Spring 2009

ENV 492 undergraduate research symposium

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Mojave Applied Ecology Notes

www.unlv.edu/staff/cengel/DDFRGHome.htm

Spring 2009
Volume 2, Issue 1

Editor: Jill Craig
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Mojave Applied Ecology Notes is a newsletter published quarterly by the UNLV Desert and Dryland Forest Research Group. We specialize in working with resource managers to address key information needs for management through applied research. Submissions to the editor are welcome. We reserve the right to edit all article submissions.

Guest contributor: Michéle R. Slaton, Ph.D., Botanist, Death Valley National Park

Vegetation Monitoring in Death Valley National Park

At 3.4 million acres, Death Valley is home to 146 special status plant species, and 11 distinct mountain ranges with up to 11,000 ft. elevation gain. Against this backdrop of biological and physical diversity, Park staff have initiated several vegetation inventory and monitoring studies. The questions we pursue related to native vegetation management fall generally into two categories: 1) individual populations and 2) vegetation communities. Each type of study offers insight into the other; explanations for phenomena in one locality are often found by looking at the broader landscape.

Vegetation studies differ significantly in methodology, and are determined by species' life histories and distributions. Figure 1 illustrates three Park monitoring studies for rare plants, plus the locations of 200 plant community plots. Widely spaced Eureka dunegrass that occurs across nearly 6 square miles is monitored using large plots; Death Valley blue-eyed grass, limited to spring areas, is monitored on a finer scale; rock lady, constrained to vertical cliffs, is monitored by complete population census. Plant community inventory and monitoring plots are designed to capture species diversity and composition in moderately sized areas. This type of variety in study design is common, and its observation is nothing new- but it's important to reflect upon its significance when designing studies, developing databases, and sharing data.

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ENV 492 Undergraduate Research Symposium

Scott Abella, Ph.D.

In spring semester since January, UNLV Environmental Studies and Biology students in ENV 492 (Undergraduate Research) have conducted a wide variety of ecological research projects. Projects range from insect community inventories to monitoring post-fire plant recovery at Red Rock Canyon and testing carbon addition as a tool for reducing exotic plants. Findings of these research projects may be of interest to faculty and students at UNLV, resource managers in the Mojave Desert, and interested citizens of the Las Vegas community. All of the projects are intended to supply ecological information with practical applications for conservation and resource management. This course is being taught by Scott Abella with Alex Suazo, Donovan Craig, and Cayenne Engel, all of whom are mentoring the students in their research projects.

A total of 12 student projects are ongoing. The students will be presenting the projects at the end of the semester on May 4, beginning at 12:00 noon, in UNLV's brand-new Greenspun Building. If you are interested in attending the symposium, please email dottie.shank@unlv.edu for directions and information on parking.