

Project Summary

Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Bulking of Mycorrhizal fungi associated with understory vegetation in alpine ecosystems in Glacier National Park

Discipline: Natural Resources

Type of Project: Technical Assistance

Funding Agency: National Park Service

Other Partners/Cooperators: Montana State University

Effective Dates: September 1, 2007 - May 1, 2009

Funding Amount: \$2,350

Investigators and Agency Representative:

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Investigator: Cathy Zabinski, Department of Plant Sciences & Plant Pathology
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Project Abstract:

Glacier National Park has considerable need for assistance with collection and propagation of beneficial endomycorrhizal fungi associations with the critical issue of subalpine and alpine disturbed land restoration, soil stabilization and reintroduction of appropriate vegetation into these disturbed systems. Many of the dominant plant species in this environment are classified as either facultative or obligate in their relationship to mycorrhizal fungi. The goal of this study is to collect, isolate and propagate substantial amounts of fungi for utilization in-situ at Glacier National Park, for revegetation efforts for Lunch Creek and other high elevation disturbed sites. One of the products will be assistance with the establishment of a bed of inoculated media and the production of subalpine sod that is colonized with site-specific beneficial soil fungi. This work will involve utilization of a graduate student in 2008 and 2009 to accomplish this work, in coordination with Dr. Zabinski. Methods for this work have been previously developed and are quite successful. We are not able to complete this process in Glacier as we lack appropriate laboratory facilities for the initial steps. We are however, able to maintain this material once initial cultivation has been completed.

Outcomes with Completion Dates: (1) Field collection of endomycorrhizae from subalpine species in Lunch Creek area, isolation and identification of fungi, bulking up of beneficial fungi and inoculation of native plants at GLAC nursery, (2) final report due on March 31, 2009.

Keywords: restoration, endomycorrhizal fungi, native vegetation, Glacier National Park, Montana State University