

Rocky Mountains Cooperative Ecosystem Studies Unit
Project Summary

Project Title: Assessing baseline riparian conditions prior to any future work aimed at facilitating willow growth and beaver habitat restoration in Rocky Mountain National Park

Task Agreement #: P18AC00678
Discipline: Natural
Type of Project: Technical Assistance/Research
Funding Agency: National Park Service
Other Partners/Cooperators: Colorado State University
Student Participation: Yes
Effective Dates: 4/1/2018 – 12/31/2019
Funding Amount: \$20,008.00

Investigators and Agency Representative:

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Project Abstract: Streams in Rocky Mountain National Park (RMNP) have historically been highly dynamic, with flooding and meandering that provided suitable habitat for willow establishment and growth, fish, birds and many other organisms (Cooper et al. 2006, Schweiger et al. 2017). RMNP staff and NPS Biological Resources Division staff have convened several workshops in Fort Collins, and field trips in RMNP to discuss issues related to implementing experiments to stimulate willow growth.

During the field workshops in RMNP several streams were preliminarily chosen for analysis and habitat restoration. These streams were Beaver Meadows, lower Horseshoe Park, Hidden Valley, Big Thompson, and Mill Creek. In collaboration with RMNP staff we will choose three stream reaches for study to develop reference conditions prior to any future work implementing restoration treatments.

Each reach would be studied in detail during 2018 to be ready to document changes that could occur with the restoration treatments in the future. These analyses include stream measures of incision, sinuosity, particle size, and stream morphology. Hydrologic measures including stream stage, water table depth, connection between surface and ground water. Vegetation composition, and willow / alder / aspen / cottonwood stems would be measured to determine growth, plant biomass production, rooting depth, ground water acquisition. All site decisions would be made in cooperation with RMNP staff.

Field visits for final selection of sites would occur in May of 2018. All measurement instruments would be installed in May and June 2018 and measurements made through the summer and fall of 2018. All data would be analyzed in the fall and winter of 2018-2019 and a report and presentation prepared for park staff in the spring of 2019

Keywords: Riparian zone, willow, beaver, restoration, Colorado State University, Rocky Mountain National Park, National Park Service