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Joint Fire Science Program – Lake Mead National Recreation Area: Revegetating Burned Arid Lands: Identifying Successful Native Species Using Trait and Competition Analysis, Quarterly Progress Report, October 1, 2007 to December 31, 2007

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QUARTERLY PROGRESS REPORT

University of Nevada, Las Vegas

Time Period: October 1, 2007 to December 31, 2007

Cooperative Agreement Number H8R07060001

Task Agreement Number J8360070199

Joint Fire Science Program – Lake Mead National Recreation Area

Revegetating Burned Arid Lands: Identifying Successful Native Species Using Trait and Competition Analysis

Program Activities

The task agreement was awarded to UNLV on October 1, 2007. This report covers the period October 1, 2007 to December 31, 2007. The following activities have been conducted toward meeting or exceeding deliverables in the statement of work.

Hiring and Project Start

With permission from the Joint Fire Science (JFS) program, we hired a full-time Research Assistant (Donovan Craig) to work on this project. The original proposal called for two graduate students, but due to a variety of reasons and a changing situation in the UNLV graduate program, PI Dr. Scott Abella and co-PI Dr. Stan Smith believed that having a full-time project manager would be the most efficient for this project. We also received permission from JFS to start the project three months early on October 1 to get a jump on the growing season.

Experimental Set-Up

Research Assistant Donovan Craig has coordinated the establishment of this experiment, which is detailed below.

Approximately 350 cone-sized plants for each of 12 native species were seeded at the Lake Mead native plant nursery in mid-September 2007. These have been watered and checked daily. The actual number of plants for each species needed in the experiment, which is located next to the Lake Mead native plant nursery, is 198; however, 350 plants were seeded in order to allow for a buffer against expected difficulties in growing these plants. Some difficulties have arisen, and steps to acquire plants from other sources have been taken. Some species were also re-seeded in mid-October and mid-November when it was determined that plants were not going to grow from the original seeding. In mid-October, 40 one-gallon pots were seeded with the 12 native species to supply plants for the field component of this study.

One of the major accomplishments thus far in preparation for this study has been the construction of study plots next to the Lake Mead native plant nursery. Sixty 2×2 meter plots were excavated to an approximate depth of one foot, bordered with 20-inch aluminum flashing, and filled with reject sand. Behind these plots, 78 1×1 meter plots were installed in a similar fashion with the exception of spacing. Unlike the 2×2 meter plots, the 1×1 meter plots were conjoined in rows of nine or ten plots.

These plot installations involved a significant coordination of materials and labor. Three separate crews were involved in the establishment of these plots. First, an American Conservation Experience (ACE) crew cleared the proposed area of brush and debris. Next, a National Park Service (NPS) maintenance crew from Lake Mead arrived to level the ground for the plots. A grader was used to both clear and rip the ground. The decision to rip the ground was made to make excavation easier. A second ACE crew arrived on October 17 and spent eight days installing the 2×2 meter plots. They completed 47 out of 60 2×2 meter plots and excavated the areas for the 1x1 meter plots. A Nevada Conservation Corps (NCC) crew helped in early to mid-November to finish installing the remaining 2×2 meter plots. And, during the days of November 19-21, they were able to finish the 1×1 meter plots.

It was known that the area next to the nursery where the study plots were installed will require fencing to protect the plots from damage (i.e. vandalism, herbivory). An initial cost of fence installation was estimated. Since the project exceeded \$2500, competitive bidding will be necessary to assign the project. Fencing will need to occur before the outplanting, which is currently set for mid to late January, 2008.

Submitted by:



Margaret N. Rees, Principal Investigator

12/31/2007

Date