

CELEBRATE THE NATIONAL PARK SERVICE CENTENNIAL!



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Grand Canyon Chapter

Winter 2016

Arizona's National Park Units

By Meg Weesner



A century ago, Congress created the National Park Service (NPS) to manage the increasing number of national parks and monuments around the country. This year, we celebrate the 100th anniversary of the NPS, and it is worth taking a look at its 22 units in Arizona. Each has a unique history of designation, purpose, and, for some, enlargement and renaming.

Arizona's protected areas have a history that began before the NPS. The first area set aside was Casa Grande Ruin Reservation, authorized in 1889 and re-designated as Casa Grande Ruins National Monument (NM) in 1918.

The Antiquities Act of 1906 gave the U.S. President authority to proclaim areas of public land with historic, archeological, or scientific value to be national monuments. Several Arizona areas were protected by presidential proclamation within the next few years: Petrified Forest and Montezuma Castle in 1906, Tonto NM in 1907, Grand Canyon and Tumacácori in 1908, and Navajo in 1909. Grand Canyon and Petrified Forest have since been designated national parks by Congress in 1919 and 1962, respectively. Tumacácori was enlarged and re-designated a national historical park in 1990.

The next two decades saw more national monuments proclaimed: Walnut Canyon

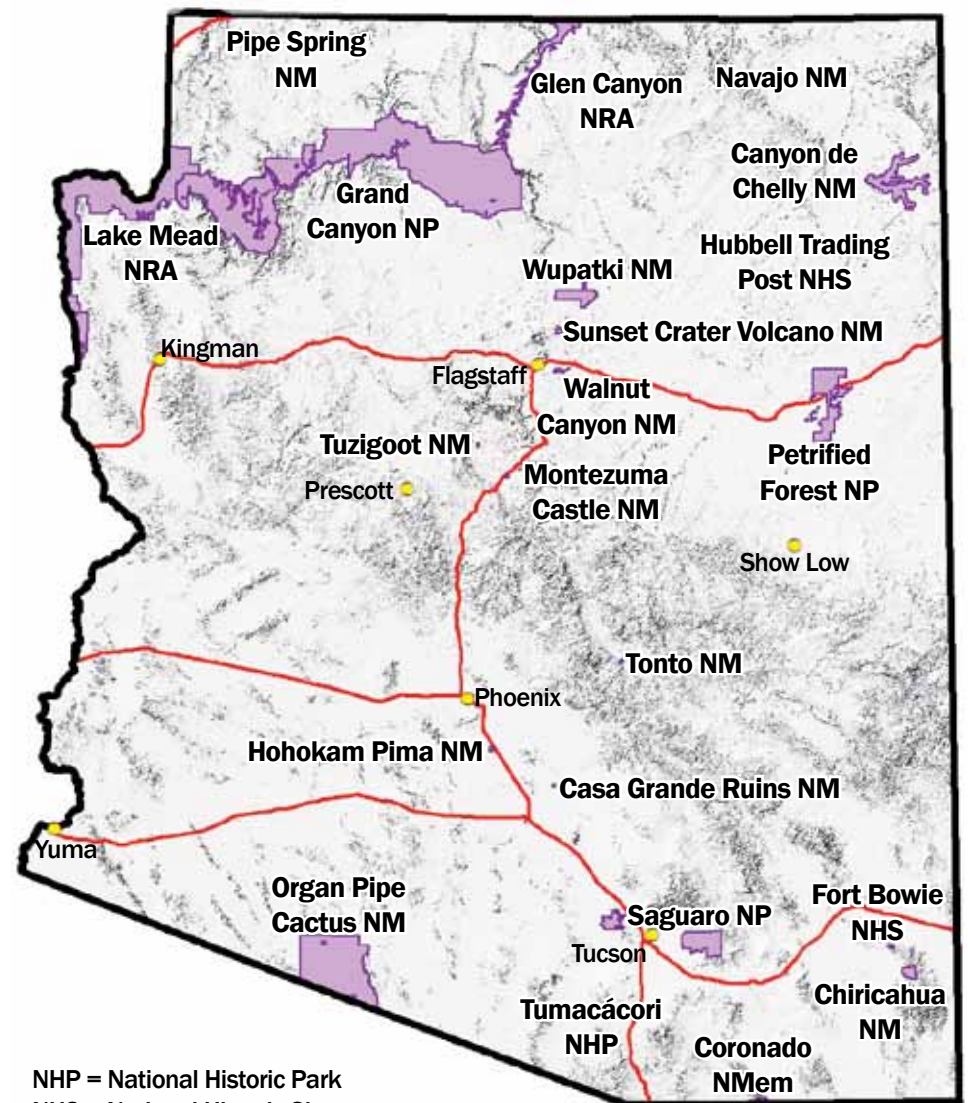
in 1915, Pipe Spring in 1923, and Chiricahua and Wupatki in 1924.

More NMs were added in the 1930s: Sunset Crater Volcano in 1930, Canyon de Chelly in 1931, Saguaro in 1933, Organ Pipe Cactus in 1937, and Tuzigoot in 1939. In 1936, Congress designated the first national recreation area in the country, Boulder Dam Recreation Area. Its name was later changed to Lake Mead National Recreation Area. Saguaro was re-designated a national park by Congress in 1994.




Five more units round out the National Park System in Arizona: Coronado National Memorial was authorized as an international memorial in 1941, although the portion on the Mexican side of the border has never been established. Glen Canyon National Recreation Area was authorized in 1958, in conjunction with building Glen Canyon Dam. Fort Bowie National Historic Site was authorized in 1964, and Hubbell Trading Post National Historic Site was authorized in 1965. And, finally, a tiny site near Casa Grande that is not open to the public, Hohokam Pima NM, was authorized in 1972.

The Antiquities Act has played a key role in protecting 17 of the 22 areas. The historic preservation movement of the mid-1960s (a response to urban renewal's destruction)

See *National Parks* continued on p. 11.



NHP = National Historic Park
 NHS = National Historic Site
 NM = National Monument
 NMem = National Memorial
 NP = National Park
 NRA = National Recreation Area

 National Park Service unit
 Interstate
 City

Explore, enjoy, and protect the planet





Arizona Chapter Action Directory

Canyon Echo

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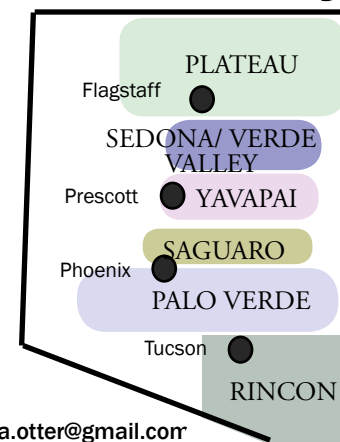
NOTE:
2016 ExCom will take office in January

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2015 Group Voting Representatives to Chapter Ex-Com (see pp. 12-13 for contact information):

Palo Verde: Mike Brady	Plateau: Joe Shannon	Rincon: Meg Weesner
Saguaro: Lynne Cockrum-Murphy	Sedona/Verde Valley: Brian Myers	Yavapai: Tom Slaback



Chapter Announcements

JAN 9-10 (SAT-SUN) Chapter Conservation (SAT) and Executive Committee (SUN) meetings. Club leaders meet to consider matters related to statewide conservation efforts, share experiences across groups, and coordinate strategy to align our Chapter mission and goals with that of national Sierra Club. For more information, contact Don Steuter at 602-956-5057 or dsteuter@hotmail.com or Elna Otter at 520-212-9736 or elna.otter@gmail.com. Meetings will be located in Phoenix.

JAN 26, FEB 23, MAR 22 (TUE) 6:30 p.m. Energy Team meetings. Discussions, programs, and field trips encompass renewable energy and energy efficiency campaigns nationally and locally. Everyone is invited to participate, no matter how much or how little you know about energy issues. For more information or to be added to our list, please contact Jan Bush at jan.bush@me.com or Sandy Bahr at 602-253-8633 or sandy.bahr@sierraclub.org.

FEB 3 (WED) 5:30 p.m. Publications Committee meeting. Have an idea? Help plan future issues of *Canyon Echo*! Contact Keith Bagwell at 520-623-0269 or kbagwell50@gmail.com or Tiffany Sprague at 602-253-9140 or tiffany.sprague@sierraclub.org.

FEB 10 (WED) 6:30 p.m. Wildlife Activist Group meeting. Are you interested in learning more about the wildlife that calls our state home and in working for species' protection? Join us to learn more about what's happening with Arizona's wildlife, upcoming projects and opportunities, and how you can get involved. For more information, contact Sandy Bahr at 602-253-8633 or sandy.bahr@sierraclub.org.

MAR 1 (TUE) Copy deadline for Spring 2016 Canyon Echo. Articles, art, photographs, poetry, essays, and brief epiphanies are welcome. Contact the editor before submitting at 602-253-9140 or tiffany.sprague@sierraclub.org to discuss word count, photos to include, licensing, issue topics, and to request submission guidelines.

MAR 30 (WED) 1-5 p.m. (stop by anytime) Canyon Echo Mailing Party. Volunteers save the Chapter hundreds of dollars by preparing *Canyon Echo* for mailing. Thank you! The job is easy to learn, and we all have a great time. Any amount of time that you're available is appreciated. Contact Jerry Nelson at 602-279-4668 or peakbagger2@gmail.com for details.

Dates TBD. Political Committee meetings. Help us elect more environmentally-friendly candidates! If you are interested in helping improve the political climate in Arizona, consider being part of our Political Committee! For information, contact Dale Volz at 480-892-5102 or dvolz@earthlink.net.

Grand Canyon Chapter – What’s Going On?



Little Colorado River. Photo by Denny Armstrong.

Water is Life! Environmental Day at the Arizona Capitol Tuesday, February 9 8:30 a.m. – 2 p.m. Arizona Capitol Museum 1700 W. Washington, Phoenix

This year’s theme is “Water is Life: Creating a Conservation Vision of Arizona’s Water Future,” featuring William deBuys, author of *The Last Unicorn*, *Seeing Things Whole*, and *A Great Aridness*,

among others. He will discuss the implications of climate change on our waters, what it means for our arid state, and why it is critical that we act to protect Arizona’s waters.

Volunteers from throughout the state, new and experienced, will gather at the Arizona State Capitol to learn and advocate and to meet with their state legislators to express support for better water policies to protect our rivers and streams. Each team will be led by an experienced leader.

Please join one of our teams to meet your legislators and to learn more about what you can do! You can come for an hour or two or stay all day.

**For more information and to RSVP,
contact Sandy Bahr at 602-253-8633 or sandy.bahr@sierraclub.org.**

Sign Up for the Electronic Newsletter!



Help save resources and money by signing up for the electronic newsletter! Send an email with your full name and membership ID (8-digit number on your mailing label) to CanyonEchoESub@gmail.com. You will then receive an email when issues are available online.

Get Involved with Phoenix ICO!

Sierra Club Inspiring Connections Outdoors (ICO) is a community outreach program that provides opportunities for urban youth and adults to explore, enjoy, and protect the natural world. ICO is dedicated to providing outdoor opportunities to people that would not otherwise have them, including low-income youth of diverse cultural and ethnic backgrounds. ICO is made up entirely of volunteer leaders who organize a variety of outdoor adventures, including hiking, camping, mountain biking, caving, and service learning for people of all ages and abilities. Through these outings, participants are introduced to the wilderness, Sierra Club and its values, and how to tread lightly by using Leave No Trace ethics.



Photo by Lisa Vaaler.

You’re invited to get involved! Phoenix ICO needs dedicated volunteer leaders who enjoy hiking and exploring the wilderness with children. Our 2015 fall outings included Aspen Loop Trail, Kachina Peaks Trail, Agua Fria National Monument, and Hieroglyphic Canyon. If you are unable to donate your time, we can always use monetary donations for supplies; please see our website below to donate.

We have monthly meetings from September–May at 7 p.m. on the first Wednesday of every month at Lux Coffee House, located in Central Phoenix. You can also sign up for our monthly meetings by visiting/joining our Meetup site through Sierra Club.

For more information, please visit our website at <http://content.sierraclub.org/outings/ico/phoenix>, our Facebook page at <https://www.facebook.com/PhoenixICO>, or contact Lisa Vaaler, Phoenix ICO chair, at 602-468-4158 or LVaaler1@gmail.com.

Protecting and exploring wilderness needs to be instilled in our youth for future generations. Hope to see you out on the trails with our urban youth! Thank you!

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Grand Canyon Chapter Celebrates 50 Years at Picnic

By Sandy Bahr



2015 chapter award winners. Photo by Dan Millis.

Thank you to everyone who made this year's annual picnic a smashing success! We had more than 80 participants who enjoyed a lovely afternoon and good food in the Rio Salado Restoration Area. After the event, about 30 people, some of whom came later, helped with a service project to plant native species and dig out invasive grasses. In addition to celebrating some amazing and dedicated volunteers, we also took time to pause and celebrate the Grand Canyon Chapter's 50th anniversary as a chapter and to recognize **Roy and Frances Emrick** as 50-year members. It was a wonderful reminder of how many people help day-in and day-out and over long periods of time to make Sierra Club one of the best grassroots environmental organizations in the country.

This year's awards went to the following outstanding and extremely effective volunteers:

- Behind the Scenes – **Michelle Lund**
- Outstanding Service – **Catalina Ross**
- Outings – **Pete Weinelt**
- Outstanding Youth – **Larissa Diaz**
- Conservationist of the Year – **Cyndi Tuell**
- Environmental Law – **Ted Zukoski, Earthjustice**
- Environmental Partner – **Great Old Broads for Wilderness**
- Leadership – **Jim Vaaler**
- Lifetime Achievement – **Don Steuter**
- Steve Pawlowski Memorial Award for outstanding work to save Arizona rivers – **Tricia Gerrodette**

In addition to thanking and recognizing the work of volunteers, we also want to recognize those who helped make the picnic a great success, including **Bev Full** for helping with the awards; **Tiffany Sprague** for helping with nearly every aspect, including organizing the awards, picnic, and general logistics; **Jennifer Martin** for helping to arrange an amazing venue and organizing an outstanding service project; **Brian Miller** with the City of Phoenix who helped get the venue, tables, and chairs and gave an informative briefing on the Rio Salado; and many more who helped set up, clean up, and cook.

Thank you for a fantastic year and for an amazing 50 years. We appreciate the service of each of you as we look forward to the next year and the next 50 years of the Grand Canyon Chapter's work to protect Arizona's environment.

Sandy is Chapter Director.

Cast of Characters

Russell Lowes Energy Advocate

The roots of Russell Lowes's environmental activism can be traced to his first experiences with hiking at age 10. That was a long time ago, but Russell still hikes at least once a week.

Russell is the Rincon Group Energy Committee Chair and is a leading expert on renewable energy, conservation, and the evils of nuclear, coal, oil, and gas power.

While still in high school, Russell and some of his classmates at Coronado High and nearby Saguaro High in Scottsdale, formed an Arizona Wilderness Study Committee to work on getting Arizona areas wilderness status under the Wilderness Act.

After graduating and attending a semester of college, Russell and a group of his friends went on a 10-week backpacking trip in and around Grand Canyon. There, Russell witnessed and learned about the extremely negative impacts on that region of its coal mines and pollution-spewing coal-fired power plants. Back home in Tempe, Russell decided to research nuclear power as a possible alternative to coal and fossil fuels. It took him approximately two weeks to learn that nuclear power was a very dangerous and expensive "boondoggle." He and others founded Arizonans for Safe Energy, and it joined other local groups in opposition to the huge Palo Verde Nuclear Generating Station, to be built (and later completed) about 50 miles west of Phoenix.

At the same time, Russell worked with Sierra Club members and other activists on Citizens Concerned About the Project – the Central Arizona Project, which uses fossil-fuel power to pump Colorado River water 336 miles to the Phoenix and Tucson areas.

As Palo Verde construction proceeded, Russell led a group of 16 activists who were able to round up some funds for in-depth research of the nuclear plant's costs and long-term dangers.

In 1979, the group, Power Plant Analysts, published a book, *Energy Options for the Southwest*, which included damning data



Russell Lowes. Photo by Paul Lowes.

about the costs and dangers of Palo Verde. It remains Russell's proudest accomplishment as it persuaded some California utilities to get out, or stay out, of the Palo Verde project.

Russell went on to a career as a financial expert, primarily for non-profits. He worked for Gentle Strength Food Cooperative in Tempe and did finance advising for food cooperatives in Seattle. He formed his own one-person business in Seattle, advising non-profits and small businesses on accounting and financial management. He later moved that business to Boulder, Colorado.

In 1995, Russell moved to Tucson and became the financial officer of Community Radio KXCI. He then moved to Food Conspiracy Cooperative and, for the last several years, has worked in accounting for local social service agencies, currently for Intermountain Centers for Human Development.

A Sierra Club activist since 2006, Russell is a member of the Rincon Group Executive Committee. He delivers public presentations frequently on energy issues and, with Rincon Outings Chair Mitch Stevens, on unique Arizona outings. He also is on the board of Physicians for Social Responsibility Arizona.

Thank You to Our Donors!

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NOTE: This list includes donations received from September 8 through December 9, 2015.

Thank you to Tanya Surawicz & Bill Paul for donating in memory of Serge Surawicz.



Thank you to our monthly donors!

Michael Baldwin	Dan Millis
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Linda Crouse	Kathryn J. & David Schwarz
Roxane George	John Seamon
Anntoinette & John Gurvin	Dustin Wolkis
Elizabeth Harrison	

A Conservation Legacy!

Thank you, David McCaleb, for helping Sierra Club while you are here and after you are gone!

Recently, Chapter Treasurer David McCaleb, in addition to working on the Grand Canyon Chapter's budget, helping with fundraising, and a myriad of other volunteer activities, decided to do some "Planned Giving." What does that mean? It means that he has named the Grand Canyon Chapter in his estate, so he will keep giving to our chapter after he is gone. When asked why he named the Grand Canyon Chapter, he said, "As Chapter Treasurer, I have seen how much of a positive impact bequests have made to our chapter finances, hence our ability to protect Arizona's special places and wildlife. I don't know of another organization where my estate dollars could have the impact that they would with the Grand Canyon Chapter of Sierra Club."

Please consider a conservation legacy to support the work of the Grand Canyon Chapter in Arizona. More information is below.



Tavasci Marsh, Tuzigoot National Monument. Photo by Scott Sprague.

Thank you to our Arizona Water Sentinels supporters

Sandy Bahr & Dave Komm
Dian Bentinck
Mimi & Robert Davidow
Tim Flood
Olivia & Paul Getty
Thomas Hildebrandt
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Frances Howard
A. Leis
Joe & Dianne Leis
David McCaleb
Alice & Karl Alice Stambaugh
Don Steuter
Kathy Ann Walsh
Sierra Club – Palo Verde Group
Sierra Club – Saguaro Group



The Sierra Club's Grand Canyon Chapter thanks and very much appreciates the **Wilburforce Foundation** and all it does for our Restore and Protect the Greater Grand Canyon Ecoregion project and **Edwards Mother Earth Foundation** for its support of our energy efficiency work. Mil gracias!

Thank you to the following for donating to protect Arizona's borderlands



Organ Pipe Cactus National Monument. Photo by Beth Ann Krueger.

Esther Almazan	Sharon McDonough-Means	Virginia Ryan
Keith Bagwell	Robert & Julia Millis	Tallie Segel
Sandy Bahr	Laurel Moorhead	Catherine Sharar
Karen & John Cusano	Laurel & David Nicol	Michael & Sally Shore
Roy & Frances Emrick	Elna Otter	Irwin Zim
Heather Marshall	John M. Pifer	Sierra Club – Rincon Group
David McCaleb		

The Grand Canyon Chapter is also thankful for the generous support from those who chose to remain anonymous.

Work to Save Oak Flat Continues

By Sandy Bahr



Oak Flat, a place that has been protected from mining for 60 years, is now imperiled due to the political shenanigans in Washington, DC. In December 2014, Senator John McCain helped sneak land swap provisions into an unrelated must-pass piece of legislation, the National Defense Authorization Act. Without intervention or reversal of the swap, Oak Flat – located east of Superior on our public land, Tonto National Forest – will be conveyed to Resolution Copper Mining Company, a company of mining giant Rio Tinto. While there will be some National Environmental Policy Act analysis of the mine, not so for the land swap itself. Congress conveniently bypassed that.

If the land is conveyed, Oak Flat will no longer be available for hiking, climbing, birdwatching, camping, picnicking, and more. The cultural aspects of the area could be destroyed as well. Real threats posed by the mine include land subsidence (the land physically dropping several feet), dewatering of nearby perennial waters such as Devil's

(Gaan) Canyon, and a massive pile of heavy-metal laden tailings on other parts of our national forest. The lands offered in this swap do not meet the standards of Oak Flat and cannot replace this culturally-significant and biologically-rich area.

While the work to stop the swap has gotten more difficult, the effort to save Oak Flat is not over. Subsequent to the bill's passage, a new and larger group of activists has become engaged. Apache Stronghold has organized marches, protests, and rallies in Arizona and throughout the country, including in Washington, DC, and people from around the world have expressed their outrage at this bad land deal. Congressman Raúl Grijalva, a staunch opponent of the swap from the beginning, has stepped up again by introducing a bill – H.R.2811 Save Oak Flat Act – to repeal the proposed land swap; more recently, Senators Bernie Sanders, Tammy Baldwin, and Martin Heinrich introduced an identical bill (S. 2242) in the Senate. Both bills would reverse the land



Devil's Canyon. Photo by Sky Jacobs.

swap to keep the land with the American people and to keep Oak Flat protected and available for the cultural purposes of several Native American tribes. While getting these bills through a Congress that has not shown much interest in protecting lands will be tough, it is important to have these bills out there to send the message that no one is giving up. Meanwhile, Sierra Club and our partners are exploring additional options to keep Oak Flat from being destroyed by this mining giant.

We must continue to work hard to stop this land swap. Please call or email Senators McCain and Flake and your member of Congress and ask them to support repeal of this bad deal. Contact them even if you think they may not listen as we must hold them accountable for their actions and make sure they know that the people of Arizona do not support this outrageous squandering of public resources and destruction of this sacred area.

Sandy is Chapter Director.

National Parks: Places to Learn – Places to be Proud of

By Thom Hulén



Thinking about the 100th anniversary of the national parks has resurrected fond memories of my many experiences visiting most of Arizona's parks and monuments managed by the National Park Service. Several visits were just for fun, usually part of my explorations of various parts of the state in search of plants, animals, archaeological sites, great vistas, and satisfying notions of plain old pride knowing that I live in a country where most of us value our priceless natural and cultural heritage and have the evidence to support that pride. No other country has a national park system like ours. I agree with the sentiment stated in the title of Ken Burns's six-part documentary "The National Parks: America's Greatest Idea."

Throughout most of my life, I have been interested in Arizona's ancient people, particularly the Hohokam people of southern Arizona. Reading about ancient cities and people provides lots of knowledge gained by the experience of scientists and



Tonto National Monument. Photo by Will Moore.

explorers, but actually visiting the sites put me in a context that creates a multi-sensory learning experience.

I recall vividly my first "Backcountry Tour" at Casa Grande Ruins National Monument. Backcountry tours were only offered as a special event during which the

or undecorated sherds. People, many not knowing better, collect artifacts laying on the surface (which is illegal on public lands). Painted or decorated sherds are more sought after, so it is not unusual to find sites stripped of decorated types. At Casa Grande, there were hundreds if not thousands of sherds, many of which were decorated, representing many different periods of Hohokam life.

At Tonto National Monument, I saw for the first time an example of Hohokam-Salado hand-woven cotton cloth. I had read about Hohokam textiles and had seen photographs, but seeing the cloth in person was a treasurable experience.

Our national parks are museums that preserve and exhibit the components of our national identity. They are places where people can meet and share the gifts of our forebearers – places that we need to preserve so that future people can learn and just gasp at the awesomeness of our national heritage.

Thom is a conservation advocate.

Dark Clouds on the Horizon – National Park Service Copes with Climate Change

By Tyler Kokjohn



Grand Canyon National Park and Glen Canyon National Recreation Area, as we experience them today, are the results of human decisions and actions. Notwithstanding an impressive ability to engineer the environment and regulate Colorado River flows, the managers of these tracts are now facing an uncertain future dealing with completely uncontrollable whims of climate change.

Summer visitors to Lake Powell may find it hard to fathom that much of the Colorado Plateau region is desert dry. Although harsh and variable weather is normal in the best of times, the Southwest has recently experienced precipitation shortfalls below recent norms. Climate scientists suggest our region may become warmer, increasingly arid, and subject to more extreme drought periods. Persistently diminished precipitation in the Colorado River watershed has already resulted in substantial changes in water management procedures and has exposed that this critical resource is insufficient to meet regional demands under drought conditions. How dwindling water resources might be allocated if droughts become more frequent or extreme is unclear.

Managers of park and recreation areas tasked with resource conservation already face a difficult task coping with unpredictable weather conditions. Animals such as desert bighorn sheep are heavily impacted by weather pattern changes that simultaneously decrease essential water sources and reduce forage. Safeguarding bighorn sheep already demands constant surveillance to identify herds at greatest threat and proactive actions to ensure populations remain resilient. If the climate modelers are correct, we should expect to see what is already a challenging situation grow increasingly difficult.

Grand Canyon National Park and Glen Canyon National Recreation Area may be harbingers of the complex challenges imposed by a changing climate. Simply preserving biodiversity in the face of extreme drought that reduces or eliminates water sources and favors wildfires would represent an enormous undertaking. However, mitigating the impacts of across-the-board and permanent climate change on dynamic ecosystems is complicated by multiple unknowns. The inability to confidently predict the broad outline of future weather patterns



Hite Marina, Glen Canyon National Recreation Area. Photo by Alicyn Gitlin.

makes it utterly impossible to anticipate what is coming. Will we see deserts overtaken by grasses? Perhaps deserts will expand if piñon-juniper forests recede, or maybe invasive species will come to the fore and produce a novel drought-tolerant ecosys-

tem. Even in the unlikely event that long-term weather prediction becomes an exact science, our land managers will be forced to await climate change developments and to react to them as best they can.

Tyler is a PubCom member.

More than Lightbulbs

By Elna Otter



People ask what they can do to stop the advance of climate change. They understand that weather is getting hotter, the air carries more moisture, and we are simultaneously getting more flooding events, droughts, and forest fires. The Arctic is melting and, in so doing, is allowing more exposed ocean to absorb even more heat from the sun.

We can do more than lightbulbs! On an individual level, one can do a home energy audit and think seriously about how to personally cut back in other areas, such as transportation, whether this means a different car or a different mode of travel. There are vari-



ous sites available online to help find areas one might have overlooked.

Equally important are our actions in the world beyond ourselves. Government is crucially important in that it sets the rules by which everyone must play. At present, efforts to add subsidies for renewable energy are derided, while any mention of cutting the truly gigantic subsidies to fossil fuel businesses is met with horror. State-wide, the Arizona

Corporation Commission is being asked to penalize homeowners who have installed solar panels or who plan to. All of those politicians should be aware of the importance of renewable energy.

Furthermore, government can support businesses that help in slowing or stopping climate change. It really is important that we

have Energy Star® appliances, plug-in and hybrid cars, and good cheap insulation. The government can support research and institute tax policies to make improved products available.

The government can also disseminate information to schools and the general public so that citizens are more aware and better educated about climate change solutions. It also helps if industries – from General Electric to General Motors – know that we want them to work on such things and that we'll support them by purchasing such products.

And, finally, taxes. There are several individuals and organizations who advocate a carbon tax with a 100% rebate. The way that works is that carbon is taxed when it is removed from the earth. The taxes collected are returned to the populace with everyone getting an equal share. It doesn't make any

difference where the carbon originates. It doesn't make any difference whether an individual personally saves energy. The way to "beat the system," though, is clearly to get the tax rebate and not spend money on carbon – or, in other words, find a way to get around using carbon.

I love being part of Sierra Club because the club helps in many of the ways listed here. We are a source for information about personally saving energy. We do the research and help local people have the knowledge to participate in local decision making. We advocate at all levels politically. (We also had a delegation at the international talks in Paris.)

At the People's Climate March in New York City last year, we said, "To Change Everything, We Need Everybody." The club is acting on that belief.

Elna is a climate activist.

A Lot to Celebrate; A Lot to Do

By Alicyn Gitlin



The two of us traversed precariously-slanted ledges above stomach-grabbing drops into thousands of feet of abyss. We hurried over the esplanade, stepped carefully down scree-covered ledges. We climbed slickrock waterfalls and found secret pools of musical water. We sat quietly, trying to hear the silence. We laughed at the rain, raced from lightning, and contemplated sunsets filled with heavy clouds. We searched for water. It poured down on us, raced through ravines, swelled dry creek beds, challenged our raingear, and dressed Grand Canyon in lush green, shimmering silver, shiny pink, and glimmering gold.

The route we were taking had a story to tell, and we had to listen.

Grandview Trail is a beautiful three-mile hike to the remnants of a copper mine. Unfortunately, signage warns that the mine tailings contain more than just pretty traces of green and blue copper minerals; radioactivity emanates from the waste rock. Cleanup is difficult and expensive. An arm of the trail crosses directly through the radioactive area.



©Taylor Miller

Below Horseshoe Mesa, we camped next to idyllic Cottonwood Creek. This year's wealth of precipitation graced us with healthy flow and leafy trees. We were lucky. Cottonwood Creek was once a perennial stream, but after wells were drilled to serve the Town of Tusayan, south of Grand Canyon, its flow became intermittent. There is no proof that the wells caused the flow to decline, but it preceded our regional drought by several years, resulting in suspicion. We worry about Tusayan's plans for expansion and a plan to drill a large new well at Grand Canyon Airport.

Travelling west, we passed Grapevine Creek with its paradise of hanging gardens in a hidden slot canyon. We crossed Lone Tree Canyon, again finding water. Even though we met our daily needs, each of these Colorado River tributaries have small flows – just a few gallons per minute – and new wells to the south could easily deplete them.

We continued to Garden Spring, where Havasupai farmers once tended to lush fields, before the Na-



©Taylor Miller

tional Park Service forced them to leave. We asked each other tough questions and decided we must prioritize traditional uses in future park and monument designations.

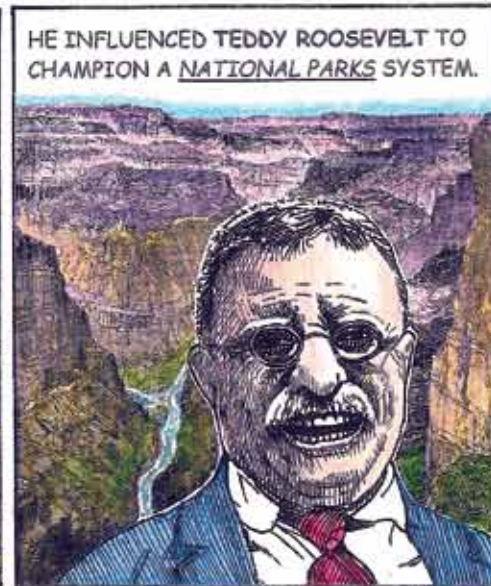
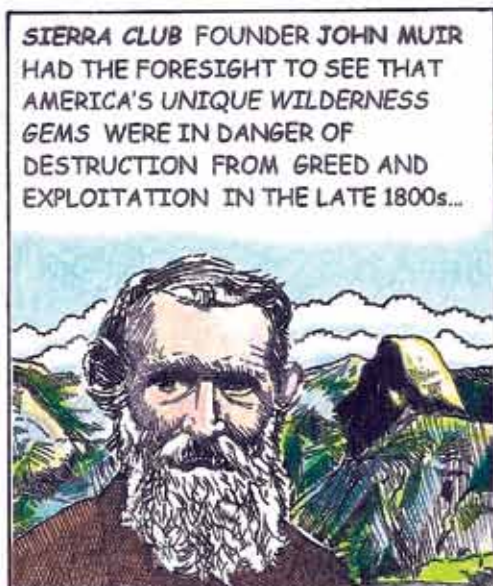
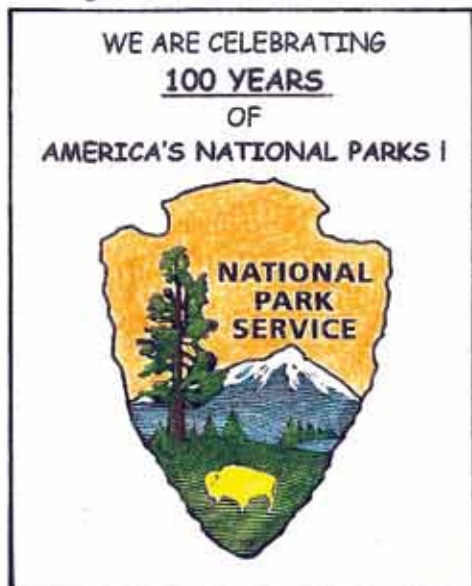
The final water source we visited was Horn Creek. It looks like the rest but carries invisible poison. Orphan Mine above has been "restored," but we don't have the technology to remove uranium contamination from the water below; as a result, Horn Creek and Salt Creek are both considered unfit for drinking or bathing. We wonder about the wildlife that hasn't been warned.

We think about all the walking we've done and wonder how it would be different – or even possible – without clean water.

We've protected Grand Canyon from a lot of destruction – bad development projects and dams – but cannot reverse damage already done. Tusayan's massive development plans, Grand Canyon Airport's proposed "modernization" and well, and hundreds of uranium mining claims loom. We have a lot to celebrate, but we still have so much work to do.

Alicyn coordinates the chapter's Grand Canyon Protection Campaign.

Beyond the Slab – CELEBRATING 30 YEARS OF PUBLISHED ECO-AWARENESS!



Canyon etching courtesy: J.W. Powell expedition 1869-1872

By Greg Pentkowski



11/29/15
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Other Agencies Manage Some National Monuments

By Keith Bagwell



Until 1996, the National Park Service (NPS) managed all national monuments as well as national parks. This is no longer the case; since 1996, other federal agencies have been managing national monuments.

National monuments are managed much like national parks. Congress can create national parks or monuments; presidents can also create national monuments under the 1906 Antiquities Act. The NPS managed national monuments until, in 1996, President Bill Clinton created Grand Staircase–Escalante National Monument on Bureau of Land Management (BLM) land in Utah. Prior to that time, the BLM had managed lands under its jurisdiction for exploitation – mining, logging, grazing, and oil and gas extraction. Clinton ordered the agency to conserve and restore the Grand Staircase–Escalante landscape for its biological and cultural resources.

In 2000, the BLM created its National Landscape Conservation System to guide management of National Conservation Lands in its monuments and other special areas. The system's mission is to “conserve, protect, and restore these nationally significant landscapes that have outstanding cultural, ecological, and scientific values for the

benefit of current and future generations.” President Barack Obama, in March 2009, signed into law Congress' National Landscape Conservation System Act, which codified and expanded BLM's system.

Some national monuments are now under jurisdiction of the Forest Service or the Fish and Wildlife Service.

There are 18 national monuments in Arizona; the NPS manages 13 of them, many of which will be highlighted in *Canyon Echo* during the 100th anniversary of the agency. The BLM manages five national monuments in Arizona that Clinton created:

Agua Fria National Monument, created on January 11, 2000, is 72,344 acres, located 40 miles north of downtown Phoenix. More than 450 distinct Native American structures are found here, including some large pueblos of at least 100 rooms each.

Grand Canyon–Parashant National Monument, created on January 11, 2000, is 1.05 million acres on the northern edge of Grand Canyon National Park. This remote land had no paved roads and no visitor services. The NPS manages 208,453 acres of this monument, which also contains 23,205 acres of State Trust land.



Agua Fria River, Agua Fria National Monument. Photo by Scott Jones.

Ironwood Forest National Monument, created on June 9, 2000, is 188,619 acres of land rising from the Sonoran Desert just northwest of the Tucson metropolitan area. Named for its forest of ironwood trees, it also is home to two endangered species and more than 200 Native American archaeological sites.

Vermilion Cliffs National Monument, created on November 9, 2000, is 293,689 acres bordering the Utah state line

in northern Arizona. The Vermilion Cliffs are on the south and eastern edges of the monument, which also includes Paria Canyon and the Paria Plateau.

Sonoran Desert National Monument, created on January 17, 2001, is 496,400 acres of classic Sonoran Desert land south of Goodyear and Buckeye and east of Gila Bend. Home to several endangered species, this monument also boasts three wilderness areas.

Keith is Rincon Group Conservation Chair.

Adventuring at Nankoweap

By Mitch Stevens



Nankoweap. Photo by Mitch Stevens.

For hikers who want to experience raw adventure and avoid crowds, trekking Nankoweap at Grand Canyon is an epic trip. Spectacular geology, Colorado rapids, and

out-of-this-world views are the calling cards of magnificent Nankoweap.

At 4.5 miles, wonderful and unbelievable panoramas will unfold atop Tilted

Mesa. The visible green ribbon along Nankoweap Creek lays 2,500 feet below. Here, you're surrounded by incredible geology reaching into our planet's past from 300 million to 750 million years ago. The forks of Nankoweap Creek reach far back toward the plateau, each separated by colorful rocky ridges and lofty buttes. The most striking of these buttes is Mt. Hayden, a distinct and slender 400-foot Coconino sandstone spire rising to an elevation of over 8,000 feet. Three hours of steep descent will lead to the banks of Nankoweap Creek, a great place to camp.

The route down-canyon to the Colorado River is simply following the creek and taking the path of least resistance. You will cross the small flowing stream numerous times. When the canyon becomes more

confining downstream, high cliffs of Redwall Limestone soar above, and there are beautiful exposures of Muav Limestone and Bright Angel Shale. After 2.5 miles, the landscape opens up into a broad delta. Your first view of the emerald green Colorado River in the distance is mesmerizing. Not only can you finally see the river but you'll hear the roar of Nankoweap Rapids, amplified by the red and tan walls of Marble Canyon.

Should Grand Canyon be included on your bucket list? Most certainly. And the spectacular and uncrowded Nankoweap Trail is one of the best ways to experience the real Grand Canyon, the raw and unspoiled grandeur of this most magnificent gorge, one of the seven natural wonders of the world.

Mitch is Rincon Group Outings Chair.

Interview with a National Park Service Employee: Tina Greenawalt Biologist and Acting Chief of Resources, Montezuma Castle and Tuzigoot National Monuments

When and why did you decide to work with the National Park Service (NPS)?

Growing up, I spent many summers hiking around Acadia National Park in Maine with my grandparents. My grandpa taught me a lot about birds there, and I just loved being outside. I didn't realize I could make a career out of it until I was a sophomore in college and started volunteering at Everglades National Park. It became my goal to eventually work for the NPS. Once I graduated, I worked for the State of Florida and then in the private industry before getting a job with the NPS in 2012.

Did you work with other NPS units before your current position?

Other than volunteering at Everglades National Park, I did an internship at Hawaii Volcanoes National Park when I was a senior in college and then started my career with NPS at Tonto National Monument, which is a small park east of Phoenix.

Tell us a little about your park.

Montezuma Castle and Tuzigoot national monuments are located in the Verde Valley of central Arizona. Montezuma Castle was built in early 1100 AD by the

Sinagua and was occupied until around 1400. Its sheltered location in a cave means it's very well preserved. It's really neat to see and well worth a visit if you're in the area. Montezuma Well is about 11 miles north and is my favorite location to work at. The Well is really neat because it's an artesian spring in a limestone sink, and about 1.5 million gallons of water flow into the Well daily and then out through a cave into a prehistoric irrigation canal. It's set near Wet Beaver Creek, which has a really nice riparian area full of giant Arizona sycamores and cottonwood trees. Tuzigoot National Monument in Clarkdale is the remains of a multi-story Sinaguan village that was built beginning around 1125 AD. The pueblo is in a beautiful setting on a hilltop overlooking Verde River and Tavasci Marsh.

We have a wide variety of projects we're currently working on. There are several restoration projects that involve removing invasive species and planting native species that are grown in our greenhouse. We also have a variety of wildlife projects including mist-



Tina removes a bat from a mist net. *Courtesy of Tina Greenawalt.*

netting bats, conducting surveys for threatened northern Mexican gartersnakes, and various bird surveys. We will also be starting a hummingbird banding station in the spring, which is really exciting. And we're always looking for volunteers to help with our projects!

Describe a challenge that your park faces and what is being done to address that challenge.

One of my biggest challenges is managing invasive plant species in both of our

park units. It's a constant effort that begins in February and generally lasts until November each year. We're making slow progress, but it takes a large amount of assistance because our staff is fairly small. Volunteers and Youth Conservation Corps have helped a great deal in the effort to keep the invasives from spreading throughout the park.

What are your favorite aspects of being an NPS employee? Favorite aspects of your park?

The mission of the NPS is to preserve the natural and cultural resources of the parks for future generations; I really enjoy being a part of that mission. Knowing the work I am doing is helping to preserve these special places for many years to come is important. One of my favorite aspects of the parks I currently work in is the variety of habitats, which include desert scrub, riparian, and wetland. The variety of habitats means a wide variety of species that use those habitats, which makes my job more challenging in managing the variety we have for the small amount of land our parks cover.

Monitoring the Verde

By Kaela Hamilton

Recently, as a senior in high school, I decided it was time to take action in environmental conservation initiatives. How to do this? At first, I had no idea. But the answer was right in front of my face, an easy and helpful way to aid in the health of our desert environment: Join Sierra Club in its monthly Verde River water monitoring excursions.

Sandy Bahr, Chapter Director, was supportive and enthusiastic for my signing up. All I had to do



Kaela Hamilton tests dissolved oxygen in the Verde River. *Photo by Kathy Ann Walsh.*

was contact her about volunteering opportunities. When I expressed interest in the Verde River monitoring, she signed me up and assigned a group.

My father, who is an environmental scientist, and I left early Saturday morning and took the hour drive to Camp Verde, where we met up with Kathy Ann Walsh, another volunteer, and a Sierra Club college intern, Joseph Catalano. It was a short drive to the first Verde River site. As we walked down to the water's edge, Kathy and Joseph gave us the run-down on what to do, and I picked up litter.

Being a first-time volunteer, I took on the job of recorder. As Joseph waded into the river and sampled the dissolved oxygen levels, *E. coli* concentration, water temperature, and other important river characteristics, I documented results in a small notebook. After he made it back to shore, our little group took notes on the general health of the river, noting debris blockage, water color, water flow, and river grass conditions, as well as any visible native fauna.

At the second site (just a few minutes down the road by car), I was elated to take the opportunity to don the waterproof jumpsuit and make my way to the center of the river. Luckily, it was pretty shallow, so I

See Verde continued on p. 13.

Youth Activist Larissa Diaz Helps Take TEP to Task

By Anna Rose Mohr-Almeida



Larissa Diaz, recipient of the chapter's 2015 Outstanding Youth Award, is a charming and delightful high school senior from Tucson. Larissa became involved with climate crisis activism and Sierra Club after Dan Millis visited her school to discuss Tucson Electrical Power's (TEP's) rate case and proposal. Larissa felt "deeply concerned" about TEP's rate plans because Tucson's solar businesses would be seriously harmed. A spark was lit in her heart, and she had to do something. So Larissa wrote an op-ed piece for *Arizona Daily Star* and discussed why TEP should withdraw its proposal. Larissa also addressed the San Juan Generating Station in New Mexico and the Sundt Plant in Tucson, which made low-income communities in south Tucson sick.

Two days after Larissa's article was published, TEP decided to address solar in its rate case rather than separately. The postponement was not a solution, but it bought Tucson activists time to write letters to the Arizona Corporation Commission and *Arizona Daily Star*. David G. Hutchens, CEO of TEP, publically responded to Larissa's op-ed piece. Approximately two months after her piece was published, TEP stopped burning coal at the Sundt plant. Larissa said the coal-fire shutdown "was a huge success for everyone who was in the #SolNotCoal fight,



Larissa Diaz. Courtesy of Larissa Diaz.

and the increased public involvement helped push TEP to stop burning coal."

According to Larissa, a big part of addressing the climate crisis involves "healing the people we have harmed. It is extremely important to engage marginalized communities in the process because doing so broadens the pool of potential climate crisis solutions." Larissa believes people sometimes don't become involved in activism because they don't know about the issues and opportunities, which Larissa calls "a troubling gap where information is not being shared with everyone." To help close this gap, Larissa teaches and involves young people in climate activism.

Larissa believes young people really want to help find solutions, and they "bring enthusiasm, talents, and innovative ideas to the climate crisis conversation. It helps if young people know that their efforts can make change happen, whether they immediately see that change or not. Young people make a difference by standing up and voicing their opinion. I like the feeling of knowing I can make a difference, whether I have a team or not. It all starts with a vision, and action turns that vision into reality."

Larissa is enthusiastic about hiking in the wilderness surrounding Tucson. "I enjoy the freedom and connection I feel to both myself and the wilderness. I love how healing can come from the wind, the trees, the sound of birds chirping, or the warm sun kissing my skin. I enjoy being able to slow down and get away from city life."

After graduation from high school, Larissa plans on traveling to Ecuador with a mentor who will help her with environmental conservation projects in the United States. Larissa plans to study Environmental Studies and Sustainability at Arizona State University.

Anna Rose is a youth climate crisis activist. Visit her blog at <https://kidsclimateactionnetwork.wordpress.com> to connect.



Destination

would I have had
your inspiration
when at your age, so young
and beloved by some grantors
blessed deeds, I might have done

summoned by starlit trails
I might have followed then, as
now, to serve belated manifest
epiphany, a clarion
for time – to be my best

adjoining your accomplishments
with camaraderie, in stride
a mighty mission to excel
is not to steal your thunder
nor evade, perhaps, repel

a cause to thrive,
this organ, from which we
all, do perish
by reverence or nonchalance
wild cat calls, free bird songs to
cherish!

hypocrisy dressed in mourning
bemoan ourselves, our final
parade with heavy veil
tolling drones no more subdued
by the wailing of a whale

–Cynthia Bennekaa

National Parks continued from p. 1.

led to protection of Fort Bowie and Hubbell Trading Post. All three national parks – Grand Canyon, Petrified Forest, and Saguaro – began as presidentially proclaimed national monuments. Other lands around Grand Canyon were later proclaimed a NM in 1932, and Marble Canyon was proclaimed a NM in 1969 (a protection move in response to proposals to build additional

dams). These lands were incorporated into a larger Grand Canyon National Park in 1975, and the area was inscribed as a UNESCO World Heritage Site in 1979.

Efforts to protect threatened landscapes continue in current drives for new national monuments. More information about each of these areas can be found at <http://www.nps.gov>.

Meg serves on the Rincon Group Executive Committee.

Classified Ads

(To inquire about advertising, contact 602-253-9140 or tiffany.sprague@sierraclub.org.)

FOR SALE. The right place for the right person. Live simply, off the grid near Ajo, AZ. The few neighbors you'll have will respect your wishes for solitude and to live in nearly pristine natural desert. 38 acres with house, garage, and 2 outbuildings for office, workshop, and/or studio. The right price for the right person. \$300,000 negotiable with possible rent-to-own option. Call Daisy at Copper Crown Realty 520-387-5631. Serious inquiries only, please.

FOR RENT. Cabin & Airstream trailers at Blue River Wilderness Retreat near Alpine, AZ. Pines, flowing streams bordered by National Forest. Outstanding hiking, fishing, & birding. Wireless access. Reasonable rates by week or month. www.blueriverretreat.com – janie.r.hoffman@gmail.com – 928-339-4426.

Happenings Around the State

Six groups make up the Grand Canyon Chapter. All the events and meetings listed below are open to members interested in learning more about the Sierra Club. You can find out more at our website: <http://www.sierraclub.org/arizona/events-activities>. Schedules are subject to change. (x) Group ExCom members

Palo Verde Group (Phoenix)

<http://sierraclub.org/arizona/palo-verde>

Chair/Programs:	Michael Brady (x)	480-990-9165	pvg.chair@gmail.com
Vice-Chair:	Fareed Abou-Haidar (x)	480-345-1779	fdadlion@cox.net
Treasurer:	Jerry Nelson (x)	602-279-4668	peakbagger2@gmail.com
Secretary:	Blair McLaughlin (x)	602-618-8591	blair.mclaughlin@cox.net
Conservation:	Don Steuter (x)	602-956-5057	dsteuter@hotmail.com
Outings:	Jim Vaaler (x)	602-553-8208	jimvaaler@msn.com
Youth-Oriented Outings:	Lisa Vaaler	602-468-4158	lvaaler1@gmail.com
Ex-Com (At-Large):	Bettina Bickel (x)		bbickel08@gmail.com
	Gary Kraemer (x)	602-373-6301	drrealitycheck@gmail.com
	Michelle Lund (x)	480-664-1069	michellelund@cox.net

JAN 7, FEB 4, MAR 3 (THU) 6:30 p.m. Conservation Committee meetings. Contact Don Steuter.

JAN 14, FEB 11, MAR 10 (THU) 6:30 p.m. Executive Committee meetings. Contact Mike Brady. Located at the Living Space at Rollover Donuts, 10 W. Vernon, Phoenix.

JAN 21, FEB 18, MAR 17 (THU) 6:30 p.m. Free monthly programs. The Palo Verde Group offers monthly programs on the third Thursday of each month from 6:30–8 p.m. Location TBD; contact for details. Monthly programs are open to the public. Visit <http://sierraclub.org/arizona/palo-verde> or call 480-990-9165 for more information.

Saguaro Group (North Maricopa County)

<http://sierraclub.org/arizona/saguaro>

Chair:	Bev Full (x)	480-221-2554	bfull@cox.net
Vice-Chair/Website:	Harry Lumley (x)	480-474-4993	lumleyhw@gmail.com
Conservation:	Dianne Leis (x)	480-432-9181	dianne.leis@gmail.com
Secretary:	Sally Howland	602-663-2889	sally_howland@yahoo.com
Treasurer:	Urb Weidner	602-595-3301	northwoods@cox.net
Outings:	Peter Weinelt (x)	623-388-2209	vitalpaw@yahoo.com
Service Outings:	Doug Murphy (x)	602-329-3690	dbmurphy@cox.net
Political:	Jim Wilkey (x)	480-649-2836	nrvgvup@gmail.com
Ex-Com (At-Large):	Lynne Cockrum-Murphy (x)	602-569-6078	lcockrum@cox.net

Contact Harry Lumley for information about the following events.

JAN 2 (SAT) 8 a.m. Breakfast discussion. Join us for breakfast in a beautiful setting at Grotto Café, 6501 Cave Creek Rd. in Cave Creek. Guest speaker Ranger Kevin Smith will discuss Spur Cross Preserve history and plans for the future.

JAN 21 (THU) 5:30 p.m. Potluck and organizational meeting. Located at the home of Harry Lumley.

FEB 4 (THU) 7 p.m. APS Green Team. Located at Phoenix Police Black Mountain Precinct meeting room, 33355 N. Cave Creek Rd. in Cave Creek. A representative from the Arizona Public Service “Green Team” will explain its solar panel energy project and answer questions about other energy saving plans.

FEB 6 (SAT) 8 a.m. Breakfast discussion. Join us for breakfast at Grotto Café, 6501 Cave Creek Rd. in Cave Creek. Our guest speaker will be Sandy Bahr, Grand Canyon Chapter Director.

MAR 5 (SAT) 8 a.m. Breakfast discussion. Join us for breakfast at Grotto Café, 6501 Cave Creek Rd in Cave Creek. Our guest speaker from Desert Foothills Land Trust will give a presentation on the caves at Cave Creek and lead an outing to the caves following breakfast.

Rincon Group (Tucson)

<http://sierraclub.org/arizona/rincon>

Chair:	vacant		
Conservation:	Keith Bagwell (x)	520-623-0269	kbagwell50@gmail.com
Secretary:	Roy Emrick (x)	520-326-7883	rmemrick@cox.net
Treasurer:	Ken Bierman	520-882-2708	kbierman1@gmail.com
Energy:	Russell Lowes (x)	520-321-3670	russlowes@gmail.com
Outings:	Mitch Stevens	520-647-3823	mitchstevens@qwestoffice.net
ICO:	Judy Rubin	520-891-3310	judyru@susd12.org
Political:	Lee Oler	520-791-9246	cloler@cox.net
Ex-Com (At-Large):	Michelle Crow (x)	520-743-9958	mcrow10@cox.net
	Randy Serraglio (x)	520-784-1504	soawsw@earthlink.net
	Cyndi Tuell (x)	520-404-0920	cctuell@hotmail.com
	Meg Weesner (x)	520-290-1723	mweesner@att.net

JAN 28, FEB 25, MAR 24 (THU) Conservation Committee (6 p.m.) and Executive Committee (7:15 p.m.) meetings. The meetings are open to the public. Sierra Club members, in particular, are urged to attend and to participate. Hope you see you there! Located in the first floor conference room of the Historic YWCA, 738 N. Fifth Ave., Tucson.

The following programs are located at Tucson City Council Ward 3 office, 1510 E. Grant Rd., Tucson. Free and open to the public. For more information, contact Keith Bagwell.

JAN 14 (THU) 7 p.m. Parks in Peril. Would you rather immerse yourself in Grand Canyon’s vastness and hear your voice echo back at you – or immerse yourself in a sea of blinking lights and booming sounds of a mega-mall? At Yellowstone, do you want to watch herds of bison graze and roam – or do you want to watch them get loaded onto trucks and shipped to slaughter? In Mojave National Preserve, do you want to see endangered desert tortoises paint their mouths red with spring flowers – or do you want to see their habitat swallowed by miles of solar panels? As we celebrate our National Park Service’s 100th birthday in 2016, we must stand up for our national parks. Kevin Dahl of National Parks Conservation Association presents on these issues.

FEB 11 (THU) 7 p.m. Restore Lower Sabino and Tanque Verde Creeks. Until the 1950s, much of Santa Cruz River and its tributary streams flowed year-round. Now the rivers and the streams that feed into them only flow after heavy rains and for short periods of time. Watershed Management Group (WVG) believes we must reclaim our water heritage and forge a new Arizona water future. WVG launched an initiative to restore perennial flow in Lower Sabino Creek and now is expanding its focus to Tanque Verde Creek. Catlow Shipek, WVG’s Policy and Technical Director and co-founder, shares how it plans to achieve this goal and what you can do to help.

MAR 10 (THU) 7 p.m. Saving Unique Sonoran Desert Plants. Since its inception in 1999, the Tucson Cactus and Succulent Society’s “Cactus Rescue” program has saved more than 76,000 cacti, agaves, ocotillos, sotols, and yuccas from the bulldozer. It makes them available to the public for low water use landscaping at reasonable cost. Salvaged plants also have found homes at Pima Prickly Park, Mission Gardens, Krutch Garden on the UA campus, several schools, and the Center for Biological Diversity’s historic Owl’s Club. The Society’s Bill Thornton explains how it saves the desert one plant at a time and how you can help.

Plateau Group (Flagstaff)

<http://sierraclub.org/arizona/plateau>

Chair:	Joe Shannon (x)	928-380-9537	jshannon278@gmail.com
Vice-Chair:	Richard Resnick (x)		rickresnick1498@yahoo.com
Treasurer:	Joan Stoner	928-853-9827	jstoner@npgcable.com
Ex-Com (At-Large):	Roxane George (x)	928-607-7369	roxane.george@earthlink.net
	Al White (x)	928-527-8567	bosco8567@msn.com

For information about activities in the Flagstaff area, contact Joe Shannon.

Sedona/Verde Valley Group

<http://www.reliablescribe.com/svvg>

Chair:	Brian Myers (x)	928-204-1703	ibisalliance@gmail.com
Vice-Chair:	Anne Crosman (x)	928-284-9252	annecrosma@aol.com
Secretary:	Carole Piszczek-Sheffield (x)	928-204-1517	cpsheffield@gmail.com
Treasurer:	vacant		
Conservation:	Tina Choate (x)	928-204-1703	ibisalliance@gmail.com
Webmaster:	John Sheffield	928-204-1517	jsheffield40@gmail.com
Ex-Com (At-Large):	Paul Rauch (x)		sequoia.tree55@gmail.com

For information about activities in the Sedona/Verde Valley area, contact Brian Myers.

Yavapai Group (Prescott)

<http://sierraclub.org/arizona/yavapai>

Chair:	Gary Beverly (x)	928-308-1003	gbverde@cableone.net
Vice-Chair/Conservation:	Tom Slaback (x)	928-778-4233	theprescottkid@cableone.net
Secretary/Treasurer:	Sandy Geiger (x)	928-710-7691	sandy.geiger@gmail.com

Contact Gary Beverly for more information about the following events.

JAN 6, FEB 3, MAR 2 (WED) 6 p.m. Executive Committee meetings. Members are welcome and urged to attend and participate in our monthly Executive Committee meetings. These are where we choose the issues we are involved with and do our strategic planning. Located at Yavapai Title Agency, 1235 E. Gurley St., Prescott.

JAN 13 (WED) 7 p.m. Capitol Conversations! Find out what the Arizona Legislature is up to – what it did and what it is doing – and how you can get involved in helping to protect Arizona's air, land, water, and wildlife from the Legislature's bad ideas and even worse legislation. Sandy Bahr – Chapter Director and designated Capitol advocate and watchdog – will share information, stories, and take your questions. Located at Yavapai Title Agency Conference Room, 1235 E. Gurley St., Prescott.

Verde continued from p. 10.

didn't get wet at all! I learned how to work the small hand-held devices for measuring river variables and how to take an accurate sample of the water.

Overall, the experience was enjoyable and informational, as well as beneficial for the environment and Sierra Club's research on the river's health. It's important that we keep track of changes in the water or sur-

rounding area, as the Verde River is a popular fishing, kayaking, and hiking destination. In addition, the dense forest of riparian trees and shrubs is one of five remaining Fremont cottonwood and Gooding willow stands in Arizona, and the area houses 26 sensitive species, including river otter, southwestern bald eagles, and lowland leopard frogs, as well as several other seasonal visitors.

Kaela is a senior in high school.

Restoration: A Fable

By Ann McDermott

It is said that there was once a time when heavy winter rains inspired a thick growth of grass in the springtime, along with abundant flowers and desert herbs. Trees dressed in fresh greenery and blossomed vigorously. But Rain is fickle. Soon the annuals withered and dried to crisp, brittle ghosts. Palo Verde lost his leaves and resorted to using his green branches to convert sunshine into food. He rattled like a hundred rattlesnakes in every whoosh of wind, for all that clung to his twigs were dried seed pods. Eventually, the seed pods split and cast his seed to the ground where they were gathered and eaten by many desert animals.

One, Antelope Squirrel, stuffed his cheeks to ten times their normal size. Then, having much more than he could possibly eat, he dashed about scratching small holes in the earth, burying a few seeds in each one. He stored Palo Verde's seeds for the time when food was scarce. Then he'd return to fill his belly on his hidden treasure.

But Antelope Squirrel sometimes outsmarted himself. He hid his seed so well he forgot where they were. Some of his storage rooms remained hidden, as the drought and heat progressed.

Summer winds thrashed and roiled. They built up clouds, which managed to rumble with thunder and split with lightning but never brought the showers for which Earth thirsted.

Then, one afternoon, lightning struck Palo Verde. His great trunk was severed, and his limbs crashed to the ground. Flames flickered in the dried grasses at his roots for a moment or two, before bursting into a tidal wave of fire that raced up the gully. The wall of fire swallowed everything in its path. In the aftermath, only smoking ashes and the skeletal remains of trees stood against the



Flowers on a palo verde tree. Photo by Tom O'Leary.

horizon. The blackened world held not one sign of life. Palo Verde was dead.

Then, finally, Rain. Earth had a belated drink. Rain fell in a great, soaking drizzle, easing closed the cracks in the aching dry soil and gathering in shallow depressions to form puddles.

Some of those puddles were in the holes where Antelope Squirrel had buried and then forgotten his store of Palo Verde seeds. Within a few days of Rain's tardy appearance, they sprouted. Five or six seedlings here, five or six more there. A new forest of Palo Verde trees was in the making, courtesy of Antelope Squirrel. Unbeknownst to him, he helped restore Palo Verde to the gully stripped of life by the fire.

When we create national parks, we plant seeds. When we visit those parks, Soul is restored.

Ann is committed to the fable as an art form that reaches across rational mind limitations.

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JAN 2 (SAT) "B" White Tank Mountains (9 mi.). This hike will take us into the heart of the White Tank Mountains west of Phoenix. We will follow the Ford Canyon and Mesquite Canyon trails, which will offer plenty of up- and downhill travel as well as interesting sights and fine views. Maricopa County charges a \$6 per car admission fee. Drive 30 miles from Phoenix. Call Ken McGinty at 602-265-2854. **Phoenix**

JAN 2 (SAT) "D" Hike in Spur Cross Preserve in Cave Creek (3 mi., 100' EC). Hike with Ranger Kevin Smith. Contact Harry Lumley at Lumleyhw@gmail.com. **Phoenix**



JAN 2-3 (SAT-SUN) "C" Leafcutting Ant Project Discovery Hike in Organ Pipe Cactus National Monument (3-8 mi., <200' EC). Come for a day or for the weekend; overnight at group campsite Friday and Saturday nights. Daily meet-up at 9 a.m. sharp at visitor center parking lot. These are daytime research study data-collection hikes along braided arroyo channels in the south part of the park, through lower bajada environments. Many eyes will help our search for rare *Atta mexicana* ant colonies. Expect a very slow walking pace. Background info: <https://www.youtube.com/watch?v=QcFobBEikL4>. Contact Elna Otter at 520-212-9736 or elna.otter@gmail.com. **Tucson**

JAN 9 (SAT) "A" West Boulder Canyon (13 mi.). This strenuous hike (for strong hikers only) in Superstition Wilderness follows a primitive trail from Carney Springs through West Boulder Canyon and then to First Water Trailhead via Dutchman's Trail. This is a Brushy hike with a capital B, so gloves are highly recommended. Wet feet are also possible. This hike's bushwhacking and rock-hopping, however, are rewarded by miles of spectacular scenery and enjoyable hiking over slickrock canyon bottoms. Bring at least 3 quarts of water. Drive 60 miles from Tempe. Call Ken McGinty at 602-265-2854. **Phoenix**

JAN 11 (MON) "C" Thunderbird Park (3.5 mi. loop, 500' EC). Hike the Cholla Loop and part of the Coach Whip Trail. This hike loops around and then up to the top of a hill on the east side of the park. The last 2 miles are

a gradual downhill and offer nice elevated views of much of the west valley. Contact Pete Weinelt at 623-388-2209 or vitalpaw@yahoo.com. **Phoenix**

JAN 16 (SAT) "B" Bluff Spring Mountain (8-10 mi., 1800' EC). On this hike in Superstition Wilderness, we will take scenic Bluff Springs Trail and an off-trail route from Peralta Trailhead to the 4152' high summit of Bluff Springs Mountain. There, we'll enjoy commanding views of Weaver's Needle and the western Superstitions from several high points. Expect steep and rocky slopes' rock hopping; boulder scrambling; and wicked, spiny, and thick vegetation (leather gloves recommended). Drive 60 miles from Tempe. Call Ken McGinty at 602-265-2854. **Phoenix**

JAN 16 (SAT) "B" Agua Caliente Hill (9.25 mi. RT, 3000' EC, 6-7 hrs). This is a strenuous hike and traverses an area between the Santa Catalina and the Rincon mountains. It begins with a gradual climb that steepens. At the saddle, it features a lovely meadow area. The views from the peak are beautiful, featuring the adjacent mountains and the valley below (Tucson). Contact Colleen Colen at 520-577-4543 or cmavender@gmail.com. **Tucson**

JAN 23 (SAT) "B" Rogers Canyon (8 mi. RT). Join us for a spectacular hike in the Superstition Wilderness! In Rogers Canyon, the views are awesome, and the end of the trail holds a great reward. We will start our hike at Rogers Trough Trailhead and enjoy the great geology, botany, and scenery of the eastern Superstition. We will discuss the ecology of this high desert riparian area, as well as the archaeological aspects of Rogers Canyon. If time allows on the drive home, we'll check out a little known arch. Group limit 12. Contact Mitch Stevens at 520-991-1199 or mitchstevens@qwestoffice.net. **Tucson**

JAN 23 (SAT) "B" Elephant Head Hike and Scramble (6.2 mi RT, 2343' EC). Elephant Head (5607') is a prominent natural landmark in Santa Cruz Valley on the west side of the Santa Rita mountain range. Climbing this steep 1000' monolith will require negotiating steep trails and some class-3 off-trail scrambling near the summit, which affords magnificent views of Santa Cruz Valley, Ari-vaca, Tubac, and Baboquivari Peak. Limited

to those with off-trail hiking experience and in good physical condition. Plan on 5 hours of hiking plus 2 hours driving time. Contact Donald Smith at 520-591-9938 or donsc@the3smiths.com. **Tucson**

JAN 23 (SAT) "A" Disaster Canyon (12 mi.). This on- and off-trail trek for strong and fast hikers offers challenges and spectacular sights as it crosses a colorful area of Goldfield Mountains, north of Apache Junction. Beginning at Apache Trail, we will follow jeep roads to Bagley Tank and then scramble down a canyon to Saguaro Lake. On our return, we will climb 1100', following a ridge with views of Saguaro Lake and Willow Springs Canyon. Expect steep slopes, loose rocks, deep sand, and thorny plants (leather gloves recommended). Drive 35 miles from Tempe. Call Ken McGinty at 602-265-2854. **Phoenix**

JAN 24-27 (SUN-WED) "D" Lower Colorado River Canoe/Kayak/Camping (36 mi.). This outing begins south of Blythe, CA, at Walter's Camp, where we'll meet for dinner Sunday afternoon. We'll get launched by our outfitter on Monday to start our paddle down river, camping the next two nights in Picacho State Recreation Area. We'll be paddling along Imperial National Wildlife Refuge on the Arizona side, so be on the lookout for wildlife. Cost: \$200, includes shuttles, canoe or kayak rentals and equipment, campground fees, permits, and food. Contact Bev Full at 480-221-2554 or bfull@cox.net by January 10.

JAN 25 (MON) "D" U.S.-Mexico Border Up Close. Join us at Mission Library in Tucson at 10 a.m. for an illustrated talk about environmental impacts of U.S. border enforcement. Then we're off to Nogales to enjoy a taco lunch at Cocina La Ley, where we will be met by a local rancher who will show us some Nogales sites before heading off to his ranch, which adjoins the border. Limit of 30 participants. Details may change prior to a final confirmation note. Contact Elna Otter at 520-212-9736 or elna.otter@gmail.com. **Tucson**

JAN 30 (SAT) "B" Ballantine Trail (10-12 mi., 1800-2000' EC). This on-trail hike in the southern Mazatzal Mountains will take us up ridges, along streams, and through

areas thick with boulders. We will hike only about a half of the trail's length, climbing in elevation. Leather gloves are always a good idea. Drive 37 miles from Scottsdale. Call Ken McGinty at 602-265-2854. **Phoenix**

JAN 31 (SUN) "C+" Picacho Peak (3-4 mi. RT, 1780' EC). Picacho Peak is an exciting, short, strenuous hike to a summit with 360° of fantastic views. The hike is challenging, but there are cables to assist through the more difficult areas. You will want to bring gloves as well as water and some snacks for the top. There is a fee to enter Picacho Peak of \$7 per car. Contact John Che at tucsonbackpacker@yahoo.com (preferred) or via text at 520-360-2507 (please no calls before January 18 to avoid international roaming charges). **Tucson**

FEB 3 (WED) "D" Southwest Wildlife Rehabilitation Facility Tour. Rescued animals are cared for at this facility and released back into their habitat, except for those who would not be able to survive. Animals include bear, javelina, bobcat, mountain lions, coyotes, wolves, fox, hawks, and eagles, to name a few. Bring a lunch to share at the picnic area after our tour. Contact Bev Full at bfull@cox.net. **Phoenix**

FEB 6 (SAT) "B+" Lower Lime Creek (10-12 mi.). This mostly off-trail hike near Horse-shoe Dam will take us up a scenic riparian area known for its views and diverse vegetation. Elevation gain and loss will amount to few hundred feet. We will likely encounter thick and thorny vegetation (leather gloves recommended). Wet feet are possible. Drive 43 miles from Scottsdale. Call Ken McGinty at 602-265-2854. **Phoenix**

FEB 6 (SAT) "D" Brown's Ranch Trail in McDowell Preserve (4 mi., 0' EC). Contact Sally Howland at sally_howland@yahoo.com. **Phoenix**

FEB 13 (SAT) "B+" Willow Springs Canyon (12 mi.). On this on- and off-trail trek, we'll hike down Willow Springs Canyon in Goldfield Mountains north of Apache Junction. Our goal will be Saguaro Lake, and we'll pass through a side canyon full of surprises. We'll also scramble over some serious boulders, hike over slickrock, and enjoy the spectacular scenery of this colorful area. Expect some

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thick and thorny vegetation (leather gloves recommended), steep slopes, and possibly wet feet. Drive 30 miles from Tempe. Call Ken McGinty at 602-265-2854. **Phoenix**

FEB 15 (MON) "C" Deem Hills Park (3.5 mi. loop, 600' EC). We'll start out on Circumference Trail, then take Ridgeline Trail (1.5 mi.) over the western ridge of the park back to Circumference Trail, looping around back to the parking area. This hike offers some nice elevated views and some good, but not too steep, uphill. Contact Pete Weinelt at 623-388-2209 or vitalpaw@yahoo.com. **Phoenix**



FEB 20 (SAT) "B+" Organ Pipe Cactus National Monument and Wilderness, Mount Ajo (9 mi., 2440' EC). Mount Ajo is the tallest mountain in the monument, and climbing it is a great way to experience the Sonoran Desert. We'll pause at spectacular Bull Pasture Overlook to view any flowers winter rains may provide. On the return hike, we will take Estes Canyon Trail, which is spectacular for birding and organ pipe cacti. We'll discuss the unique botany and ecology of this fascinating region. Limit: 12. Contact Mitch Stevens at 520-991-1199 or mitchstevens@qwestoffice.net or Beth Ann Krueger at yardengine1919@hotmail.com. **Tucson**

FEB 20 (SAT) "B" Blacktop Mesa (14 mi., 1000' EC). This on-trail hike will take to the 3374' summit of Blacktop Mesa in the western Superstition Wilderness. From First Water Trailhead, we'll take Dutchman's Trail to Bull Pass Trail to the trail up the mesa. Our absolute EC will only be about 1000', but the total will be greater than that. Expect spectacular scenery, steep slopes, and spiny plants aplenty (leather gloves recommended). Drive 25 miles from Tempe. Call Ken McGinty at 602-265-2854. **Phoenix**

FEB 27 (SAT) "B+" Poison Ridge-Castle Creek (10-12 mi., >1000' EC). On this mostly off-trail hike, we will follow a tortuous route along a winding ridge in the foothills of Bradshaw Mountains near Bumblebee. We'll find plenty of rugged country, vicious vegetation (leather gloves recommended), slippery slopes, etc. Mercifully and typically, the final stretch of our trek will follow a dirt road. Drive 60 miles from Phoenix. Call Ken McGinty at 602-265-2854. **Phoenix**

FEB 27-28 (SAT-SUN) "C" Winter Ghost Trip and Hike. Walk the San Pedro River Trail loop at Fairbank, learn about Tombstone's haunts, and explore the historic mining ghost town of Fairbank. Ghost tour on Saturday evening followed by the 3.5 hour Fairbank hike the next morning. Ghost tour tickets are \$13; payment must be received by Feb. 24 to ensure group rate and a seat on the tour. Participants are responsible for making their own lodging reservations and travel plans. Participant limit 10. Sign up on Sierra Adventure MeetUp (preferred) or contact Beth Ann Krueger at yardengine1919@hotmail.com. **Tucson**



FEB 28-MAR 1 (SUN-TUE) Organ Pipe Cactus National Monument. Camp 3 days and 2 nights at this lovely campground. Hike scenic trails each day. Observe efforts underway to protect the park from illegal immigration and activities. Contact Pete Weinelt at 623-388-2209 or vitalpaw@gmail.com. **Phoenix**

MAR 5 (SAT) "D" Hike to Caves at Cave Creek (<1 mi., 0' EC). Yes, there are actually caves on Cave Creek. They are on private land and not usually accessible, but we have arranged for our group to do a tour. Contact Harry Lumley at lumleyhw@gmail.com. **Phoenix**

MAR 5 (SAT) "B" Brushy Mountain-Bartlett Dam (6-8 mi.). The ascent of 3533' high Brushy Mountain, near Bartlett Lake, is just the beginning of this ridgetrek. Our absolute elevation gain will be 750', and the loss will be 1700'. We'll also suffer other tribulations in this prime teddy bear cholla country (leather gloves recommended), but this hike is well worth the pain. Drive 40 miles from Scottsdale. Call Ken McGinty at 602-265-2854. **Phoenix**

MAR 12 (SAT) "B" Hill 3127 (5-6 mi.). This exploratory on- and off-trail hike will take us to a 3,127' summit near Bartlett Lake. Expect challenging navigation, steep slopes, thorny and annoying plants (leather gloves recommended), and superb vistas of the lake and surrounding country. Drive 40 miles from Scottsdale. Call Ken McGinty at 602-265-2854. **Phoenix**



MAR 18-20 (FRI-SUN) Chiricahua National Monument and Fort Bowie Hike and Camp. We will start at Ruins Trail to Fort Bowie (4 mi. RT), an easy hike to the site of the fort. On Saturday, we will hike to the "heart of the rocks" (10 mi.). Sunday, we will hike Echo Canyon Loop (3.3 mi. loop). There are optional short hikes to the meadow, sugarloaf hill, or the Faraway Ranch that you can do on your own. We will camp in a group site in the monument. Contact Colleen Collen at 520-577-4543 or cmavender@gmail.com. **Tucson**

MAR 19 (SAT) "B" Southeast Goldfields Funtrek (10-12 mi.). This mostly off-trail exploratory loop hike will take us up and down washes and over countless divides in the southeast Goldfield Mountains north of Apache Junction. We'll see plenty of golden slickrock and scenic beauty and experience thorny plants (leather gloves recommended) and up- and downhill travel galore. Drive 30 miles from Tempe. Call Ken McGinty at 602-265-2854. **Phoenix**

MAR 20 (SUN) "B+" Elephant Head (6.2 mi RT, 1053' EC, 2343' accumulated elevation gain). Elephant Head (5607') is a prominent natural landmark in Santa Cruz Valley on the west side of the Santa Rita mountain range. Climbing this steep 1000' monolith will re-

quire some off-trail scrambling. The summit affords magnificent views of the Santa Cruz valley, Arivaca, Tubac, and Baboquivari Peak. This hike requires some experience in off-trail hiking and scrambling. Contact John Che at tucsonbackpacker@yahoo.com or via text at 520-360-2507 (please no calls before Jan. 18). **Tucson**

MAR 20-23 (SUN-WED) "C" Vermilion Cliffs National Monument. Hike Wire Pass and Buckskin Gulch with a possibility of getting passes for The Wave. Observe the scenic and undeveloped expanse known as the Arizona Strip, an area we support for national monument protection. Camp at Stateline Campground. Hike the last few miles of the Arizona Trail. Cost: \$50, includes camp fees and food. Contact Bev Full at bfull@cox.net.

MAR 26 (SAT) "B" Sycamore Creek Loop (9 mi., 600' EC). On this trek, we'll explore an area of the southern Mazatzal Mountains near Four Peaks Road and State Route 87, following Sycamore Creek, dirt roads, and an off-trail route. There will be plenty of up- and downhill travel. Expect thorny and annoying plants, sand slopping, possibly wet feet, and interesting scenery. Drive 35 miles from Scottsdale. Call Ken McGinty at 602-265-2854. **Phoenix**

See Outings continued on pg. 16.

Hiking Guidelines

The Sierra Club is a nationwide organization with active local outings for members and non-members. Please join us as we make friends and explore life-enriching interests. Simply find an outing by date and contact the leader for directions, reservations, time, and additional information. **RESTRICTIONS:** NO FIREARMS, RADIOS, OR PETS (unless noted otherwise). Outings are by reservation. Call early (group limit 20). Each hike is rated for degree of difficulty and risk by the leader.

"A"	>16 miles or >3,000 ft. elevation change (EC)		
"B"	8-16 miles and 1,500-3,000 ft. EC		
"C"	3-8 miles, 500-1,500 ft. EC	RT	Round Trip
"D"	<3 miles and 500 ft. EC	OW	One Way

The trip leader has absolute authority to question trip participants as to their equipment, conditioning, and experience before and during the trip. All participants on Sierra Club outings are required to sign a standard liability waiver. If you would like to read the liability waiver before you choose to participate in an outing, please go to <http://content.sierraclub.org/outings/local-outdoors/resources> or contact the National Outings Dept. at 415-977-5528 for a printed version. Sierra Club liability covers leaders only. Each person is responsible for his/her own first aid equipment. If you are injured, notify the leader immediately. If you leave the trip, with our without the leader's permission, you are considered to be on your own until you rejoin the group. Hikers are encouraged to carpool and share the driver's fuel expense. Donations are accepted from all participants at \$1 (member) and \$3 (nonmember). Money is collected by the leader and deposited with the group treasurer. For more information, contact Bev Full at 480-221-2554. Hikes and outings are also listed online and in the Sierra Singles newsletters. CST 2087766-40. Registration as a seller of travel does not constitute approval by the State of California.

Sierra Service Opportunities

Get involved and make a difference! Join us for these exciting service outings!

San Pedro Water Sentinels Monitoring

Thursday, January 14, February 25, March 24 (dates tentative)

Contact: Jennifer Martin, 602-254-8362, jennifer.martin@sierraclub.org

Get your feet muddy and your hands wet with the Arizona Water Sentinels! Volunteers are needed to help monitor shallow groundwater levels in wells in the Murray Springs Clovis Site and near the San Pedro River near Sierra Vista. In March, we will also sample water quality in the river. These data help us track impacts to the San Pedro River and to archaeological resources in the area. What could be better than spending a day in gorgeous scenery while working to make a difference?

Rio Salado Habitat Restoration

Beat Back Buffelgrass Day: Saturday, January 23

Weed-and-Clean: Sunday, February 21 and March 20

Contact: Jennifer Martin, 602-254-8362, jennifer.martin@sierraclub.org

Help us restore habitat! Join us for an invasive weed pull and clean-up at the Rio Salado Habitat Restoration Area, just south of downtown Phoenix. Once a dump site, the area is now a lush riparian corridor that supports a variety of wildlife and recreation opportunities. We need help removing trash and buffelgrass, a non-native, invasive species that alters habitat and increases fire risk. Snacks, drinks, gloves, and tools provided.



Saguaro National Park East Service Project

Saturday, February 13

Contact: Meg Weesner, 520-290-1723 or mweesner@att.net

In honor of the 100th anniversary of the National Park Service, we will help Saguaro National Park remove buffelgrass from key habitat areas. We will meet national park staff in the east district and work for a few hours to manually pull buffelgrass. Have you ever wondered what buffelgrass looks like? Do you have it in your neighborhood, your yard? There is no better way to learn about this harmful invasive plant than to volunteer to pull it. The park will provide work gloves, tools, and a safety message. This is a great opportunity to improve your understanding of this threat to the Sonoran Desert. Limit 10.

Outings continued from pg. 15.

APR 2 (SAT) "B+" Music Mountain (12 mi.) This mostly on-trail trek will take us to the 4311' high summit of Music Mountain in Superstition Wilderness. Beginning at Tortilla Trailhead, we will follow a jeep road to Tortilla Well and proceed via Peters Trail to Peters Canyon. The off-trail stretch begins as we head up steep and slippery slopes through thick and spiny vegetation to the summit, where the views are commanding. Leather gloves are a necessity for this hike as well as long pants, the thicker the better. Drive 50 miles from Tempe. Call Ken McGinty at 602-265-2854. **Phoenix**

APR 2-3 (SAT-SUN) Gila Box Canoe/Kayak. Gila River runs west across Arizona, and the Gila Box Riparian National Conserva-

tion Area has year-round water. Be prepared to view a variety of wildlife. The trip starts near Clifton and ends 23 miles downriver near Safford. The group will camp near the halfway point. Participants responsible for canoes/kayaks and all equipment. Paddlers must have previous experience and the skill for up to class II+ rapids and strainers/sweepers. The Gila Box RNCA charges a \$3/person fee. Contact Donald Smith at 520-591-9938 or donsc@the3smiths.com or Mitch Stevens at 520-991-1199 or mitchstevens@qwestoffice.net. **Tucson**

APR 25-30 (MON-SAT) Labyrinth Canyon, Green River Canoeing. Canoe or kayak 62 miles through spectacular canyons. This area is endangered by proposed mining development. Cost: \$275, includes meals on the river, permits, rental of canoes, and shuttles. Contact Bev Full at bfull@cox.net.



Volunteers help restore trails at Spur Cross Ranch Conservation Area. Photo by Kevin Smith.

Trail Maintenance at Spur Cross Conservation Area

Saturday, February 20

Contact: Doug Murphy, 602-329-3690, dbmurphy@cox.net

The good news is that it's been a wet winter. The bad news is that all the rain has damaged some of the trails in Spur Cross Ranch Conservation Area just outside of Cave Creek in North Phoenix and has created some maintenance challenges. Join the Saguaro Group as we spend the morning working on trails, preventing erosion and generally helping one of the newest conservation areas in the valley. Tools will be provided, but bring gloves and water. Call for carpool information. Learn more about Spur Cross Ranch Conservation Area at <https://www.facebook.com/SpurCrossRanchConservationArea>.

Gila River Clean-Up

Saturday, March 5

Contact: Jennifer Martin, 602-254-8362, jennifer.martin@sierraclub.org

As part of the Tres Rios Nature Festival, we will be hosting a clean-up of the Gila River at the Base and Meridian Wildlife Area (north of Phoenix International Raceway). We encourage you to join us for the morning's clean-up, then stick around to enjoy the festival! This outdoor event focuses on the rich diversity of wildlife, habitat, history, and culture of the Gila River drainage. Celebrate the rich heritage, ecology, history, and wildlife of the Gila, Salt, and Agua Fria rivers! This is a great opportunity for the whole family to enjoy a beautiful spring day in Arizona, to learn about the place we call home, and to give back to the rivers that sustain us. We will have a booth at the event with information about the Arizona Water Sentinels and how people can get involved. Learn more about the nature festival at <http://www.tresriosnaturefestival.com>.

