



The Bulletin

2015 Outings

Saturday, June 27th Summer Outing - Glen Canyon Dam Tour and Tour of the Powell Museum, Page, Arizona See details below.

Saturday July 11th Noon to 4pm. Annual Picnic and Award Ceremony at Shoshone Point, South Rim Food, Friends, Fraternity, Fun!

Sat June 27th

Summer Outing: Glen Canyon Dam Tour and Tour of the Powell Museum - Page, Arizona

11am-1pm: Tour the Powell Museum, 6 N. Lake Powell Blvd, Page AZ

Entrance fee: \$5.00/person, \$3.00 Senior 62+.

10:50 - Meet at the museum outside the entrance.

2:15-3:00: Guided Tour of Glen Canyon Dam

Fee: \$5.00/person, \$4.00 Senior 62+. (40 people maximum)

1:45 - Meet at the entrance to the dam visitor center.

3:30: Late lunch or early dinner at Stromboli's Restaurant, 711 N. Navajo Drive, Page, AZ, then head home.

Please reserve your space by emailing Ellen Brennan at ellen_brennan@nps.gov by **May 27, 2015**.

NOTE:

To attend the dam tour, all visitors must be screened by security 10-15 minutes **before** the scheduled tour time.

ITEMS ALLOWED :

- Wallets
- Water
- Camera
- Keys
- Cell Phones
- Umbrellas
- Binoculars
- Flat document holder

ITEMS NOT ALLOWED :

- Weapons: Including firearms or any object with a sharp edge
- Pocket Knives
- Lighters
- Food
- Liquids other than water
- Bags (purses and backpacks included)

Emma Williams Awarded GCHS Scholarship

The 2015 Grand Canyon Historical Society Scholarship has been awarded to Emma Williams, graduate student at the University of Arizona's School of Natural Resources and the Environment, Laboratory of Tree-Ring Research. Emma is also employed as a botany and restoration specialist with the US Forest Service.

The following is from Emma's scholarship application:

I am conducting a master's thesis, under the guidance of Dr. Don Falk, with a goal of providing the Grand Canyon's natural resource managers with evidence of how the ecological history of a forest may impact the current and future effects of a primary management tool - prescribed fire. In recent decades, tree mortality rates have been increasing across the western United States (van Mantgem et al, 2009). Growth patterns forming over a tree's lifetime carry information allowing us to predict its survivorship (Das et al, 2007). The Southwest Climate Science Center has partially funded our project to produce mortality models, for species experiencing severe 5-10 year drought followed by prescribed fire, using conifer growth patterns from the past 50 years. With additional funding assistance from the Grand Canyon Historical Society, I would expand the inferences of this project by extending the analysis of the past 50 years to the lifetimes of the sample trees. The effects of fire following severe drought can result in years when trees may fail to put on growth, making it difficult to determine death dates from a short record. By extending the record to the life of the tree, we are able to use crossdating methods to age each ring, achieve a more certain death date, and improve our understanding of the mechanisms leading to it. These ring ages will allow us to create a timeline tracking long term growth patterns as indices of historical climate, stand competition, and fire effects in Grand Canyon forests.

The sample collection and preparation of our 50-year modeling project create an opportunity to gain a great deal of additional information at low cost. Scholarship funds are needed for additional time and materials required to crossdate and measure the extended core samples. The project results would be reported to the Grand Canyon Historical Society in a publication quality paper in fall 2015. Thank you for your consideration of my scholarship application, I would be delighted to speak with you more about the project.

References

Das, A.,J. Battles, N. L. Stephenson, and P. J. van Mantgem. 2007. The relationship between tree growth patterns and

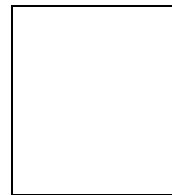
Grand Canyon Historical Society

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ADDRESS SERVICE REQUESTED



Scholarship, cont'd

likelihood of mortality: a study of two tree species in the Sierra Nevada. Canadian Journal of Forest Research 37:580-597.

van Mantgem, P. J., J. C. B. Nesmith, M. Keifer, and M. L. Brooks. 2013b. Tree mortality patterns following prescribed fire for Pinus and Abies across the southwestern United States. Forest Ecology and Management 289:463-469.

Submitted by Al Richmond

Submit Your Stories for Ol' Pioneer

The *Ol' Pioneer* is the Society's magazine featuring stories, photos, and letters of historical relevance to the Grand Canyon. Submit your stories, photos, etc to the editor, Mary Williams at:

Mary Williams

4880 Weatherford Rd

Flagstaff, AZ 86001

Phone: 928-779-3377

mary@marywilliamsdesign.com



Outings/Programs: If you have a suggestion for a future outing/program or a question about an upcoming event, contact the **Outings Coordinator** Ellen Brennan at ellen_brennan@nps.gov

The Bulletin welcomes comments, stories, or reflections and remembrances.

Please send them to: kgreig@yahoo.com