

## **Project Summary**

### **Rocky Mountains Cooperative Ecosystem Studies Unit**

**Project Title: Use of Microcosm Experiments to Evaluate Effects of Elevated Major Ions on Aquatic Ecosystems**

**Discipline:** Natural  
**Type of Project:** Research  
**Funding Agency:** USGS  
**Other Partners/Cooperators:** Colorado State University  
**Effective Dates:** 9/20/2013 - 9/19/2016  
**Funding Amount:** \$100,082

**Investigators and Agency Representative:**

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**Project Abstract:** The objective of this research is to test the hypothesis that elevated levels of major ions will negatively impact benthic macroinvertebrate communities. Experiments will be conducted in stream microcosms to quantify responses of different groups of macroinvertebrates to elevated levels of major ions. The specific ions used in these experiments will be determined after consultation with EPA and USGS researchers. This work will also complement ongoing toxicity tests conducted with the mayfly *Centroptilum triangulifer* at the Illinois History Survey. Ultimately, these data will be used to identify sensitive indicator of total dissolved solids (TDS) impacts and to assist in the determination of safe levels of major ions in aquatic ecosystems.

**Outcomes with completions dates:** September 19, 2016

**Keywords:** major ions, impacts, aquatic ecosystem, USGS, Colorado State University