



We are pleased to announce our Margaret Williams Research Grant Recipients. This year's recipients are:

- Brian Smithers, \$1,000 for his research proposal entitled "Climate change-induced range shifts in Great Basin sub-alpine bristlecone pine forests."
- Mr. Joshua Harrison, \$1,000 for his research proposal entitled "Exploration of the population genetics and fungal community of *Astragalus lentiginosus*, one of the most variable plants in North America."

Spring has sprung and it's time to plan our field trips for the upcoming 2015 season. John Weiser will be holding a planning meeting at his house on April 11th at 10:00AM. If you have a location in mind, or would like to lead a trip do not hesitate to attend. Alternatively you can drop John an email or call him with a location and preferred dates so we can work them into the schedule.

Our normal field trip season starts in May and ends in August but if the opportunity presents itself we can schedule earlier or later.

Your field trip can be specific to a plant species or more general in scope such as exploring habitats and plant communities.

We can also revisit locations from past years.

We encourage you to attend whether you wish to lead a trip or not as your input and ideas are always welcome. John is a wonderful host and has a beautiful garden.

John P Weiser, Field Trip Coordinator
485 O'Brien Way Sparks, NV 89431
johnpweiser@yahoo.com (775) 331-4485

NORTHERN NEVADA

April 2, 7:00PM – Steve Matson, botanical photographer extraordinaire contributing to CalPhotos, will give a presentation titled Botanizing Big Pine.

We meet in the UNR herbarium, room 300 of Fleischman Agriculture, at the University of Nevada. This is just north of the intersection of 9th St. and Evans Ave. The elevator is located at the east end of the building. Park just east of this in the lot on the southeast corner of Evans and Record Way. Social time starts at 7:00PM and the program will start at 7:30.

If you would like to join our speaker for dinner beforehand, meet at the 2nd floor food court in the Joe Crowley Student Union at 5:30PM. Visitor parking for the

student union is available in the parking garage and lot near 15th and Virginia.

Jan Nachlinger, Program Coordinator
jangr8basn@charter.net (775) 849-2804

April 26 - Earth Day - NNPS will have a booth at Earth Day on April 26th at Idlewild Park. you would like to volunteer to help at the booth, please email Sarah at vicepresident@nvnp.org.

May 7, 5:00PM - Rancho San Rafael Regional Park Picnic and last gathering during the spring. Come celebrate the Nevada Native Plant Society's 40th Anniversary! We'll meet at the picnic tables south of the entrance to the Arboretum Loop near the east parking area on San Rafael Drive, anytime after 5PM until dusk. Bring a dish or a beverage to share, your own tableware, and a folding chair, if you desire. There will be a special NNPS anniversary cake for everyone.

ERIOGONUM SOCIETY

July 24-27 - NNPS is co-sponsoring the annual meeting of the Eriogonum Society in July. It is open to NNPS and Eriogonum Society members only.

For details about the meeting and field trips go to the 'Annual Meetings' tab on the Eriogonum Society website, erogonum.org

Registration is open to Eriogonum Society and Nevada Native Plant Society members only. Not a member? Join either group to become eligible for registration

SOUTHERN NEVADA

Southern Nevada Meetings are suspended while we search for a new program

coordinator. Please contact Cayenne Engel at cpepper3@gmail.com to help organize meetings and get our group out in the field again.

TALES FROM THE HERBARIUM

At the February meeting Dr. Elizabeth Leger, Associate Professor in the Department of Natural Resources and Environmental Science at UNR, told a tale of range restoration that can be summarized as, "bigger isn't always better."

Fire, invasive plants, and grazing have brought about great changes in Great Basin flora. Large-scale "restoration" in fire-ravaged areas usually doesn't replace what was lost. What gets planted instead are seeds harvested from cultivars grown in huge plantations. Typically these cultivars are bred for livestock forage, seed yield, and vigor, not drought tolerance and the ability to grow in disturbed, dry places like burn areas. In other words, available seeds are being bred with range production in mind and bigger is better.

With Sarah Kulpa, Dr. Leger did an analysis of plants that were successful in burn sites and analyzed growth on seedlings from some of these successful plants. They followed individual seedlings planted in small, uniform plots to find out what traits were successful. What they found was that the seedlings that survived were not the biggest and most competitive but rather those that germinated early, were genetically small, and allocated the most resources to root growth.

Smallness is typical of places where resources are limited, such as islands and the desert. For example, studies of wood-rat middens have found that the

animals become smaller during cool periods when food is scarce and larger during warm periods. Plants respond in a similar fashion and there are dwarf agricultural varieties specifically aimed for use in dry areas.

Has there been a change in size of plants in the Great Basin over time? If so, can it be linked to changes in climatic factors? To help answer this question, Dr. Leger and a team of assistants (including Jerry Tiehm, Charlene Duncan, Lyndsey Boyer, Bryce Wehan, and Meghan Whitman), turned to the Reno Herbarium.

The group looked at seven small annuals (*Microsteris gracilis*, *Collinsia parviflora*, *Cryptantha pterycarpa*, *Eriastrum sparsiflorum*, *Blepharipappus scaber*, *Gilia inconspicua*, *Mentzelia albicaulis*) that are part of the herbarium's collection. Using such small plants was thought to counter possible size bias in choosing plants, since many generally were put on each herbarium sheet (as opposed to larger plants where collectors have to contend with getting the plant to fit on the sheet). 1,940 plants across 406 herbarium sheets collected from 1890 to the present were included in the study.

Along with measuring physical characteristics of the plants, the researchers compiled a database of collection locations and historic climate observations. They found that precipitation actually slightly increased overall since 1890 but is subject to extreme short term variation. Average maximum and minimum temperatures also show great variation, but the trend for both is up about two degrees.

How have the plants responded? One species has not changed in size (*Blepharipappus scaber*), one has gotten larger (*Mentzelia albicaulis*), and the

others have shrunk. Why would four out of six species be getting smaller despite more precipitation and a warming trend? One factor might be cheat grass competition which would rob water from the herbaceous annuals.

The study shows the tremendous usefulness of herbaria in restoration ecology and suggests that herbarium research may be advantageous in developing seed mixes that are better adapted to the Great Basin climate.

The UNR herbarium is continuing work on creating a database of all its specimens. Out of an estimated 93,000 specimens, a little over a third have been added to the database, including 44 families. The database is part of the Intermountain Regional Herbarium Network, accessible at www.intermountainbiota.org.

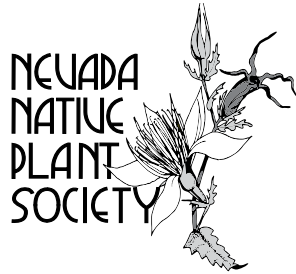
How can you help? The herbarium is always looking for volunteers to help complete digitizing its entire collection. You can also add to the herbarium by collecting new specimens. If you would like to do this, focus your efforts by setting a goal such as:

- Surveying a new area
- Re-collecting a previously surveyed area
- Collecting a widespread species across a range of environmental conditions
- Focusing on a particular ecological group, such as annual weeds growing at the edge of their range
- Focusing on a particular taxonomic group
- Studying a specific habitat type like hot springs

Pat Neyman

Nevada Native Plant Society
PO Box 8965
Reno NV 89507-8965

RETURN SERVICE REQUESTED



MEMBERSHIP APPLICATION

Name _____

Phone _____

Mailing Address _____

City _____ State _____ Zip _____

Email _____ Renewal

Newsletter preference: Paper Electronic

- Individual, family or group for one year \$15.00
- Individual, family or group for three years \$40.00
- Student or senior citizen, each year \$10.00
- Life membership \$450.00

Dues are for the calendar year in which you join. Membership expiration dates are on the mailing labels. 2016 dues increase will take effect in November.

Gifts, and bequests are tax deductible.

Your donation in any amount is appreciated \$ _____

Please make checks payable and mail to: NNPS • P.O. Box 8965 • Reno, NV 89507