

12-31-2005

Lake Mead National Recreation Area Vegetation Monitoring and Management: Quarterly Progress Report, Period Ending December 31, 2005

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Repository Citation

Rees, M. N. (2005). Lake Mead National Recreation Area Vegetation Monitoring and Management: Quarterly Progress Report, Period Ending December 31, 2005. 1-4.

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QUARTERLY PROGRESS REPORT

University of Nevada, Las Vegas
Period Ending December 31, 2005

Cooperative Agreement Number H8R07010001
Task Agreement Number J8R07050009
Lake Mead National Recreation Area
Vegetation Monitoring and Management

Executive Summary

- Required reports on sticky buckwheat (*Eriogonum viscidulum*) and threecorner milkvetch (*Astragalus geyeri* var. *triquetrus*) to be submitted through appropriate protocols by December 30, 2005
- Summary report on several other rare plants to be submitted through appropriate protocols by December 30, 2005
- Invasive perennial pepperweed (also called tall whitetop; *Lepidium latifolium*) documented and treated by Weed Sentry within Black Canyon, Lake Mojave

Program Activities

The task agreement was awarded to UNLV on October 1, 2005. During the past quarter, the following activities have occurred toward meeting deliverables in the statement of work.

Invasive Plant Monitoring and Management

Invasive plant monitoring and management within Lake Mead NRA and surrounding federal lands occurs at several levels. The Weed Sentry Program has been tasked with surveying invasive plants throughout the NRA including the shoreline of both Lakes Mead and Mohave, as well as most other federal lands within Clark County. Surveys for exotic weeds are focused on rare plant habitats or other high priority sites and occur on a cyclical basis of various duration but generally no more often than once per year. Monitoring includes documentation of known invasive species and identification of new threats. Incipient populations of invasive species are treated directly, with follow-up monitoring to assess treatments. The primary oversight of the Weed Sentry program has been tied to the Clark County MSHCP; however, the extent and range of the Weed Sentry surveys and monitoring have been extended to the Arizona portion of Lake Mead NRA through the existence/assistance of SNPLMA and Lower Colorado River MSCP funds.

During this quarter, 1,918 acres were surveyed by Weed Sentry staff. Treatments occurred to eradicate 83 tree tobacco (*Nicotiana glauca*) plants, 5,181 salt cedar (*Tamarisk ramosissima*) plants, and a new population of perennial pepperweed (also called tall whitetop; *Lepidium latifolium*) discovered in Willow Beach on Lake Mojave. Surveys to identify sites for early Sahara mustard (*Brassica tournefortii*) germination and growth were also conducted by Weed Sentry personnel in support of NPS control efforts for this invasive plant. Also during this quarter, a new employee was trained in weed sentry field methods.

The final report of the Weed Sentry program associated funding from the Clark County MSHCP (project number 2003-NPS-363-P-2004-07) is currently being written. Drafts of the maps have been constructed and an associate summary document is currently being written. A draft field operations SOP has written. Development of a work plan for the 2006 field season has also begun. A draft assessment of the use of interns and volunteers in the Weed Sentry program was delivered via the MSHCP quarterly report in September 2005. The document is currently being finalized.

Mapping of Shoreline Populations of Weeds – Terrestrial shoreline surveys for invasive plants along Lakes Mead and Mojave have been done on an occasional basis in the past because of the magnitude of the area to be covered and the scale at which surveys need to be done to achieve an effective monitoring strategy. Other than the treatment of perennial pepperweed at Willow Beach on Lake Mojave, no other survey work along either shore was conducted during this quarter. The Willow Beach and adjacent areas will need to be prioritized for surveys during spring 2006 because of the discovery of this invasive species.

Nuisance Aquatic Species Monitoring – When conducting surveys of the shorelines of Lakes Mead and Mojave, the methodology for Weed Sentry includes searches for aquatic nuisance species along shallow waters near shore. Both lakes are heavily used recreation areas, and boaters from other states can be vectors for introductions of invasive aquatic species. No surveys for aquatic weeds were conducted this quarter.

Shoreline and Aquatic Plant Monitoring

Monitoring and Mapping of Shoreline Populations of Rare Plants – Field activities for monitoring and mapping of sticky buckwheat (*Eriogonum viscidulum*) and threecorner milkvetch (*Astragalus geyeri* var. *triquetrus*) were completed in spring prior to this quarter. During this quarter, data summaries, map production, and report writing for both species were completed and draft final reports were submitted to NPS for review (see section on Rare Plant Monitoring Data Summaries below). Planning of surveys for these two species during the 2006 field season and assessments of methodology were also begun this quarter.

Monitoring and Mapping of Populations of Other Rare Plants – Field surveys for Las Vegas bearpoppy (*Arctomecon californica*) were completed in spring prior to this quarter. During this quarter, data previously collected on this species were evaluated and

summarized in association with a required final report (see section on Rare Plant Monitoring Data Summaries below). Weather data monitoring at eight bearpoppy transect sites has occurred with downloads every month. Unfortunately, rodents have continued to plague data collection by chewing through the wiring. Weather data will be included in the final bearpoppy report.

Several other rare plants of concern within Lake Mead NRA were also monitored during 2004-2005. Surveys were conducted for ringstem (*Anulocaulis leiosolenus* var. *leiosolenus*), Lancaster milkvetch (*Astragalus presusii* var. *laxiformus*), Las Vegas buckwheat (*Eriogonum corymbosum* var. *nilesii*), and Beaver Dam breadroot (*Pediomelum castoreum*). Surveys for most of these rare plants are generally conducted during the spring, but during this quarter field surveys for ringstem were continued (began in July). Approximately 7,000 plants were recorded, but not all known locations for this species were surveyed, and work will be need to be continued as time and personnel allow. A new population of Las Vegas buckwheat was located in October 2005 near Lovell Ridge (west of Callville Wash). This population of approximately 7,100 plants occurs predominantly on BLM lands but extends into Lake Mead NRA, marking the first documented occurrence of this species within the park. Currently, the survey information on these rare plants is being summarized and compiled into a report for submission to the NPS and Clark County MSHCP (see section on Rare Plant Monitoring Data Summaries below).

Aquatic Plant Monitoring – No activities associated with aquatic plant monitoring were conducted or requested of UNLV employees this quarter.

Rare Plant Monitoring Data Summaries

Final reports for rare plant monitoring were stipulated in the Clark County MSHCP project titled “Vegetation Monitoring Program: Rare Plants, Plant Poaching, and Weed Management Programs” (project number 2003-NPS-363-P-2004-07). Drafts of the following two reports were submitted for review to the NPS this quarter. Comments have been received and incorporated into final drafts that will be submitted to the MSHCP by the December 30, 2005, deadline.

Report on *Eriogonum viscidulum* (Sticky buckwheat) Monitoring (1997-2005) within Lake Mead National Recreation Area

Report on *Astragalus geyeri* var. *triquetrus* (Threecorner milkvetch) Monitoring (2000-2005) within Lake Mead National Recreation Area

In consultation with resource management at Lake Mead NRA, the report on Las Vegas bearpoppy (*Arctomecon californica*) has been delayed until January 31, 2006 (i.e., the final report date for the MSHCP project). This report will include information on weather data from the site-specific weather stations associated with this species.

A final report on monitoring activities associated with several other rare plants of concern within the NRA is currently being drafted for submission to the NPS for review by December 23, 2005, and submission to the Clark County MSHCP by the December 30, 2005 deadline. This report will include survey information on the following plant species: *Anulocaulis leiosolenus* var. *leiosolenus*, *Astragalus presusii* var. *laxiformus*, *Eriogonum corymbosum* var. *nilesii*, and *Pediomelum castoreum*.

Final reports associated with the Weed Sentry programs stipulated in the task agreement are discussed above under the section on Invasive Plant Monitoring and Management.

Conservation Planning and Monitoring Technical Assistance

The following is a list of interagency working group meetings attended by UNLV employees this quarter. The purpose was to provide input to regional conservation planning and monitoring initiatives focused on rare plants and invasive weeds:

- MSHCP Rare Plant Technical Working Group, October 25, 2005, Nevada Division of Forestry offices, Las Vegas, NV.
- Clark County Weeds Technical Working Group, November 3, 2005, Cooperative Extensions office, Las Vegas, NV.
- TAG (Mesquite/Acacia conservation strategy) Working Group, November 8, 2005, Interagency offices, Las Vegas, NV.
- SNRT (Southern Nevada Restoration Team), November 17, 2005, Interagency offices, Las Vegas, NV.

Submitted by:

Margaret N. Rees, Project Administrator

December 31, 2005

Date