

## **Responding to the Future of Water: Perspectives of Agricultural Leaders of the Green River Basin, Wyoming**

### **Background/Questions**

Climate change is and will continue to affect water in Wyoming for many years to come. The intensity of future effects of climate change will rely heavily on what actions we take now to mitigate emissions, adapt to changes in climate, and transform our institutional frameworks. Some amount of climate change is path dependent based on prior emissions, but the actions that are taken now can still have a significant effect on climate change issues. The Green River is the headwaters of the Colorado, a major water system under stress due to climatic changes and an increase in the use of the river, making the urgency of this issue apparent. It is also important to understand issues happening with the Green River basin because it is an important aspect of western agriculture. Understanding how climate change is currently affecting agricultural operators in this basin and how they are responding will help identify barriers and opportunities for local decision-making. Understanding this local action is important for informing researchers on the potential for large-scale change and the influences on the future of the issue in the region. The flexibility of how water is used is a local decision that is constrained by larger scales, which makes local level decision-making a significant and urgent area to explore.

RQ1 How are local agricultural operators *responding* either individually or collectively to changing water regimes in the Green River basin?

⇒ What facilitates these decisions?

⇒ What constrains these decisions?

RQ2 How would local agricultural operators *want to respond* either individually or collectively to these changing water regimes?

⇒ What facilitates these decisions?

⇒ What constrains these decisions?

RQ3 How do formal and informal institutions influence local level action around water?

### **Methods**

I will conduct 20-30 interviews throughout Summer 2024. Key informants (those who are knowledgeable about agriculture in the Green River basin) will be used to identify potential participants. I will ask these key informants for a list of 5-10 potential subjects who meet the participant criteria: 1) an agricultural operator in the Green River basin, 2) will have operated in their geographic area for 6+ years, 3) have adopted conservative water practices, and 4) are broadly representative of the entire Green River basin. Potential participants mentioned 2-3 times by key informants will be prioritized for interviews. Potential participants will be contacted appropriately, and the interviews will begin. Both a thematic and institutional analysis will be applied to the interview data.

### **Results/Conclusions**

The research outputs will include a thesis, a peer-reviewed publication, and a public-facing product. The public-facing product will entail a factsheet of research results that can be easily utilized by agricultural operators in Wyoming.

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**Session Topic Choices:** 1) Boundaries: Political, Ecological, Economic, & Cultural Dimensions of Decision Making 2) Wildland Fire, Drought, and Climate Change Adaptation

**Word Count:** 483