Award Number (for administrative use only):

PR/J Number: R1404104172

PROJECT ABSTRACT

Colorado Plateau Cooperative Ecosystem Studies Unit (Cooperative Agreement # H1200-09-0005)

Park: Dinosaur National Monument

Project Title: Evaluation of Integrated Restoration Methods for Cub Creek Watershed – Phase III, Dinosaur National Monument, Uintah County, Utah

Funding Amount: $57,000

CPCESU Partner Institution: Utah State University

Principal Investigator: Corey V. Ransom, Assistant Professor, Dept. of Plants, Soils, and Climate, 4820 Old Main Hill, Utah State University, Logan, UT 84322-4820, Tel. (435) 797-2242, Fax. (435) 797-3376. Corey.ransom@usu.edu

Co-Investigator: TBD

NPS ATR/Key Official: Tamara Naumann, Botanist, Dinosaur National Monument, 4545 E Highway 40, Dinosaur, CO 81610, Tel. (970) 374-3051, Fax. (970) 374-3059, tamara_naumann@nps.gov

NPS Project Manager/Subject Matter Expert: Tamara Naumann, Botanist, Dinosaur National Monument, 4545 E Highway 40, Dinosaur, CO 81610, Tel. (970) 374-3051, Fax. (970) 374-3059, tamara_naumann@nps.gov

Start Date: August 1, 2010

End Date: September 30, 2014

Abstract: : Dinosaur National Monument's *Invasive Plant Management Plan and Environmental Assessment* (2005) was approved in January of 2006. This plan calls for managing invasive weeds on a priority basis with focus on high value wildlife habitat, vector areas, and invasive species with high ecological impact and for which management is feasible. The Cub Creek watershed has been identified as a priority area for immediate attention. Cub Creek watershed includes the Josie Morris Ranch, which is a designated cultural landscape. Approximately 120,000 people visit the Josie Morris Ranch each year to hike, picnic and learn

about frontier homestead life in this cold desert environment. Cub Creek contains important wetland and riparian habitat, which supports threatened Ute ladies'-tresses orchid (*Spiranthes diluvialis*) populations, and diverse flora and fauna. The Chew family homestead sits on private land at the confluence of Cub Creek and the Green River. Their historic (cattle) grazing allotment includes NPS land in addition to adjacent BLM, State of Utah, and private lands within the Cub Creek watershed.

Invasive Russian knapweed occurs throughout much of the Cub Creek watershed and has been actively managed by NPS for several years, with promising results. Additional management has been imposed to address downy brome invasion following Russian knapweed treatments. Additional efforts need to focus on plant community stability and composition after restoration efforts have been employed and to determine what additional manipulations may be needed to maintain weed suppression. This project represents a final phase in integrated efforts to manage vegetation in the Cub Creek watershed toward a more desirable condition (q.v., USUCP-29 and USUCP-40). The objectives of this work will be to 1) determine long term (2 to 3 years post treatment) response of perennial native grass species to methods applied for both Russian knapweed and downy brome suppression and 2) determine if additional treatments are needed to increase long term stability of the native grass populations. Trials previously established for both Russian knapweed and downy brome management will be evaluated to record changes in species composition over time. Any dramatic increases in Russian knapweed or downy brome may be addressed by applying additional treatments across one half of the established plots to evaluate the impact of the additional intervention. Additional plots will be established to determine the impact of cattle grazing on downy brome densities following herbicide treatments for downy brome control.

Keywords: Invasive Plants, Riparian habitats, Restoration, Cultural landscape, Downy brome, cheatgrass, herbicide