R. (2005). Environmental values. *Annual Review of Environment and Resources*, 30(1), 335.
4. Gore, M. L., Nelson, M. P., Vucetich, J. A., Smith, A. M., & Clark, M. A. (2011). Exploring the ethical basis for conservation policy: The case of inbred wolves on Isle Royale, USA. *Conservation Letters*, 4, 394-401.
5. Haraway, D. (1988). Situated knowledges: The science question in feminism and the privilege of partial perspectives. *Feminist Studies*, 14(3), 575-599.
6. Harding, S. (1991). *Whose science? Whose knowledge?: Thinking from women's lives*. New York: Cornell University Press.
7. Ma, S., Swinton, S. M., Lupi, F., & Jolejole-Foreman, C. B. (2012). Farmers' willingness to participate in payment-for-environmental-services programs. *Journal of Agricultural Economics*, 63(3), 604-626.
8. Swinton, S. M., Lupi, F., Robertson, G. P., & Hamilton, S. K. (2007). Ecosystem services and agriculture: Cultivating agricultural ecosystems for diverse benefits. *Ecological Economics*, 64, 245-252.
9. Turner, R. K., & Daily, G. C. (2007). The ecosystem services framework and natural capital conservation. *Environmental Resource Economics*, 39, 25-35.