DETAILED PROJECT DESCRIPTION

Project Summary: This is a joint effort between Sequoia National Park (NPS) and Sequoia National Forest (USFS), with work on lands throughout the Kern drainage necessary to successfully eradicate velvetgrass from the Kern Canyon. Large scale efforts have been implemented from 2009-2011, and have been successful at reducing populations of velvetgrass. Combining continued treatment efforts with the prior three years of work we have conducted, will allow us to eradicate velvetgrass from the Kern Canyon.

Environmental Setting: The project is located in the Kern Canyon area of Sequoia National Park and Sequoia National Forest, in designated wilderness that allows only non-motorized access to visitors. Pack stock animals are allowed to graze the meadows, prior to the onset of velvetgrass flowering.

Project Purpose and Scope: Velvetgrass is a perennial grass, native to Europe, which was brought into California as forage. It escaped from cultivation and has become a weed species, that is a prolific seed producer, can exist in the seed bank in large numbers, and can become dominant if not controlled. It is easily spread by hikers and stock users that visit the area. The presence of velvetgrass has required restricting grazing in the area prior to the onset of flowering to limit potential spread. Initial efforts to reduce velvetgrass using herbicides, tarping and hand-pulling have been successful, but further funding is required to ensure that it does not again come to dominate the area. These actions will eliminate the need for future large-scale eradication efforts. Velvetgrass is listed as “Moderate” by Cal-IPC, and it is noted that “impacts can be more severe locally, especially in wetland areas.” Montane meadows and riparian wetlands are rare vegetation types in SEKI that occupy less than 2 percent of the land area, and are critical for habitat protection, native species diversity, biomass, and productivity.

Project Approach: Effective control measures have been developed for the area. . We have reduced 52 of the 79 infestations on NPS lands to control status (< 1% of the original infestation), and with continued funding can focus our efforts on the 4 acres of infestations on the USFS lands. Herbicide application, hand-pulling, and tarping have successfully reduced populations throughout the area. We have successfully staged large work crews in the backcountry to complete the necessary activities. We have developed a partnership with Backcountry Horseman to provide pack support to our large work crews.

These crews have been effective at reducing velvetgrass, and we have developed efficient methods for logistical activities required for staging a large crew in a remote area. Of the 79 mapped infestations, 21 had no velvetgrass in 2011 and an additional 31 had canopy cover values of < 1%.

In years 4-6 of the project, crews will install tarping materials on large USFS velvetgrass infestations and use hand-pulling and herbicide application on other populations on NPS and USFS lands. Four seasonal NPS personnel will oversee work crews of 12 people to hand-pull velvetgrass and install tarping materials. A GS-11 Ecologist and GS-7 Biological Technician will provide logistical support to the project and oversee all herbicide applications.

Crews will also monitor past control efforts to ensure that they are not re-infested and to assess and correct any potential erosion problems as native vegetation begins to re-establish. Crews will continue to monitor treated areas and conduct searches to identify any potential new infestations of velvetgrass throughout the Kern Canyon and surrounding areas. Monitoring of the area will also reduce potential disturbances that would allow new velvetgrass seedlings to

establish.

Anticipated outcomes, products, and deliverables: Combining continued treatment efforts with the prior three years of work we have conducted, will allow us to eradicate velvetgrass from the Kern Canyon. We can continue to monitor infestations on NPS lands, while focusing our efforts on USFS lands that have only received a single year of treatment. Eliminating velvetgrass from the Kern Canyon will also ease grazing restrictions in these areas and reduce the likelihood of further spread via human activity.

Velvetgrass is currently restricted to the Kern drainage and small populations in Grant Grove, which are also being eradicated. These projects will reduce the chance of spread to other meadow systems in NPS and USFS lands. Elimination of velvetgrass populations will be a major accomplishment toward protecting the southern Sierra's highly-valued meadow ecosystems.

Results of this project will be shared with outside land managers by presentation at the California Invasive Plant Council meeting and potential preparation of a manuscript for publication in their proceedings. Results of the project will also be presented to the public through meetings with interested parties (i.e. Backcountry Horseman).

WORKPLAN AND SCHEDULE

Continuation of the current project will begin in late June 2012, with funding secured from the California Exotic Plant Management Team provided to continue restoration efforts while seeking more substantial funding. Work crews will conduct restoration efforts from June-September of each year, beginning on the southernmost USFS lands and move north during the season based on velvetgrass flowering to eliminate seed production. Outreach materials will be posted at trailheads and common visitor use areas to educate the public about the project. Crews will continue field work until mid-September or until weather-related closures require crews to vacate the wilderness for the season. At the end of the field season, the crew leader will work with the Ecologist to prepare year-end reports for the project, develop the work schedule for the following field season, and prepare the results for public presentation. The final completion report will be prepared for SNC by December 31, 2014.

DETAILED PROJECT DELIVERABLES	TIMELINE
Field Crews Conducting Restoration Activities	June-September 2012
Visitor Outreach Materials Posted	June-September 2012
Year-end Report to SNC	December 31, 2012
Public Presentation of Project Results (At least 1 per year)	October –December 2012
Field Crews Conducting Restoration Activities	June-September 2013
Visitor Outreach Materials Posted	June-September 2013
Year-end Report to SNC	December 31, 2013
Public Presentation of Project Results (At least 1 per year)	October –December 2013
Field Crews Conducting Restoration Activities	June-September 2014
Visitor Outreach Materials Posted	June-September 2014
Final Project Report to SNC	December 31, 2014
Public Presentation of Project Results (At least 1 per year)	October –December 2014

RESTRICTIONS, TECHNICAL/ENVIRONMENTAL DOCUMENTS AND AGREEMENTS

Restrictions/Agreements: There are no restrictions or agreements that will adversely impact project completion. The USFS and NPS have complied with all regulations and this work will continue an established project.

Regulatory Requirements/Permits: Permits are not applicable, because all work will be conducted on federal lands and requirements have been met to continue the current project work.

California Environmental Quality Act: We are asking Sierra Nevada Conservancy to act as the lead agency for CEQA requirements under Small Habitat Restoration.

National Environmental Policy Act: All NEPA documents are complete and have been included with this application for funding.

ORGANIZATIONAL CAPACITY

Matt Bahm, PhD in Wildlife Science, has been the invasive plant ecologist at SEKI since May 2010. He has 7 years of invasive plant management and native plant restoration experience. He has authored 6 scientific publications directly related to invasive plant management and native plant restoration.

Athena Demetry, MS in forest ecology, is the restoration ecologist at Sequoia and Kings Canyon National Parks. She has 14 years of experience planning and managing the disturbed lands restoration and invasive plant management programs in SEKI.

Rich Thiel has been at SEKI for 25 years, and has served as the lead for the duration of the project and provides a detailed knowledge of all project field activities. He has also developed a strong working relationship with work crew leaders, Back Country Horseman, as well as other NPS and USFS staff that have been instrumental in meeting the objectives of the project.

COOPERATION AND COMMUNITY SUPPORT

This project is a cooperative effort between Sequoia National Park and Sequoia National Forest. We consulted with American Conservation Experience prior to initiation of the project to determine feasibility of staging large work crews in a wilderness setting. After making the determination that is would be feasible, we partnered with the Backcountry Horseman's Association to provide pack stock support for the work crews. Backcountry Horseman's Association volunteer's their time and stock, saving a tremendous amount of money and logistical planning for the project. They have sent a letter of support that is included with the application.

LONG TERM MANAGEMENT AND SUSTAINABILITY

Both Sequoia National Park and Sequoia National Forest General Management Plans require management of invasive, non-native plants. In addition, Sequoia and Kings Canyon National Parks also has a Management Directive (No. 38) that requires preventing the spread of invasive species. At the conclusion of this project, crews will continue to monitor the areas to ensure that velvetgrass is fully eradicated and remove any velvetgrass individuals. Base-funded positions will then be used to monitor the area on a consistent basis. Invasive plant crews and meadow monitoring crews from the NPS, as well as USFS botanical crews, will be sent to the Kern Canyon. This will provide multiple efforts during each growing season that will ensure that the area will be monitored on a recurring annual basis, and any remaining plants are removed. These continuing efforts will ensure that large-scale restoration will not be necessary in the future.

PERFORMANCE MEASURES

Acres of Land Improved or Restored

This project will restore 4.75 acres of land currently invaded by velvetgrass. These acres are located within a greater matrix of approximately 200 acres, spread out along nearly 8 miles of wet meadow and riparian habitat along the Kern River. With funding from SNC to complete years 4-6 of the current project, ecological function and habitat quality will be improved on approximately 200 acres by restoring the 4.75 acres currently infested with velvetgrass.