Project Summary
Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Using native annual plant species to suppress weedy invasive species in post-fire habitats
Discipline: Natural Resources
Type of Project: Research
Funding Agency: National Park Service
Other Partners/Cooperators: Colorado State University
Effective Dates: 8/1/2007-8/31/2011
Funding Amount: $292,086

Investigators and Agency Representative:
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Project Abstract: Large areas of the West have burned in recent years and many of these burns have been large and severe. As a result of the large size and intense nature of these fires, native plant recovery is inhibited and active reestablishment is notoriously difficult in post-fire habitats. The central idea to be tested in the proposed research is that a mismatch of seeded plant species to site conditions opens the door to invasion by non-native species. We propose that establishing native early-seral species, and in particular annual species, will facilitate the establishment of native perennial plant species. Furthermore, these native annual species will compete with invasive annual species, such as cheatgrass and red brome, more effectively than seeded native perennial species. This three-year, Joint Fire Sciences Program project, will be carried out by CSU and NPS researchers on study plots at a number of parks throughout the arid West. Researchers will conduct field trials of native seed mixtures in post burn habitats on National Park Service lands. These sites will be located in areas of wildland fires if possible, and will be selected by fall 2007.

Outcomes with Completion Dates: Due by 2010: We anticipate that the MS student will produce an MS thesis during the 2nd year of the project. The MS thesis will serve as the basis for at least one refereed publication. During the 3rd year of the project we will produce an additional refereed publication describing the longer term results and including a more complete set of management recommendations. At this same time, a final project report will be produced and delivered to the sponsors. We anticipate making at least one presentation at a national meeting of a professional scientific organization such as the Ecological Society of America, Society for Range Management or Society for Ecological Restoration. We will also organize field tours of our research sites during the final year of the project. These tours will target land mangers from the surrounding region with the goal of disseminating our findings to a highly appropriate group of managers.

Keywords: Colorado State University, NPS-BRMD, fire, invasive plants, native plants.