

Investigating Intrinsic, Instrumental, and Relational Values in the Henrys Fork Watershed



Adam Eckersell, Cristina Quintas-Soriano, Dainee Gibson, Loni Nelson, Antonio Castro
Social Ecology Research Lab Department of Biological Sciences, Idaho State University



Rationale

The Henrys Fork Watershed (HFW) in southeastern Idaho is managed to sustain both the river and human needs. This has produced a complex social-ecological system (SES) where water sources support a strong cultural identity fueled by agriculture production and a world renown fishing site.

The main goal of this study is to use the HFW as a unique SES to study the relationships between the conservation of freshwater biodiversity and the variety of values that this river system provides to the local communities, including intrinsic, instrumental and relational values.

Specific Goals hypotheses

1. Quantify the capacity of freshwater biodiversity to provide ES.

Hypothesis 1 (H1). Salmonflies are a key service providing unit (SPU) of cultural ecosystem services

2. Explore the social perceptions and preferences of key stakeholders that form the local communities.

Hypothesis 2 (H2). ES perceptions will describe strong linkages between regulating services (water regulation) and cultural ecosystem services (e.g., fishing or hunting).

3. Understand the complexity of interaction between biodiversity conservation and intrinsic, instrumental, and relational values.

Hypothesis 3 (H3). Salmonflies are a keystone to understanding the cascade effect of ES (ie., insect conservation, fish populations, angling, and family bonding) and they play an important role in understanding the linkages among intrinsic, instrumental, and relational values in the HFW

Conceptual Framework

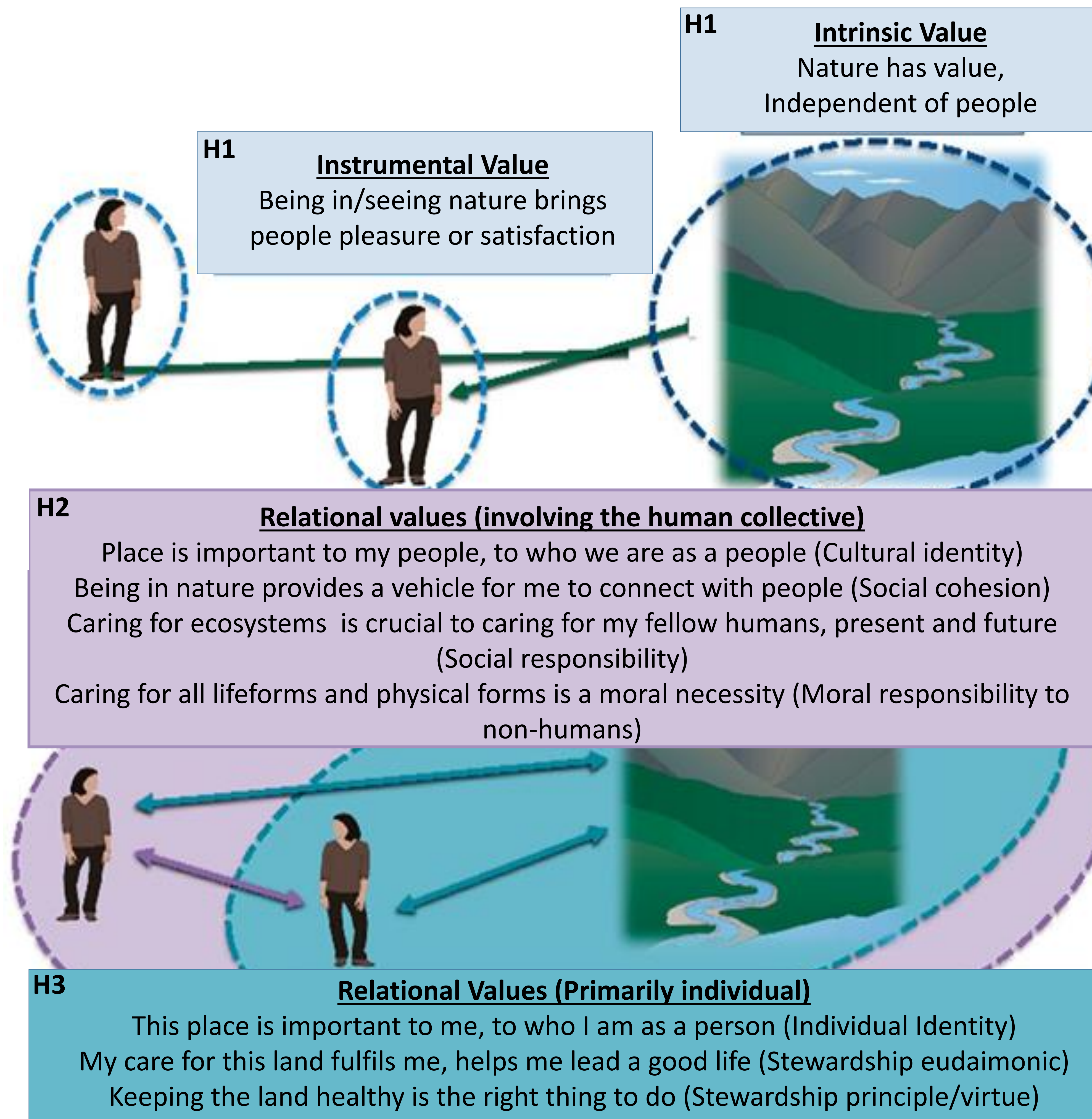


Figure 1. Adapted from Chan et al. PNAS 2016.

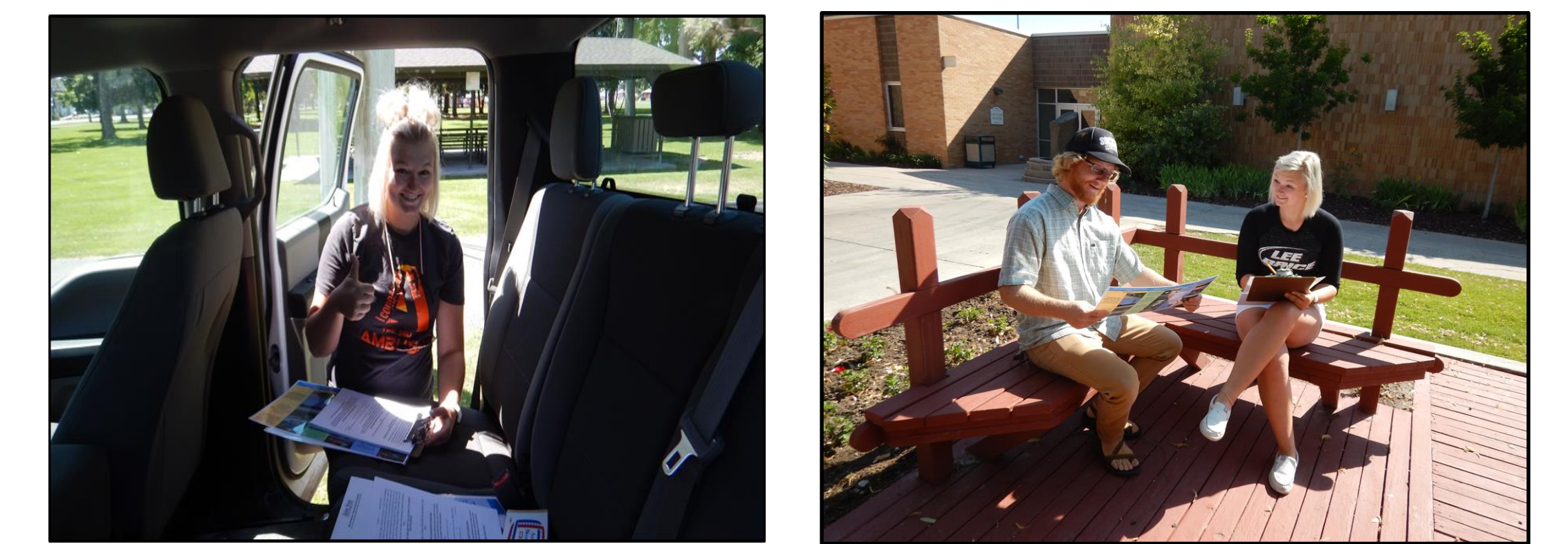


Methods

1. Examine the contribution of salmonflies to trout production via bankside exuvia counts and hook and line angling for trout.



2. Explore social perceptions of residents regarding ES in the HFW by administering 300 face to face surveys.



3. Perform an exploratory analysis of the linkages between salmonflies, fish conservation and community values.



Future directions

- Collaborative partnership with Henrys Fork Foundation to implement results in future management actions that would incorporate the variety of ES values provided throughout the HFW.
- Demonstrate the importance of salmonfly conservation and their contribution to preserving CES in the HFW.

Acknowledgments

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