

Southwest Biological Science Center Weekly Highlights October 31, 2005

Managing Invasive Plant Species. The National Park Service is overwhelmed with the task of managing invasive species in most of its units. USGS researcher Bill Halvorson is cooperating with Channel Islands National Park to develop a decision support system which will allow the Park to set priorities on which species need to be dealt with first, based on species biology and land area vulnerability. The USGS and Channel Islands National Park will be conducting a workshop on this developing GIS system November 3-4, in Ventura, California. (Bill Halvorson, Tuscon, AZ, 520-621-1174)

Dr. Belnap Speaks on the Impacts of Land Use Decisions: Dr Jayne Belnap is giving an invited talk at the 2005 Annual Soil Science Society of America meeting on how 100 years of land use have affected plant and soil resources in the state of Utah. The talk, titled: "The Past, Present, and Future of Rangeland: The Impacts of Land Use Decisions on Soil Stability and Fertility" will be given at the Forage and Grazing Lands Breakfast on November 8th. More information can be found at: <http://www.asa-cssa-sssa.org/meetings/acs/>. (Jayne Belnap, Moab, UT, 435-719-2333)

Colorado Plateau Research Presented at Conference: Tim Graham will be presenting 2 posters at the 8th Biennial Conference of Research on the Colorado Plateau, 7-10 November 2005 titled: ANT COMMUNITIES OF THE COLORADO PLATEAU AND GREAT BASIN: COMPARISONS OF STRUCTURE IN SPACE AND TIME USING GENUS AND FUNCTIONAL GROUP CLASSIFICATIONS, and COMPARISON OF ORTHOPTERA COMMUNITIES IN SALT CREEK, CANYONLANDS NATIONAL PARK: FLUCTUATIONS OVER TIME IN OPEN-, CLOSED-, AND NO-ROAD PARTS OF THE CANYON. He will also attend the following planning and information meetings on November 7th: **1. National Ecological Observatory Network (NEON):** Organized by Neil Cobb. The meeting will discuss the new arrangement of regional observatories and specifically Domain 13, which encompasses the Colorado Plateau and the Southern Rockies. **2. National Park Service All-taxa Biodiversity Inventory:** Organized by Neil Cobb. The purpose of the meeting is to further explore the establishment of a All Taxa Biodiversity Inventory Program (ATBI) for National Park Service units on the Colorado Plateau. **3. NBII (National Biological Information Infrastructure) Southwest Information Node (SWIN):** Organized by Neil Cobb. The SWIN meeting will provide an overview of the function of SWIN, followed by a discussion of how SWIN can work with ongoing projects and how people can plan to collaborate with SWIN in the future. (Tim Graham, Moab, UT, 435-719-2339)

USGS Scientist work with BOR Power Managers on Optimizing Dam Releases: The combination of a 5-year drought and recent above-average runoff into Lake Powell has resulted in increased water temperature and decreased dissolved oxygen concentrations in the Colorado River below Glen Canyon Dam. USGS scientists, Bill Vernieu, Susan Hueftle, and Ted Kennedy, have noted that some aspects of powerplant operation at Glen Canyon Dam have a significant reaeration effect on Glen Canyon Dam releases. They have been working with Bureau of Reclamation power operations managers on experiments to determine optimal operational scenarios in which dissolved oxygen concentrations can be increased without incurring damage to generating turbines or increased costs to power generation. The current elevated temperatures and low dissolved oxygen concentrations will revert to normal levels when the reservoir surface of Lake Powell cools and mixes within the next 4 to 6 weeks. Contact: Bill Vernieu, Flagstaff, AZ, (928) 556-7051

Younger Dryas cold period revealed in Grand Canyon from Packrat Middens: USGS scientist Kenneth Cole was interviewed by Anne Minard for an article published in the Flagstaff Daily Sun on October 13th. The article titled "Packrat Preservation" focuses on the results of a recent scientific paper by Kenneth Cole and Samantha Arundel (NAU faculty) on a drastic climate reversal at the end of the ice age called the Younger Dryas. The paper, titled: "Carbon isotopes from fossil packrat pellets and elevational movements of Utah agave plants reveal Younger Dryas cold period in Grand Canyon, Arizona", was published in the September issue of the journal Geology. The article also addresses other USGS paleoecological research being conducted using plant fossils from packrat middens.

http://www.azdailysun.com/non_sec/nav_includes/story.cfm?storyID=117182 (Kenneth Cole, Flagstaff, AZ, 928-556-7466 x230)