www.plateaurestoration.org

Conservation Connections

Newsletter of Plateau Restoration from Moab, Utah

Winter 2013 Service, Science, Education and Exploration since 1995

Univ. of Texas, Arlington students take a break from conservation work during an Alternative Spring Break program to learn more about the region on a Colorado River trip, March 2013.

Inside this issue:

Conservation Update: People & Projects

Our 18th year of offering service-learning programs, 2013 has turned out to be one of the largest. Demand for these opportunities is strong.

This year we hosted 89 students in Alternative Spring Break programs, from 7 schools: Univ. of Texas at Arlington, Colorado State Univ., Univ. of Nevada at Las Vegas, Univ. of Wisconsin at River Falls, Univ.of Colorado, Univ. of Montana, and Wartburg College, Iowa.

Each group spent 6 days in the area, contributing at least 30 hours of conservation service to one or more of our projects, and a day learning more about the area with our instructors, on the Colorado River and/or at Arches National Park .

Other groups that contributed to projects included Wild Rockies Field Institute, Mendocino County Waldorf 8th-grade class, Verde Valley High School, as well as volunteers in our River Rendezvous and other events. In all, 180 volunteers contributed about 3000 volunteer hours. This represents 480 people-days contributing labor, valued at $65,000, to conservation.

Current projects focus on riparian restoration at four sites along the Colorado near Moab, including revegetation at Jackson Bottom, near Potash, and several other sites between Potash and Cisco.

At Jackson Bottom, we have been enhancing wildlife habitat since 2010 on 65 acres along the Colorado River, owned by Intrepid Potash. This year, volunteers planted over 6000 grass plugs and hundreds of shrubs and helped remove acres of weeds, especially Kochia and tumbleweed. *(Cont. on page 2)*

Planting saltgrass plugs in trenches at the Jackson Bottom riparian restoration project.

Moab River Rendezvous Enjoys its Fifth Year

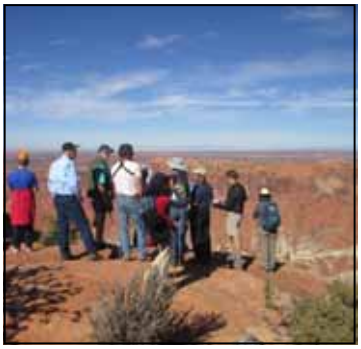
Field trips played a greater role in the Fall 2013 Moab River Rendezvous than in the past, with activities scheduled outdoors each of the four days. The event opened on Thursday Nov 7, with a hike through the Fiery Furnace in Arches National Park, before a warehouse Icebreaker party and presentation by Herm Hoops.

Herm has been researching the history of inflatable boats and shared insights on evolution of rubber boats, starting with the 1800's. He made the strong point that evolution of these craft has contributed to conservation of our rivers, by making river recreation viable for the general public.

As has been the case with previous events, participants joined in a restoration project. This year, volunteers planted grass plugs at Jackson Bottom. During the day on Saturday and Sunday, the focus was on

Goodyear's pontoon at the Crystal Palace 1851, one of the boats discussed by Herm Hoops in his Rendezvous presentation.

(Cont. on page 2.)



Participants in the 2013 Moab River Rendezvous ponder Upheaval Dome, Canyonlands National Park.

(Related article on p. 3.)

Conservation Update (cont.)

(Continued from page 1.)

Students haul water up the Colorado River banks to water new transplants

The first part of 2013 was particularly dry and most plantings had to be hand-watered. Our new irrigation at Jackson Bottom was established in part of the site in early summer making the care of many of these plants much less time-consuming. Cottonwood and Hackberry trees shot up with the better supply of water and are but a season or two away from providing some shade to part of the site.

In Fall, 2013 students and teachers from the Verde Valley School joined us again, this time helping with weed removal, transplanting and seeding at a site along the Colorado River, owned by the Moab area Nature Conservancy, that was recently burned.

We'll be continuing restoration on these sites, and also on a private ranch near Cisco, Utah, in 2014. Thanks, everyone for your help!

Colorado university students collect, transport and plant willow poles at Jackson Bottom restoration project

Moab River Rendezvous

(Continued from page 1.)

the geology of the region, with Colorado Mesa Univ. Professor, Andres Aslan and PRI's geologist, Tamsin McCormick PhD.

Formal evening presentations were held Thursday, Friday and Saturday at the historic Star Hall, downtown Moab. These featured authors Kevin Fedarko, Roy Webb, Dan McCool and Robert Keiter. Lively presentations included the high water of 1983 and how Glen Canyon Dam was almost lost, historic river trips on the Colorado River, how management of our public resources has changed, especially rivers and our national parks, and impacts being made by innovative individuals. The event continued to produce its usual high quality and valuable content.

Fast Facts– 6 Kingdoms of Life

There used to be two — Vegetable and Animal; the UK still has just five

Archaebacteria

Archaebacteria are bacteria with internal membranes and are found in deep-ocean thermal vents, hot springs in Yellowstone and brine marine environments.

Eubacteria

Eubacteria are single-celled organisms that don't have a nucleus. Bacteria make up the entire kingdom. There are more forms of bacteria than any other organism on Earth. Some are beneficial to us, such as those found in yogurt. Many others can cause sickness.

Protists

Protists are mostly single-cell organisms that have a nucleus. They usually live in water. Some protists move around while others stay in one place. Examples of protists include some algae, paramecium, and amoeba.

Fungi

Fungi are usually motionless organisms that absorb nutrients for survival. They include mushrooms, molds, and yeasts.

Plants

Plants contain chlorophyll, a green pigment necessary for photosynthesis, by which plants convert energy from sunlight into food. Their cell walls are made sturdy by a material called cellulose, and they are fixed in one place. Plants are divided into two groups: flower- and fruit-producing plants and those that don't produce flowers or fruit. They include garden flowers, agricultural crops, grasses, shrubs, ferns, mosses, and conifers.

Animals

Animals are the most complex organisms on Earth. Animals are multi-celled organisms, eat food for survival, and have nervous systems. They are divided into invertebrates and vertebrates and include mammals, amphibians, reptiles, birds and fish.

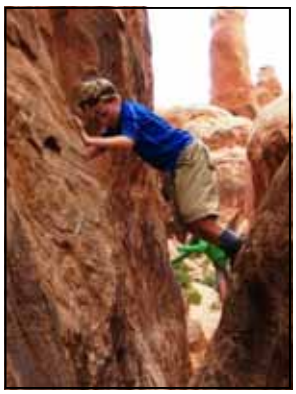
Source: FactMonster.com

Salts and Faults: Shaping our Scenery

The amazing landscapes so unique to the Colorado Plateau owe their origin to the regionally flat-lying sedimentary strata and their differing responses to weathering and erosion. So, what makes the Moab region so different from the rest of the Plateau?

The answer lies in a deep layer of salt, found only near the SE Utah—SW Colorado border, in a deeply buried "basin" called the Paradox Basin. Salt flows plastically under pressure, has lower density than the overlying rocks, and is soluble in water, all of which causes salt to act differently than more familiar sedimentary rocks: sandstone, limestone and shale. Near Moab, salt has domed up along parallel, linear "walls" that correspond in location to fault-lines and valleys (e.g. Spanish, Castle, Salt, Fisher, Lisbon and Paradox Valleys). Fracturing in overlying sandstones that was a result of the upwarping, has allowed water to reach the salt, dissolve it and remove it. Widening of these cracks results in "fins" seen in the Fiery Furnace, and subsequent widening of openings near the base of these fins, gives rise to arches.

Explore these and other geological curiosities on a custom GeoTour with our PhD geologist/educator, Tamsin McCormick. For more information, visit www.moabgeotours.com.



Young GeoTour participant in the Fiery Furnace, Arches NP

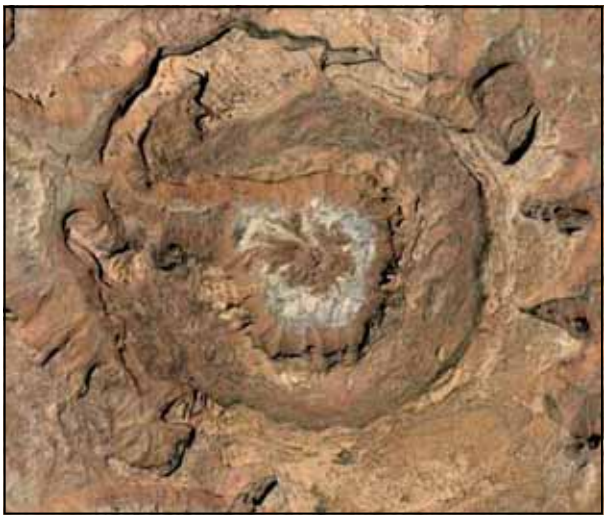
Upheaval Dome — Smoking Gun or Ongoing Controversy?

Upheaval dome is a truly unique feature that has inspired geologists for decades. This year the Park Service re-did the interpretive boards at the view point, and re-assessed the origin of the feature.

There has been considerable debate about whether the feature was caused by a meteorite impact or by an upwelling plume of salt. What has been recently touted as "the smoking gun" was a study published as *"Upheaval Dome, Utah, USA: Impact origin confirmed"* by Elmar Buchner and Thomas Kenkmann in the journal, *Geology*, in March, 2008 (v. 36, p. 227-230). The authors document a few grains of quartz in nearby sandstone, which have defect structures that can only be attributed to a meteorite impact.

However, proponents of the salt hypothesis argue that these grains may be recording a background level of meteorite bombardment, that one might find the same thing if one looked hard enough elsewhere. Suggestions that the source of sand for the rock that hosted these grains (Wingate Sandstone) was most of the country, this argument is hard to ignore.

Perhaps the beauty of Upheaval Dome is in the mystery itself, the abundance of pondering it has to offer for generations to come.



Google Earth image of Upheaval Dome in Canyonlands National Park, one of our GeoTour destinations. The overlook is on the edge of the inner circle (crater); the rim of the dome is about 3 miles across.

Leif Johnson Memorial Fund

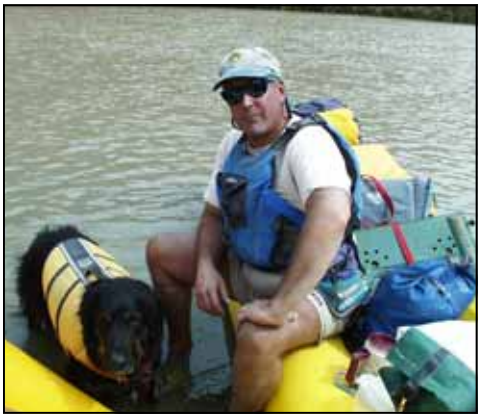
Leif was someone that believed in bringing people together to work toward a common goal, a belief we share. People working together can build friendships and can accomplish so much in the world. We also shared a love of the natural world and a desire to inspire people to love it, enjoy it and learn more about it as they contribute to keeping it healthy. We are establishing a educational fund in Leif's honor to be used to grow an internship program for students interested in sales and marketing, principles of business, outdoor education and wildlife resources. With your help we will build a program that will launch another generation of caretakers of the magnificent lands of the Colorado Plateau. To support this program please contribute to PRI and let us know that it is for the Leif Johnson Memorial Fund. Thank you!!

Quote in honor of Leif Johnson.

There is always a reason why you meet people. Either you need them to change your life or you're the one that will change theirs. In life, you realize there is a role for everyone you meet. Some will test you, some will use you, some will love you and some will teach you. But the one's who are truly important are the ones that bring out the best in you. They are the rare and amazing people who remind you why its worth it.

(source: rawforbeauty.com)

Farewell, Dear Friend



Leif and Onyx enjoying a kayak trip on the San Rafael River.

On August 30, 2013 we lost our wonderful friend of 38 years, Leif Johnson. Michael met Leif in the mid-70's on the South Rim at Grand Canyon. It only took a couple of weeks before they developed a strong friendship built through a love for the great outdoors especially the canyons and rivers of the Colorado Plateau. As best friends, Canyon brothers, they went on trip after trip over the years. Leif was an inspiration when it came to enjoying yourself and the friendships that you can have in the course of your lifetime.

His favorite quote was, "take care of your friends, they are all you have."

Leif was not only a important friend but also a dedicated supporter of wild places, wildlife and, as a board member, a strong supporter of the work of Plateau Restoration.

Leif, we cannot thank you enough for all the great times together and the true love and friendship that you brought to our lives. We think of you each day and miss your booming voice, warm hugs, loud music and big smile.

Meet you down stream.

LOVE YA, MAN!!!

THANKS...to all who've helped since fall 2012

Jennifer Speers
Bill Topper
Herm Hoops
Brad and Cindy Moore
Dave Cooley
Howard McPherson
Robert Wood
Stuart Kingsberry
Stephen Huffman
Sue Shrewsberry
US Charitable Trust
Wayne Ranney
Marcus LaFrance
Canyonlands Field Inst.
Four Corners School CCYC
Back of Beyond Books
Roy Webb
Dan Bean, PhD
Andres Aslan, PhD
Dave Mortenson
Dave Egan
Richard Quartaroli

Clint Wirick
Kevin Fedarko
Dan McCool, PhD
Bob Keiter, JD
Robert Magill
Becci Webb
Moonflower Market
Peace Tree Café
Eklecticafé
Lost River Trading Co
Sgt. Peppers
Wicked Brew
GearHeads
Pete Apicella
Willow Canyon Outdoor
Rimrock Adventures
Peach Street Distillers
JF Strothman Distillery
DeBeque Canyon Winery
Grand River Vineyards
Canyon Voyages
REI

River Runner Transport
oneway boatworks
Westwater Books
Northwest River Supply
River Management Society
Grand Cany River Guides
U of U Marriott Library
Moab Area Travel Council
UT Forest Fire State Lands
Eddie McStiff's Restaurant
KZMU
Moab Folk Festival
Mark Ludwig
Wendell McConnell
Pam Hackley
Britt Hornsby
Paul Zilis
Leif Johnson
Richard Schwartz
Bob Lippman
& our 180 volunteers working for wildlife

Good Plant / Bad Plant

Spring-blooming native perennial, *Astragalus sp.* flowering in December 2013 (left) , and non-native, *Salsola sp., aka* Russian Thistle or Tumbleweed (right) in a Tamarisk burn area. Both benefitted from an unusually wet late summer and fall.

To learn more about Plateau Restoration, become a supporter or join one of our programs please visit our website **www.plateaurestoration.org**, or contact us:

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Plateau Restoration, Inc.

A 501(c) (3) tax exempt non profit organization

Mission

To protect and restore native habitats of the Colorado Plateau through hands on education, landscape restoration, revegetation and research.

How we accomplish our mission

Plateau Restoration was founded in 1995 to enlighten, inspire and involve the public in the long-term care of landscapes of the Colorado Plateau through service and science-based learning adventures. We focus on building a connection with nature and encouraging the spread of stewardship.

We raise funds through memberships, donations, grants and services we provide. Members of the public can learn more about the natural and cultural history of the area while helping support our mission by signing up for a land and/or river-based Conservation Adventure volunteer or corporate team-building program or GeoTour educational program. We also provide natural resource education to the broader community through workshops.

You can help by contributing to the organization, sharing in an adventure and/or spreading the word.