



YOUTH ENGAGED STEWARDSHIP – RESTORATION PROJECT AT LAS CIENEGAS NATIONAL CONSERVATION AREA

CWP, BLM, YES! Partners, The Nature Conservancy, Univ. of Arizona, USGS

The Youth Engaged Stewardship (YES!) Program was designed by the YES! partners with the goals of training youth leaders and providing teens the opportunity to make a difference in the Cienega watershed through hands-on restoration projects. In 2015 YES! youth chose to make improvements at the Gardner Sacaton location at Las Cienegas National Conservation Area (LCNCA) by restoring sacaton grasslands and studying the effectiveness of different restoration techniques. YES! teens formed a board to design and implement the project, including developing a budget and planning work crews. YES! established two study areas and applied three different restoration techniques in July 2015.

Project Background

Youth engagement is a critical component in the future of southeastern Arizona landscapes. Since 2011, the Cienega Watershed Partnership (CWP) collaborated with YES! Partners (Empire High School, Ironwood Tree Experience, and Tucson BLM) to offer four field seasons of YES! at LCNCA. Students are recruited from Vail and Tucson High schools. Youth receive training in the ecology of grasslands and riparian areas, site assessment techniques, stakeholder issues, basic restoration issues and techniques, team leadership and communication, public lands management, and project design and implementation. The teens form a youth board, select at least one specific site to improve, and design and implement at least one restoration project. They make as many decisions as possible within parameters provided for NEPA, the Endangered Species Act, BLM-management goals and their own budget and timelines. The YES! teens decided to implement three different restoration techniques using a systematic design of treated and untreated plots. Participants implemented the treatments, established a monitoring program to determine most effective methods, and designed interpretation for visitors. Adult mentors, including scientists and public land managers, participated in every session.

Project Activities and Outcomes

In June 2015, the youth board visited the Gardner Sacaton location with The Nature Conservancy (TNC), Caldwell Design, BLM, University of Arizona (UA) scientists, and YES! Partners to complete a site assessment. The youth board decided to establish two study areas; then worked with the BLM and Vera Earl Ranch to fence off one to exclude cattle. Sixteen sample plots were

established within each study area. Each was mapped, staked and photographed with the help of USGS. Four untreated plots and 12 treated plots were randomly selected for each study area for a total of 32 sampling replications. Students organized work crews and implemented three different site preparation techniques: 1) planting alakali sacaton plants; 2) remove rocks and scarifying the soil to a depth of 3 or 4 inches; and, 3) aligning rocks into various structures ranging from circles to snake-like lines intended to hold water and soil. All plots were photographed to allow future comparisons and a grid was left in place to monitor results.

Plans are to continue monitoring the study areas with the help of the Advanced Placement students at Empire High School, future YES! interns, and other interested scientists. Rain and wind monitoring stations will provide further data and above average precipitation in 2015 will provide interesting results. Two YES! interns from the summer program are currently completing an interpretive display to describe the importance of sacaton communities and the specifics of the Gardner Sacaton restoration project for visitors.

Stakeholder Involvement

YES! Partners (CWP, ITE, BLM and Empire High School) were supported by many organizations and agencies to train and support the students including: USGS helped establish, map, and photograph the study area; TNC provided field assessment and restoration training; Univ. of Arizona provided education on the impacts of soil erosion; and the Vera Earl Ranch fenced a study plot and taught students about grazing. The BLM Safford Plant Materials Center provided 300 plants and DRI water to help plant establishment. Friends and family members also pitched in to provide volunteer labor.



1) Fenced study area.



2) Scarifying soil surface within sample plot