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## Plan Overview

*A Data Management Plan created using DMPTool*

**Title:** Seedling establishment and woody-plant encroachment in Southwest Rangelands

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**Funder:** United States Department of Agriculture (usda.gov)

**Funding opportunity number:** 26806

**Template:** USDA - NIFA: National Institute of Food and Agriculture

**Last modified:** 04-27-2017

### Copyright information:

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# Seedling establishment and woody-plant encroachment in Southwest Rangelands

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## Expected Data Type

Describe the type of data (e.g. digital, non-digital) and how they will be generated (lab work, field work, surveys, etc.). Are these primary or metadata?

The data generated in this research will consist of seedlings establishment population data of the woody-shrub Honey mesquite (*Prosopis glandulosa*), and the non-native grass Lehmann lovegrass (*Eragrostis lehmanniana*). The data types to be created will be seedlings density represented in spreadsheets, graphical visualization, statistical analyses and text. The data will be created and processed using statistical softwares like Microsoft Excel to record the data, and JMP and R to develop figures and statistical analyses. No existing data will be used in this research. To ensure the quality of the data at the moment of collection and processing, we will employ standard protocols to record the seedlings establishment as well as various standard statistical analyses tools to process the data.

## Data Format

For scientific data to be readily accessible and usable it is critical to use an appropriate community-recognized standard and machine readable formats when they exist. The data should preferentially be stored in recognized public databases appropriate for the type of research conducted. Regardless of the format used (notebook, samples, images, spreadsheet, etc.), that data set should contain enough information to allow independent investigators to understand, validate, and use the data.

The formats that we will use for the data will be Comma-separated Values (.csv) for the spreadsheets and JMP data sheets, and R scripts (.R) for the code developed. In terms of units they will be presented as follows: plot ID (physical quantity), ambient precipitation (mm), precipitation treatments for irrigation, drought, and ambient (+80%, -80%, control) seedlings density (# of seedlings/m<sup>2</sup>), time (week #, day #), plant cover (m<sup>3</sup>). All the data will be preserved for the long-term. No transformation will be necessary to read the data. The metadata will be presented as a "README.txt" text document (.txt) along with the rest of the data, and will consist of explanation of units, and context in terms of time and relationship of every variable.

## Data Storage and Preservation

Scientific data should be stored in a safe environment with adequate measures taken for its long-term preservation. Applicants should describe plans for storing and preserving their data during and after the project and specify the data repositories, if they exist. They should outline strategies, tools, and contingency plans that will be used to avoid data loss, degradation, or damage.

The data will be shared directly to the LTER Site Manager, which will be available on the LTER web site (<https://jornada.nmsu.edu/lter/data>).

## Data Sharing and Public Access

Describe your data access and sharing procedures during and after the grant. Provide any restrictions such as copyright, confidentiality, patent, appropriate credit, disclaimers, or conditions for use of the data by other parties.

The data will be available with no restrictions after research publication is completed.

## Roles and Responsibilities

Who will ensure DMP implementation? This is particularly important for multi-investigator and multi-institutional projects. Provide a contingency plan in case key personnel leave the project. Also, what resources will be needed for the DMP? If funds are needed, have they been added to the budget request and budget narrative? Projects must budget sufficient resources to develop and implement the proposed DMP.

The original investigator will be Luis Weber-Grullon. The responsible investigator will be Osvaldo Sala. The Jornada Basin LTER Site Manager, and who will be in charge of the data once it is submitted, will be John Anderson.

## Monitoring and Reporting

Successful projects should monitor the implementation of the DMP throughout the life of the project and after, as appropriate. Implementation of the DMP should be a component of annual and final reports to NIFA (REEport) and include progress in data sharing (publications, database, software, etc.). The final report should also describe the data that was produced during the award period and the components that will be stored and preserved (including the expected duration) after the award ends.

Osvaldo Sala (the responsible investigator) will be responsible to review and revise this data management plan prior submission.