

Project Summary
Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: A Study of plant invasions in protected areas at multiple scales: <i>Linaria vulgaris</i> in the West Yellowstone area
Type of Project: Research (Biological Sciences)
Funding Agency: National Park Service, Rocky Mountains Cooperative Ecosystem Studies Unit
Effective Dates: April 1, 2000 - December 30, 2002
Funding Amount: \$14,510
Investigators and Agency Representative : Anibal Pauchard and Paul Alaback, School of Forestry, University of Montana, Missoula, MT 59812, 406-243-4494; pauchard@forestry.umt.edu Craig McClure, Yellowstone NP, Mammoth, WY; craig_mcclure@nps.gov ; 307-344-2168
Project Abstract: We proposed to use a multi-scale approach to capture both patterns and potential mechanisms of the plant invasion process in the large complex landscapes of protected areas. Invasions by the invasive weed, <i>Linaria vulgaris</i> Mill. (butter and eggs) was studied in Yellowstone National Park and Gallatin National Forest at sites over 2000 m in elevation. At the landscape scale, our results show that the species occurs over a broad range of sites, apparently coming from two historical sources. At the stand scale, patches tend to be distributed randomly in heavy infested areas and aggregated in newly invaded areas. We conclude that <i>L. vulgaris</i> is a significant threat to native biodiversity in human or naturally disturbed environments in protected areas of the Rocky Mountains. We highlight the conservation implications of alien invasive species in high elevation protected areas and the importance of capturing these invasions at multiple scales.
Outcomes with completion dates: Interim report - fall 2001; Final Report - fall 2002; draft journal publication (related graphics) - spring 2002
Keywords: Yellowstone NP; Gallatin NF; invasive species; butter and eggs; <i>Linaria vulgaris</i> ; protected areas; boundary issues; landscape analysis