

## 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.

*IDAHO* EPSCoR

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). Salmonfies 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

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

**H1** 

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### **Conceptual Framework**

#### Instrumental Value

**H1** 

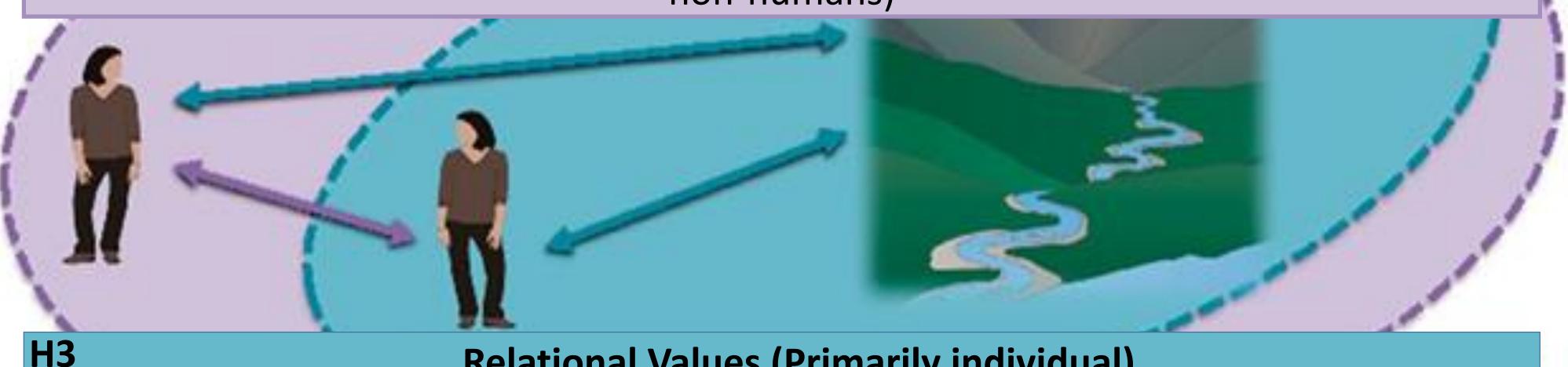
Being in/seeing nature brings people pleasure or satisfaction

### H2

**Relational values (involving the human collective)** 

Place is important to my people, to who we are as a people (Cultural identity) Being in nature provides a vehicle for me to connect with people (Social cohesion) Caring for ecosystems is crucial to caring for my fellow humans, present and future (Social responsibility)

Caring for all lifeforms and physical forms is a moral necessity (Moral responsibility to non-humans)



### **Relational Values (Primarily individual)** This place is important to me, to who I am as a person (Individual Identity) My care for this land fulfils me, helps me lead a good life (Stewardship eudaimonic) Keeping the land healthy is the right thing to do (Stewardship principle/virtue)

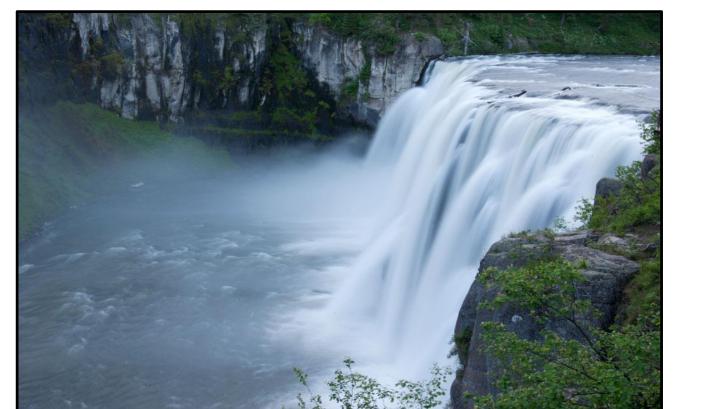
#### Figure 1. Adapted from Chan et al. PNAS 2016.



Intrinsic Value Nature has value, Independent of people











**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 a administering 300 face to face surveys.



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



## **Future directions**

- the HFW.

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# Methods

MILES Solution

Collaborative partnership with Henrys Fork Foundation to implement results in future management actions that would incorporate the variety of ES values provided throughout

Demonstrate the importance of salmonfly conservation and their contribution to preserving CES in the HFW.

### Acknowledgments