Project Summary
Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Snow Drift Control by Vegetation in Rocky Mountain National Park

Type of Project Technical Assistance – biological science

Funding Agency: National Park Service

Effective Dates: May 1, 2003 - July 31, 2004

Funding Amount: $13,047

Investigators and Agency Representative:

UNIVERSITY CONTACT: Peter Blanken, Assistant Professor, Department of Geography and Program in Environmental Studies, University of Colorado at Boulder, 110 Guggenheim, 260 UCB, Boulder, CO 80501-0260, Phone: 303-492-5887, blanken@colorado.edu

NPS CONTACT: Terry Terrell, Rocky Mountain NP, Estes Park, CO; 970-586-1282; terry_terrell@nps.gov

Project Abstract:

The objectives of this study are to:

1. Review the current state of knowledge of living snow fences.
2. Contact agencies (e.g. State Transportation Agencies) to determine successful implementation strategies.
3. Determine with Park Staff which species are best suited and appropriate for consideration in the Park, paying special attention to species native to the Park.
4. Determine with Park Staff and GIS where fence placement is appropriate (integrate vegetation site requirements and meteorological conditions with road locations).
5. Visualize the appearance of the fence using digital photography.
6. Construct the fence, and monitor its effectiveness.

Changes in snow depth and density created by the snow fence will change the local energy and water balances. Therefore, if living snow fences are implemented, a great opportunity exists for long-term observations of the ecological changes resulting from these changes in the snow pack.

Outcomes with completion dates:

Products from this study include: 1) a report describing living snow fence installation, placement, and maintenance in Rocky Mountain National Park; 2) presentation of the findings at the American Geophysical Union's Fall Meeting; 3) publication of a scientific paper in a peer-reviewed journal, 4) submission of a proposal to the National Science Foundation on the effects of changes in snow properties (i.e. prolonged and deeper snowpack) on native Park species, and 5) a presentation to park staff on the management implications of the research results.

A Final Report is due May 1, 2004.

Keywords: Rocky Mountain National Park, snow drift control, living snow fences

For Administrative use only:

Date Annual Report Received:

Date Final Report Received:

Publications, etc. on file: