

Rocky Mountains Cooperative Ecosystem Studies Unit
Project Summary

Project Title: Fremont River Geomorphic Analysis
Task Agreement #: P20AC00703 **Modifications:** 1
Discipline: Natural
Type of Project: Research and Technical Assistance
Funding Agency: National Park Service
Other Partners/Cooperators: University of Colorado
Student Participation: Yes, graduate and undergraduate
Effective Dates: March 25, 2020 – December 31, 2022
Funding Amount: \$92,700

Investigators and Agency Representative:

NPS ATR: John Wullschleger, Natural Resource Specialist, National Park Service, Water Resources Division, 1201, Oakridge Dr. Suite 250, Fort Collins, CO 80525, Phone: (970) 225-3516, john_wullschleger@nps.gov

Investigator: Katherine Lininger, PhD., Department of Geography, University of Colorado Boulder, Boulder, CO 80309, Phone: (303) 492-2860, Email: katherine.lininger@colorado.edu

Project Abstract:

Project Goals – Results of this study will be used to inform federal land managers and state agencies in evaluating alternative approaches for restoring natural processes, riparian conditions and channel/floodplain morphology to the Fremont River corridor within CARE, while adding flood resiliency and protecting critical infrastructure. Scientific based analyses will be provided to park management and cooperators to inform future decisions regarding specific actions aimed at restoring the natural alignment and riparian system of the Fremont River and adding long term stability to the river corridor within CARE. Technical information will be developed through CU managed scientific investigations that facilitate better understanding of the hydrologic and geomorphic systems associated with the Fremont River and its riparian corridor.

Project Objectives – The primary objectives of this project are to obtain geomorphic and hydrologic information to support management decisions regarding potential, large-scale restoration of the Fremont River alignment and associated riparian system, by developing science and technology expertise through University of Colorado, Boulder. Specifically: (1) quantify stream geomorphic parameters and dynamics as they are affected by the current conditions including channel re-alignments, diversions, encroachments, and other channel and floodplain impacts; (2) provide timely information for repair and replacement of the transportation corridor while restoring and protecting natural channel, floodplain, and riparian processes and resources; (3) help determine successful practices for long-term natural resource protection, specifically: stability of the Fremont River channel and floodplain, sustainability of its associated riparian system, and resiliency of critical infrastructure; (4) provide park units with information on how river and stream function and flooding may affect infrastructure and riparian habitat.