

Arizona Wildlife News

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ARIZONA WILDLIFE NEWS

EDITOR Linda Dightmon
COPY EDITOR Kimberlee Kreuzer
DESIGN & LAYOUT Linda Dightmon
PRINTING Lang Printing & Mailing

CONTRIBUTORS

Tom Mackin Sarah Luna
Lew Carpenter Loyd Barnett
Judith Kohler Mike Matthiesen
Linda Dightmon Glen Dickens
Ryna Rock Russell Tweed

ARIZONA WILDLIFE FEDERATION

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OTHER OFFICERS

Legislative Liaison Sarah Luna

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AWF MISSION STATEMENT

AWF is a non-profit organization dedicated to educating, inspiring and assisting individuals to value, conserve, enhance, manage and protect wildlife and wildlife habitat.

The front cover photo was taken at Canyon Creek by Renee Bruns.

The back cover photo was taken by Betty Dickens. This photo has members of the AWF, Arizona Antelope Foundatin and volunteers that participated in the House Rock fence project. It reflects much of what the AWF mission statement embraces. It takes dedicated **INDIVIDUALS** to meet the mission.

If you have a photo you would like to submit for our cover, please contact Kimberlee at awf@azwildlife.org

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President's Corner

By Tom Mackin



With the forest of campaign signs pretty much thinned out or now lying on the edge of the road and the annoying unsolicited automated calls at dinner time no longer ringing in our ears, perhaps our elected government representatives will finally stop campaigning and start to pay attention to the jobs we elected them to.

From a sportsmen's perspective there is much that could be done in the hollowed halls of our legislative buildings but I fear that much of the valuable available time will be spent on misdirected priorities, egotistical posturing and further gridlock rhetoric.

The theme for this issue of AWN is to highlight each of the key words in our Mission Statement "**dedicated to educating, inspiring, and assisting individuals and organizations to value, conserve, enhance, manage, and protect wildlife and wildlife habitat**".

When it comes to legislators we need to do it all; educate, inspire and assist. Towards that goal, we've recently received a small grant from the National Wildlife Federation to visit with legislators at both the State and Federal level and let them know our priorities, values and the things important to us that will conserve, enhance, manage and protect wildlife and wildlife habitat.

Under the leadership of our Legislative Liaison, Sarah Luna, and

partnering with Arizona Audubon, Arizona Sportsmen for Wildlife Conservation and Trout Unlimited, we've already visited with several legislators and provided them with an overview of our priorities and a statement of support or dissatisfaction with several pending pieces of legislation.

One of these important bills was sponsored by Arizona Congressman, Paul Gosar, in 2012 and is commonly known as the Public Lands and Renewable Energy Development Act, PLRED. While there is moderate bi-partisan support for the bill, it has not made it to the voting stage but we hope to see that milestone and perhaps even signed into law in 2015. The AWF and many of our conservation partners have been strong supporters for this legislation and we will continue to do so during the next session.

The PLRED Act is not the only important legislation that needs to be addressed in the coming year. The Land and Water Conservation Fund is due to "sunset" on September 30, 2015, its 50th anniversary, and it really needs to be reauthorized before that happens. Since 1965, royalties paid by offshore oil and gas drilling have been collected but only once in its 50 year history has it been fully funded at \$900 million, in all other years it has been raided by Congress for their pet projects. Its goal is to

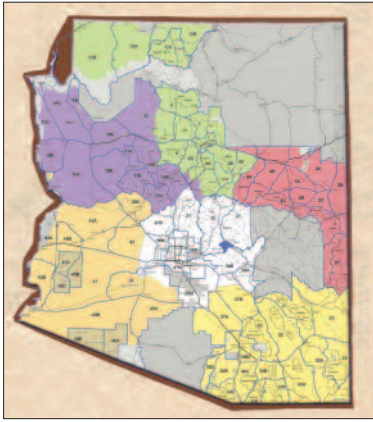
provide funding for critical habitat, wild and scenic river corridors, wildlife refuges and other areas important to the American public. Like the AWF and our partners, I would encourage you to contact your Congressional representatives and express your support for this important funding source.

In closing I would encourage each and every sportsman or sportswoman to get involved, learn about the outdoors and lend assistance to whatever activity provides you with your dose of outdoor enjoyment. Our legislators at almost all levels do not necessarily share our love of nature and when blinded by the almighty dollar all too often, they're willing to sell our outdoor legacy to the highest bidder. Lets all agree to not let that happen.

Letters to the Editor

Keep your communications short and to the point. All must be signed. If you send us questions, we will seek answers and print them here. There may be times mail volume may prevent us from publishing every letter we receive, but we will do our best to print as many as possible.

Send your 'snail mail' to:
AWF Mail Pouch
Arizona Wildlife Federation
PO Box 51510, Mesa, AZ 85208
Send your e-mail to:
editor@azwildlife.org



REGIONAL ROUNDUP

Region II - Tom Mackin
Acting Regional Director



Sept. 1 – Worked on AZGFD trick tank repairs in GMU9
 Sept. 2 – Attended panel discussion at Museum of N. Az. on Colorado River Drought Issues
 Sept 3 – Visited trick tank in GMU7W following report on damage to the drinker. Drinker was not repairable and replacement ordered
 Sept 4 – Traveled to Phx. G&F HQ to pick up materials for repairs to trick tank in GMU9 and a drinker to repair trick tank in GMU7W
 Sept 5 – Attended Diablo Trust Day on The Land in GMU5A and visited 4 sites that provide water for cattle and year round water for wildlife
 Sept 6 – With 7 other FoNAF volunteers, made repairs to two aspen exclosures damaged when trees fell on the exclosure fences
 Sept 7 – Traveled to GMU9 and dropped off repair materials at trick tank for future rebuild activities
 Sept 9 – Participated in on the ground elk surveys with AZGFD staff in GMU9
 Sept 10 – Completed elk surveys
 Sept 11 – Met with FoNAF Membership Recruitment and retention Committee

Sept 12 - With 5 other FoNAF volunteers, made repairs to three aspen exclosures damaged when trees fell on the exclosure fences
 Sept 13 – Traveled to Vermillion Cliffs to participate in the quarterly AWF Board meeting
 Sept 14 – Met with USFS Coconino NF Volunteer Coordinator to discuss 2014 FoNAF accomplishments and plan for 2015 activities
 Sept 15 – Led a garden tour at the Arboretum of Flagstaff for 24 visitors and guests
 Sept 15 – Participated in a AZGFD Hunter Education Instructor “listening session” at AZGFD Region II office
 Sept 16 - Visited trick tank in GMU7W and installed a new wildlife drinker obtained from AZGFD
 Sept 18 – Led tour at Arboretum for visitors and guests
 Sept 18 – Participated in conference call with VP and Legistalve Liaison on Candidate Information Campaign
 Sept 18 – Visited three aspen exclosures and 1 Forest Service wildlife drinker to check on functionality and current condition. Repairs needed on 2 exclosures and drinker and will be rescheduled
 Sept 19 – With 5 other FoNAF volunteers, visited 4 aspen

enclosures adjacent to Mormon Mtn and made repairs as needed

Sept 20 – Went back to aspen enclosures needing repairs that I discovered on 9/18

Sept 21 – Led hike at TNC Hart Prairie Preserve as part of Flagstaff Science festival activities

Sept 22 - Led tour at Arboretum for visitors and guests

Sept 23 – Attended AZSFWC Meeting, picked up supplies at Western fence for trick tank fence repair in Phoenix

Sept 24 – Attended AWWWE meeting at Rogers Lake

Sept 24 - Started repairs on Trick Tank in GMU7W with Forest Service

Sept 25 – Completed trick tank repairs in GMU7W

Sept 26 – With 6 other FONAF volunteers visited 4 aspen enclosures and made necessary repairs

Sept 30 – Led hike at TNC Hart Prairie, discussing hydrology, herbivore, fire

Oct. 1 – Made repairs to FS trick tank in GMU12W with another volunteer

Oct. 2 – Attended meeting on Kaibab Grasslands project to determine potential locations for wildlife waters

Oct. 2 – Attended meeting at AZGFD Regional office on new Regional Wildlife Volunteer Ranger program

Oct. 3 – With 8 other FoNAF volunteers worked on 4 aspen enclosures in GMU7

Oct. 4 - In the role of AZGFD Chief Hunter Ed Instructor, conducted an On-Line Field day exercise for students to obtain Hunter Ed card

Oct. 9 – Assisted with an RMEF Youth Elk Hunter Camp near Mormon Lake for the GMU6A junior hunt

Oct. 10 – With another G&F volunteer we traveled to GMU6B and made repairs to two important wildlife drinkers damaged by the Slide Fire earlier in the year

Oct. 11 – Went to GMU7E to check on water availability and found several storage tanks and drinkers quite dry, made plans for water hauling

Oct. 12 – Hauled 2,000 gallons of water to 4 separate drinkers in GMU7E, spreading out available water for pronghorn, elk and deer

Oct. 13 - Made repairs to FS trick tank in GMU12W with another volunteer

Oct. 14 – “Dropped 1.5 miles of fence in preparation for rolling/removal at the AZGFD Lamar Haines Wildlife Area

Oct. 15 – Checked on water availability on the Pat Springs Pipeline

Oct 20 – Attended LHPC prioritization meeting and 2015 Elk and pronghorn Hunt Recommendation meeting

Oct. 22 – Started Fall waterline takedown on Pat Springs Pipeline due to below freezing overnight temperatures

Oct.23 – Completed Pat Springs Pipeline takedown

Oct 24 – Traveled to Parks to pick up 250’ of donated pipe for use by AZGFD Development Branch projects

Oct 24 – With 4 other partners, visited with Congresswoman Kirkpatrick as part of the Candidate Educational campaign on Sportsmen Values

Oct 25 – Hauled 1,000 gallons of water to the Flagstaff Arboretum for a joint AZGFD/Arboretum event

Oct 26 – Led two nature walks at the Arboretum for visitors

Oct 30 – Traveled to a wildlife drink in GMU7E to turn off water from storage tank and drain line going to drinker due to potential freeze damage

Oct 31 – Visited 4 more wildlife trick tanks in GMU7W, turned off water and drained lines to prevent freeze damage

Nov. 4 - Met with Wildlife Manager at Raymond Wildlife Area to discuss needs and volunteer opportunities

Nov. 4 – Drove to a trick tank adjacent to the Painted Desert Overlook between Sunset and Wupatki NM’s and drained line from storage tank to drinker to prevent freeze damage

Nov. 5 – Attended Grand Canyon Chapter of TU meeting

Nov. 6 – Attended Board meeting of the Northern Arizona Shooting Foundation, the operating group for the AZGFD Northern Arizona Shooting Range

Nov. 7 – With 5 other volunteers we went to the AZGFD Lamar Haines Wildlife Area in GMU7E to continue with the removal of old, unnecessary barbed wire fence and T-post

Nov. 8 – Accompanied AZGFD, FS and consultants on a trip to Marshall Lake in GMU5BN to discuss what may be causing the lake to no longer hold water

Nov. 9 – Acted as a Range Safety Officer for shooters at the AZGFD N. AZ. Shooting Range

Nov 11 – With another FoNAF volunteer we placed new signs on the enclosure fencing we repaired earlier this year at Hoxworth Spring, stating the purpose of the fencing and asking folks to not damage or compromise the fences in any way

Nov 13 – With 7 other volunteers we returned to the AZGFD Lamar Haines Wildlife Area and finished removing an old unnecessary barbed wire fence, including the T-posts, minimizing the unsightly danger to wildlife, hikers, mountain bikers and others

Nov 14 – Attended meeting with Diablo Trust, FS, AZGFD and others discussing 2014 activities and 2015 plans on Diablo Trust lands SE of Flagstaff

Nov 15 - Acted as a Range Safety Officer for shooters at the AZGFD N. AZ. Shooting Range





**Region 3 -
Lloyd Barnett, Regional Director**

**Headwaters of the Verde River with
Granite Creek entering at the upper right**

As usual there are many things occurring in Region III. The following reports on a few – in water and rivers, in land management, and in wildlife.

As reported in the previous issue, the Yavapai County Water Advisory Committee, formed about a dozen years ago to bring together elected officials and their representatives from east and west sides of the county to seek common goals and increase understanding, has essentially disbanded. However, physical work to improve the Verde River corridor is being undertaken. The organization *Verde Watershed Restoration Coalition (VWRC)*, which is made up of a number of state and federal agencies plus non-profit conservation organizations and the Yavapai-Apache Nation, has obtained funding from a variety of sources and is several years into a program to restore riparian conditions along the Verde River and major tributaries, including Oak Creek, Beaver Creek and West Clear Creek. The East Verde River was recently surveyed for needed invasive plant treatment. They are working to restore the riparian community primarily dominated by Fremont cottonwood and Gooding willow with which the native wildlife evolved. Utilizing a variety of resources, they are working on public and private land to eliminate the most aggressive invasive plants including tamarisk, Russian olive, tree of heaven (*Ailanthus altissima*), and giant reed (*Arundo donax*). These non-native plants often outcompete the native trees and

take over the streamside habitat. Although they provide some benefit to wildlife species in terms of cover and nesting area, they are not as diverse and as well matched to the diversity of native bird and animal species. Unlike some other southwestern rivers, the Verde still has a healthy mix of vegetation, so as the invading species are removed there are enough sources of native vegetation nearby to fill in the gaps created by removal. Their newsletter, *The Otter*, reports that more than 200 landowners have signed agreements for habitat improvement work on their private lands. To the degree practicable with landowner agreement, work generally proceeds from upper portions of a stream network downstream so that seed sources which might initiate downstream colonization are removed. Much of the work is being done by crews of veterans and by young adult conservation crews, but some supplemental work is accomplished by volunteers. Details are available at www.verdewrc.org.

The Prescott National Forest has essentially completed its Revised Forest Plan and predicts that it will be approved and posted on line by the end of the year (the existing plan was completed in the mid 1980's and has been periodically amended since). The Draft Plan (Plan) and Draft Environmental Impact Statement were issued in August, 2012. Written comments were posted on the Forest's website and totaled approximately 400 pages. Based on the public's input,

adjustments in the Plan have been made. One question commonly asked is "Why does it take so long to make adjustments and get out the final plan?" The same is commonly asked about the Four Forest Restoration Initiative (4FRI) on northern Arizona Forests. The answer is complex but one part is the necessity to prepare a document to withstand the almost certain legal challenges. To use an analogy, when you know your product is going to be shot at, you go to a great deal of effort to try and bullet-proof it. Forest Service decisions with accompanying NEPA (National Environmental Policy Act) documentation are subject to administrative review at higher levels of the organization, and then to legal challenge in U.S. District Courts. In general, the courts do not question an agency's judgment on resource management matters, but they take a very close and detailed look at compliance with all legal requirements, including NEPA, the Endangered Species Act, the Clean Water Act, and all others which may be applicable, including all of the implementing regulations and subsequent court interpretations. One of the requirements of NEPA is to use all reasonably available science. Today most large outside interest groups, including both those with consumptive and with non-consumptive emphasis, have hired specialists with credentials and assigned them to search the ever expanding scientific and technical literature for anything which supports

their interpretations and preferences. In addition they have legal staff employed for the purpose of challenging decisions. Being aware of these many scientific references and evaluating and documenting their relevance or non-relevance to the issue at hand can be very time consuming. Literature citations in these major documents can sometimes be in the hundreds. This Director has considerable personal experience with input to these documents and can attest that the amount of time in analyzing and documenting all of these is often greatly more than is necessary to make and document an informed decision (frequently the same decision).

It has been in the news that the Arizona Game and Fish Department, in cooperation with the U.S. Fish and Wildlife Service and the Babbitt Ranches, have initiated a new black-footed ferret colony with a transplant of 25 ferrets on the Espee Ranch, in GMU 10 northwest of Williams. The success of the previous established colony in the Aubrey Valley west of Seligman provided valuable information in evaluating the suitability and planning for the transplant. In addition the U.S. Geological Survey has developed a bait administered vaccine for sylvatic plague which it is beginning to use. It is hoped this will reduce the impact of this periodic plague which tends to decimate populations of both prairie dogs and ferrets.

**Region 6 -Mike Mattiesen
Regional Director**

On November 15, I attended the tenth annual meeting of the Friends of the Agua Fria National Monument. (aguafrifriends.org)

The Agua Fria National Monument is 71,000 acres and has more than 450 archaeological sites. The area is located on a high mesa semi-desert grassland and is home to coyotes, bobcats, antelopes, mule deer, javelina and a variety of small animals. I recommend that you visit the AFNM. Make a day of it. Be sure to wear comfortable shoes. The terrain is rough. For more information google Friends of the Agua Fria or Agua Fria National Monument.

WHADDA' YA' KNOW (answers on page 22)

1. Is it unlawful to remove or harvest some Arizona plants?
2. What are the four Protected Native Plant Categories in Arizona?
3. How long can a Creosote Bush live?
4. What is a common way invasive weeds are spread?
5. Do chiggers live in Arizona?
6. What is involved in maintaining working landscapes?

Petroglyphs on the Agua Fria National Monument



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Region 5 - Glen Dickens
Regional Director

Coronado National Forest (CNF):

Rosemont Mine: Rosemont Mines owners Augusta Resources have sold the mine to Toronto-based HudBay Minerals. Thus HudBay now assumes the regulatory burden of getting the project approved. The U.S. Environmental Protection Agency has stated that the massive mine that would destroy more than 3,000 acres of Coronado National Forest would result in “substantial and unacceptable impact” to water supplies of “national importance” and that the proposed mitigation measures are “scientifically flawed” and “grossly inadequate.” Several key decisions still need to be made before the mining operation can proceed. Here are three of them:

The Fish and Wildlife Service and Forest Service must reinitiate Endangered Species Act consultations. Recent photographs of an ocelot near the proposed mine site, combined with new information on impacts to water supplies on which other endangered species depend, has triggered a new round of formal endangered Species Act consultations between the two agencies.

The U.S. Army Corps of Engineers deems the plan to mitigate the Rosemont Mine’s damage to vital watersheds inadequate, thus jeopardizing the essential Section 404 permit. The Army Corps notified Rosemont Copper that its most recent mitigation plan fails to fully compensate for damage the proposed mine would cause to springs, washes, and wetlands. The mine cannot be built without the 404 permit.

The U.S. Environmental Protection Agency has recommended denial of the Section 404 Clean Water Act Permit. In a letter to the Army Corps, the EPA states that Rosemont’s proposed wetlands mitigation plan is “insufficient to avoid significant degradation of the aquatic ecosystem.” The EPA has veto authority over this permit.

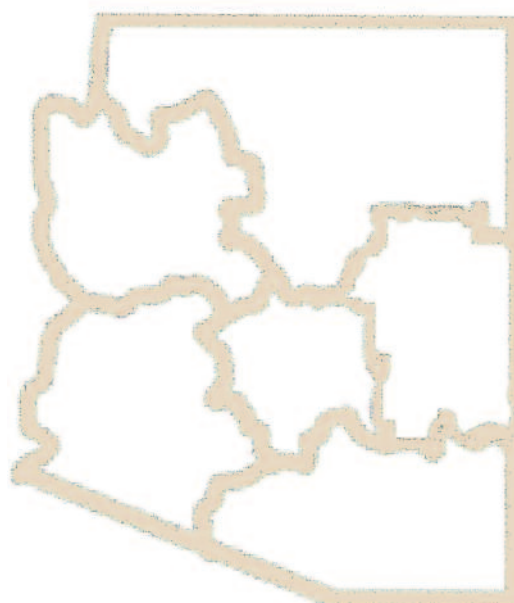
Sunnyside-Alum Gulch Mining District: Defenders of Wildlife and the Patagonia Area Resource Alliance on October 29th asked a federal court to hold the Coronado National Forest and United States Fish and Wildlife Service accountable for their unlawful approval of the “Sunnyside” mineral exploration drilling project in southern Arizona’s Coronado National Forest, in the Alum Gulch area of the Patagonia Mountains. The groups say the approval of the Canadian mining company Regal Resources’ Sunnyside Project violates environmental laws and poses a potential threat to endangered species and the safety of drinking water for local residents. The Sunnyside Project involves drilling multiple exploratory holes up to 6,500 feet deep in one of the most biologically diverse mountain ranges in Arizona. The extensive drilling and construction would run 24/7 for months on end, and the total project operations could last up to 3 years. Also the recent 4 inches of rainfall in early October caused significant leaching from 100 year old mine sites in the Patagonia Mountains and additional concerns about downstream water users in the community of Patagonia.

Jaguar:

On March 4, 2014 The U.S. Fish and Wildlife Service designated more than 1,100 square miles of southern Arizona and New Mexico as critical habitat for the endangered jaguar. This designation means that federal agencies will have to consider the impact on jaguars before approving uses such as mining. The designation doesn’t apply to private land unless the owners propose a use requiring federal funding or permits. “It serves as a yellow flag for federal agencies that now have an additional responsibility to protect the habitat,” said Jeff Humphrey, a U.S. Fish and Wildlife Service spokesman. The designation includes mountain ranges in Pima, Santa Cruz and Cochise counties. Male Jaguars have been spotted occasionally in southern Arizona in the past 15 years and one is currently being monitored in the Santa Rita Mountains south of Tucson. The Tucson-based Center for Biological Diversity sued the U.S. Fish and Wildlife Service three times seeking critical habitat protection for jaguars. In 2009, a federal judge in Arizona rejected the agency’s arguments against the designation, including the fact that few jaguars were believed to be in the U.S.

Catalina Bighorn Restoration:

Arizona Game and Fish efforts continue to re-establish a viable population of 100 Desert Bighorn to the Catalina Mountains. A second release of up to 30 collared bighorn is scheduled for late November 2014. They will join a group of 12 surviving adults from the initial release of 30 bighorns in 2013. This effort is being monitored and assisted by a conservation committee of seven groups and includes two AWF Board members representing both the Arizona Wilderness Coalition and the Arizona Antelope Foundation as well as the AWF.



"By cooperating with one another and including other partners, such as Trout Unlimited, Sportsmen for Wildlife Conservation, the Western Rivers Action Network, and others, we're able to reach a broader audience with a much louder message..."

AWF President Tom Mackin on the importance of building alliances.

We're all in this Together...

by Sarah Luna, AWF Legislative Liaison



Though we may not always agree, several habitat-protection groups have agreed that forming an alliance – the Wildlife Resource Partners (WRP) group - to seek consensus, communicate and advocate for water, wildlife and public lands priorities, makes just plain good sense. We're all in this together and our collective voice is much louder, stronger and forceful than speaking alone.

Representatives from AWF, Trout Unlimited, Audubon's Western Rivers Action Network, Sportsmen for Wildlife Conservation, and the Arizona Elk Society, have been busy meeting with bipartisan candidates for important state and federal offices. We've visited Governor-elect Doug Ducey's top policy advisor, Representative Ann Kirkpatrick and her then opponent former Arizona House Speaker Andy Tobin, Representative Paul Gosar's State Director and candidates for the Arizona Corporation Commission.

One of the issues highlighted during our meetings is H.R.596, the Public Lands and Renewable Energy Development Act. This measure seeks to modernize the development of

renewable energy resources while protecting critical fish and wildlife habitat on federal lands. H.R. 596 was introduced by Arizona Congressman Paul Gosar with strong bipartisan support and the co-sponsorship of most of the Arizona Congressional delegation. We hope that H.R. 596 can be considered by the House Natural Resources Committee this year and fast-tracked for enactment into law early in the new Congress.

H.R. 596-

- Establishes a pilot, comprehensive leasing program for wind and solar projects on public lands.
- Reinvests royalties from development revenues back into states and counties.
- Reinvests royalties in a new conservation fund for landscape-scale development impacts on wildlife and habitat.

Other issues/priorities emphasized in our meetings include:

- Prioritizing water for natural areas in the development of the Arizona Department of Water Resources' "Strategic Vision for Water Sustainability."

For more information:

http://www.azwater.gov/AzDWR/Arizona_Strategic_Vision/documents/EXECUVESUMMARYMay_2014.pdf

- The importance of keeping our public lands public and why the selling off or divesting of America's public lands to generate revenues is a bad idea.

For more information:

http://backcountryhunters.org/images/Public_Lands_Report.pdf

- Reauthorization of the Land and Water Conservation Fund, which sunsets after 50 years if not reauthorized. Arizona has received approximately \$210 million in LWCF funding over the past four decades protecting key land and insuring access for hunting, fishing and other outdoor activities.

For more information:

<http://www.lwcfcoalition.org/usa-conservation.html>

No matter your party preference or political persuasion – your organizational affiliation or single issue disagreements - the outcome of the recent election tells us that it has never been more important to find opportunities to build consensus, become better educated and informed, and consistently communicate with incoming decision makers about issues impacting public lands, water and habitats.

Our WRP meetings will continue into the winter as Congress and the Arizona Legislature reconvene next year. Stay tuned for updates along the way.

Senators Jeff Flake (R-AZ) and Martin Heinrich (D-NM) Circulate Letter to Cultivate Compromise

"... Better functioning relationships in the Senate will be necessary to meet common challenges..."

So said Senators Flake and Heinrich in gathering co-signers for a letter to Senate leaders calling for monthly bipartisan lunches to promote better functioning relationships.

*Arizona Republic, 11-16-14.
Hope springs eternal...*

WESTERN SPORTSMEN SEE GREATER SAGE-GROUSE CONSERVATION AS IMPORTANT

By Judith Kohler and Lew Carpenter of the National Wildlife Federation

Sportsmen, women say we have to save the bird to save other wildlife, public-lands access

Greater sage-grouse are a native game bird providing hunting and viewing opportunities in the Western U.S. They depend on sagebrush ecosystems and these lands also support many other fish and game species. Habitat loss, invasive species, fire and other impacts have led to significant sage-grouse declines and lost hunting opportunities. As a result, the bird may become listed under the Endangered Species Act (ESA). State and federal wildlife agencies are considering plans to conserve sage-grouse habitat in a way that may prevent ESA listing and avoid hunting restrictions on public lands.

Historically, sage grouse likely ranged over 14 western states and three Canadian provinces. The birds have been extirpated from Arizona, New Mexico and Nebraska, as well as British Columbia. Throughout the twentieth century and into the twenty-first, the birds declined as their range dwindled from cultivation, loss of sagebrush, and other alterations.

And, even though sage grouse have been extirpated in Arizona, the issue is important regionally as we look at landscape-scale issues affecting wildlife management.

A new poll by the National Wildlife Federation shows that sportsmen and women in the heart of greater sage-grouse country want to protect the bird and the sagebrush landscape that supports it, other wildlife and the western way of life.

The results, released November 19, 2014, show that a majority of sportsmen surveyed in 11 Western states back restrictions in important habitat to save the greater sage-grouse and avoid its placement on the federal Endangered Species List. A listing likely would lead to more stringent, long-term constraints that would affect such activities as hunting, fishing, recreation and grazing, said John Gale, NWF's national sportsmen's campaign manager.



“First and foremost, it’s critical that we save this iconic Western wildlife species,” Gale said. “We can do that with strong conservation plans that protect key greater sage-grouse habitat while allowing responsible energy development, grazing and other activities on other public lands.”

“The plight of the Gunnison sage grouse underlines how important it is to act decisively, using sound science, to conserve a species before more drastic measures are necessary,” Gale added.

The U.S. Fish and Wildlife Service announced mid-November 2014 that it is classifying the Gunnison sage-grouse as threatened to keep it from going extinct. The Gunnison sage grouse, smaller than the greater sage-grouse, is found in portions of Colorado and southeastern Utah on just 7 percent of its historic range.

While greater sage-grouse numbers have been declining for years, the chicken-sized bird with the spiky tail feathers and extravagant mating dance still occupies about 56 percent of its

historic range. Its habitat has been carved up and diminished by, among other things, urban growth, oil and gas drilling, invasive species and drought.

Under a court-ordered agreement, Fish and Wildlife will decide during 2015 whether to list the greater sage-grouse.

“If we are to prevent the listing of the sage grouse under the Endangered Species Act, we must engage in collaborative implementation strategies that will lead to population increases throughout the bird’s range,” said Ed Arnett, Director of the Theodore Roosevelt Conservation Partnership Center for Responsible Energy Development. “More than 350 species of plants and animals rely on healthy sagebrush habitat. The greater sage-grouse is the canary in this particular coal mine, and how we deal with it will affect an entire ecosystem.”

Summary Observations of the Poll

Nearly four out of five hunters in the West have hunted or fished on public lands and the results of this large survey show clearly that they appreciate and understand the importance of protecting wildlife habitat on federal lands. While recognizing the competing demands for federal lands, the responses to the survey make plain that hunters favor conservation efforts that are aimed at preserving wildlife habitat and maintaining opportunities to fish and hunt on those lands. With the greater sage-grouse as a specific case, large majorities of hunters favor steps to limit activities that might jeopardize the quality of sage-grouse habitat or hinder the public’s enjoyment of the natural environment on those lands.

From a list of eleven different uses of federal lands, the two that ranked highest in importance are providing habitat for fish and wildlife, and providing hunting and fishing opportunities. Over 90 percent of hunters identified those uses as somewhat or very important and they were deemed as “very important” by 64 percent and 55 percent of hunters, respectively.

The least important uses of federal lands, according to hunters, are providing opportunities for motorized recreation and providing minerals and metals from mining operations (47 percent and 40 percent of hunters, respectively, are neutral or view those uses as unimportant).

Nine out of ten hunters believe it is important to take action to protect sage-grouse habitat within their state. Moreover, 84 percent of hunters support steps by the Bureau of Land Management (BLM) to protect critical sage-grouse habitat even if it means limiting energy development, grazing rights or access for motorized recreation on those lands.

Nearly 81 percent of hunters see value in providing state agencies with a greater role in protecting and restoring sage-grouse habitat on state-owned and private lands if it part of a broader strategy to prevent the bird from being listed under the federal Endangered Species Act.

Hunters generally link protection of sage-grouse habitat with maintaining healthy populations of other wildlife species. Over 81 percent of hunters are at least somewhat convinced that steps taken to protect the sage-grouse, such as maintaining large tracts of undisturbed lands or limiting resource extraction activities, also benefits other game species that share the same habitat (e.g., elk, mule deer, pronghorn) and preserves

hunting traditions that have been long associated with the American West.

Land Tawney, Executive Director of Backcountry Hunters & Anglers, said because the majority of greater sage-grouse habitat is on public lands, the Bureau of Land Management and states where the bird is found must step up now.

“It’s not just about the bird; it’s about the herds of mule deer and pronghorns, the hunting and other recreation made possible by healthy habitat,” Tawney added.

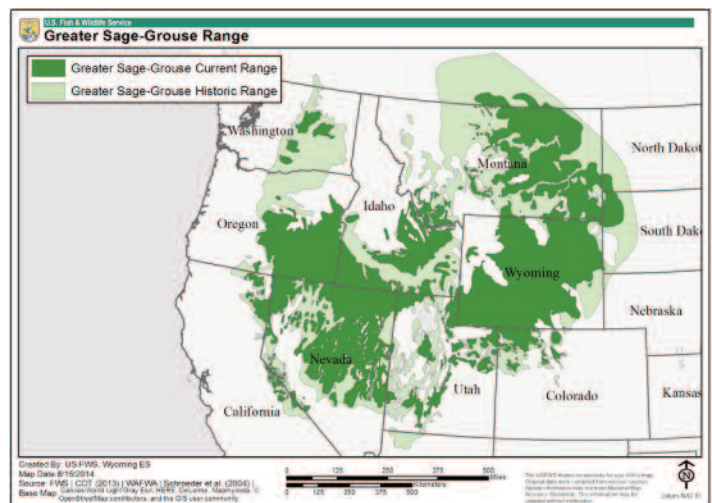
And it’s about the continued health of the countryside enjoyed by people from all backgrounds, said Nevada Wildlife Federation Vice President Kevin Cabble.

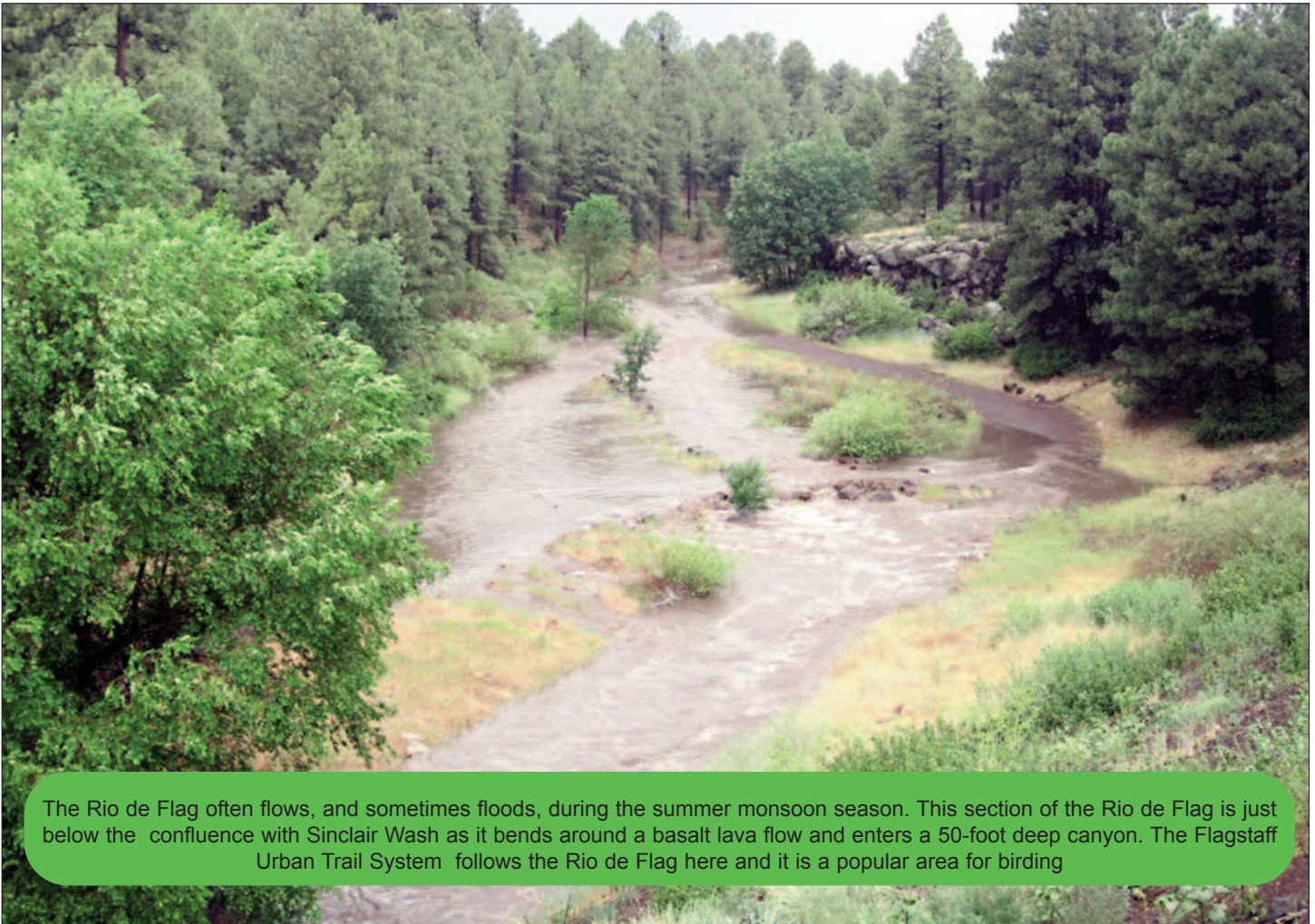
“The greater sage-grouse’s future is tied to the landscapes where we camp, hike, hunt and fish. The bird’s fate will be a barometer of fate of our public lands heritage and outdoor legacy,” Cabble added.

The survey of western hunters comes on the heels of a recent report showing minimal overlap between important greater sage-grouse habitat and existing energy leases and rights of way and that 73 percent to 81 percent of areas with medium to high potential for energy development are outside the bird’s habitat. A recent analysis found that recreation on BLM-managed sagebrush lands generated more than \$1 billion in economic benefits in 2013.

“The sage-grouse is an iconic species of the west and a treasured game bird to America’s upland hunting heritage. Hunters know that a successful recipe for the bird’s recovery must include strong partnerships with ranchers, natural resource management agencies, and thoughtful collaborations like the Sage Grouse Initiative,” said Howard Vincent, President and CEO of Pheasants Forever, Inc.

Southwick surveyed the 1,335 randomly selected sportsmen and women in the following states: Montana, Colorado, Nevada, North Dakota, South Dakota, Utah, Wyoming, Washington, Oregon, Northern California and Idaho. The poll’s margin of error is 2.7 percent.





The Rio de Flag often flows, and sometimes floods, during the summer monsoon season. This section of the Rio de Flag is just below the confluence with Sinclair Wash as it bends around a basalt lava flow and enters a 50-foot deep canyon. The Flagstaff Urban Trail System follows the Rio de Flag here and it is a popular area for birding

Getting Kids Outdoors at Willow Bend

By Russell Tweed, Director, Willow Bend Environmental Education Center

At Willow Bend Environmental Education Center, one of our primary goals is to build connections between children and the natural world around them. Situated within Coconino County's Sawmill Park – a National Wildlife Federation Backyard Wildlife Habitat site and next to three Arizona Watchable Wildlife Experience sites – we are in the perfect location to do that.

If you walk this area today, you can still see remnants of its past. Large chunks of metal and concrete stick out of the ground – remnants of the sawmill that operated here for nearly 100 years. The southern part of this site – where Willow Bend and Sawmill Park are located – is where debris and old junk were piled. Now native gardens surround Willow Bend and the natural areas below provide a soft buffer to newly developed land to the north where retail shops and student housing occupy what was barren wasteland.

To the south, one of the important features of our site is the Rio de Flag just below Willow Bend and Sawmill Park. 'The Rio' is an ephemeral stream that starts on the west side of the

12,633-ft high San Francisco Peaks north of Flagstaff, flows through downtown Flagstaff and on to the Little Colorado River to the east. Because of the porous nature of the volcanic rocks, and the cavernous nature of the limestone bedrock, the Rio doesn't flow for very long or far. At our site, the channel of the Rio de Flag has incised into the Kaibab limestone along the southern edge of a basalt flow, creating a 50-ft deep canyon. The steep terrain, long channel and vegetation provide protection for animals and connectivity linking patches of wildlife populations. It is a popular birding area: over 75 species of birds have been observed in upstream areas of the Rio de Flag and over 120 species of birds in downstream areas.

One of the challenges is the slope below Willow Bend leading to the Rio. The steep slope faces south and is hot and dry; it has areas of disturbed and bare soil, and invasive weed problems. As part of our Earth Day celebration this past spring, we adopted a technique from Brad Lancaster's book, *Rainwater Harvesting for Drylands and Beyond*, Vol. 2. The focus of the project was to redirect rainwater into this area

where it is challenging for vegetation to become established. With a grant from the Arizona Forestry Division's Community Challenge Grant Program through the USDA Forest Service, we built a small mulched terrace near the southwest corner of our building where we already have some small rainwater collection barrels. These barrels frequently overflow with heavy precipitation and it is the overflow that we now capture and redirect into the terrace. Toward the end of the summer we selected native trees and shrubs to plant in the new terrace. We will create some shade, healthy soil and improve the habitat a little bit at a time.

On the other side of the Rio to the south is the Boys and Girls Club of Flagstaff, who we work with during summer months to introduce the neighborhood children to exploring the wild areas right under their noses. We also work with the nearby elementary school that serves the adjacent neighborhoods, and receives Title 1 funding. These are schools with a greater percentage of students considered at-risk and come from low-income families.

Informal learning centers, such as Willow Bend, play an important role in K-12 education: we provide out-of-the-ordinary experiences such as guest visits to classrooms, demonstrations, and field trips that trigger effective learning opportunities. Proven strategies we use in our programs that enhance learning are experiential activities and place-based education. Our programming also must be developmentally appropriate: for ages 3-7 we develop empathy by building connections to the animals and plants that live around their neighborhoods. For children ages 8-11 we encourage exploration on field trips and in activities that promote curiosity and lay the foundation for inquiry and discovery. Ages 12+ we teach stewardship, responsibility and effecting change.

We have found that environmental education provides a context for alienated or low-income youth to find positive ways to connect with their communities, neighborhoods, and their learning process. Research has also shown that using the

environment as a teaching tool has great benefits for children such as: improved social skills; better discipline and self-esteem; development of observational skills; more cooperation/teamwork; and a sense of making a difference.

We plan to extend this work by showing other schools located along or near the Rio de Flag or its tributaries how to incorporate these unique habitats into outdoor classrooms. We use natural science and the environment as the integrating theme in our lessons enhancing learning across STEM disciplines, but also in humanities and social studies. By increasing the usage of the local natural environment as a resource for learning we also help children build a connection to the outdoors and see themselves in a position to affect positive change.

Implementation and adoption of an outdoor classroom can be gradual, beginning with a hike and trash pickup. As a teacher gains experience, learning can integrate scientific observation. Willow Bend has already implemented such models, gradually, giving the teacher and school time to recognize the full potential. Involving retired experts is also a win-win as many enjoy the opportunity to share their knowledge and environmental stewardship values with a younger generation. This generation also may be more likely to have outdoor experiences and recognize that with increased competition for children's attention due to 'screen-time' and adult-structured activities there is little left for outdoor exploration. Our goal is to change that!

Willow Bend was established as a 501(c)(3) non-profit organization in 1978 by the Coconino Natural Resource Conservation District. Each year we reach over 17,000 people in our northern Arizona community, over half of which are K-12 students. We work at over 25 public schools from three school districts as well as regional charter schools, and Tribal Schools on the Navajo and Hopi Nations. To contact us please call 928-779-1745, write us at 703 East Sawmill Road, Flagstaff AZ 86001, or visit willowbendcenter.org.



The native demonstration gardens surrounding Willow Bend are part of Coconino County's Sawmill Park - a certified National Wildlife Federation Backyard Habitat site. The grounds form the basis of many educational programs, such as the one pictured in which ethnobotanist Mike Masek led a workshop on medicinal uses of native plants.

In the spring, many schools visit Willow Bend for field trips, taking advantage of the easy access to hiking trails, riparian habitat, and interesting geology. For younger children, these trips offer the opportunity for outdoor exploration and learning in their local environment

20 Years in Arizona



by Linda Dightmon

In 1990, a conference called *'Breaking Down the Barriers to Participation of Women in Angling and Hunting'* was held at the University of Wisconsin Stevens-Point. They discovered that finding affordable and suitable gear and equipment was one big hurdle. Another was tradition. Women were expected to stay at home while the men ventured out into the wilds. A third major reason was lack of educational opportunities for women and the delegates felt that was a barrier to work on.

The following year, Dr. Christine Thomas of the University of Wisconsin-Stevens Point offered the first ever Becoming an Outdoors -Woman (BOW) workshop. It immediately filled to capacity. The main premise was to provide learning opportunities in a supportive, non-competitive, comfortable atmosphere. Rules were simple: safety first, have fun, no politics. The format was to be 1/3 hunting and shooting, 1/3 fishing and boating and 1/3 non-consumptive. All are welcome, young, (at least 18) old, beginners, experts, vegetarians and vegans, no matter the athletic ability or political persuasion.

In 1994, four Arizona Wildlife Federation board members envisioned an Arizona program. One was Don Farmer, a Director at Large. Another was Camilla Farmer, N.W.F. Representative and eventually the first coordinator of the Arizona BOW. There was also John Stephanson and Vice President, Mark Hullinger.

These dedicated board members organized a partnership with the Arizona Game and Fish and Safari Club International and brought the program to the Grand Canyon State. Many thanks go out to these BOW pioneers. They fought the naysayers, found the venue, scratched for seed money and gathered the best outdoor minds in Arizona. Mark and Don to this day are active instructors.

The first Arizona BOW was held in the spring of 1995 at Friendly Pines Camp. There were 97 participants and the longest distance traveled was the retired Chancellor from

the University of Wyoming. The Wisconsin team was there to help with the bumps and we have never looked back.

The Friendly Pines workshops are held twice a year. In 2005, we added the BOW Deluxe winter workshop held in the Sonoran desert at Saguaro Lake Ranch. Now, there are three weekend choices. There has been little modification to the formula developed from that original 1991 workshop. April 17-19, 2015 will mark 20 years of the Arizona BOW program. There are about 4,000 Arizona BOW alumni. Do we make a difference? Just look at the AWF board.

COMING UP FOR 2015

BOW DELUXE

First up on the 2015 calendar will be the 10th annual BOW Deluxe. Saguaro Lake Ranch is a unique venue highlighting our Sonoran Desert. It is on the banks of the Salt River in the shadow of Stewart Mountain Dam. There is a trail ride available that takes you across the river, through a Saguaro forest with bonus views of Saguaro Lake and the Bulldog cliffs.

New for 2015 is a session I have dubbed Small Game, Arizona's Underutilized Resource. We have taught hunting classes at BOW since inception but we have focused on big game. In keeping with tradition, we have scored the great outdoor mind of Jonathan O'Dell to lead this class. He will cover small game opportunities, some biology as well as hunting, cleaning and cooking techniques. Needless to say, this class is filling up fast.

We have also added a second photography class. Because of the amazing views and light quality, this venue is perfect for landscape photography. One class is titled *Photography—Manual Settings Demystified*. Pro photographer, Lisa Langell is the instructor and she will show you what those buttons and settings on your camera

are for. The class will take some images and then have a group critique. The second photo class, *Outdoor Photography—From Vision to Fruition* strives to bring out the artist in the photographer. Learn inspiring and practical skills and techniques that will improve how you see the world around you—and how to re-imagine the images you take before, during, and after you photograph them.

This program would not work without our dedicated veteran core instructors. Long time instructor, Jean Groen, will be there showing us some edible and medicinal plants of the desert. Stan and Danette Schepers will try to call up some varmints for a photo opportunity. Our fishing team will take participants on the river and the lake. There is Bill Larson, Brian Mazoyer, Sara Yeagar, Donna Walkuski, Connie Sullivan, Elsie Ferguson, Connie Richards, Marian Tallon. The flyfishing instruction will probably be one on one. BOW pioneer, Mark Hullinger will be instructing the popular desert survival class. And last but not least is VIP Barb Kennedy who will teach two Dutch oven classes that will provide the evening meals for the camp.

For the evenings we will have campfires, star gazing with Jan Weaver (weather permitting) and some live animals with Sandy Cate of Adobe Mountain. The dates are January 23-25 and the cost is \$380. At this writing there are 30 registered participants. We have room for 10 more.

COORDINATORS CONFERENCE

The BOW coordinators conference takes place about every other year. There are 38 states and 6 provinces that have BOW programs. I have attended conferences in Arkansas, Wisconsin, California, Alaska, Nova Scotia and North Dakota. These meetings are invaluable. The obvious being the exchange of ideas. What works, what doesn't work and why are discussed 'round table' but also over dinner and campfires. Some of our best improvements have been taken directly or modified to fit our state from these conferences.

Another important function, is keeping the program fresh and up to date. After all, some things have changed in the last 24 years. And still another is just networking with your peers. I have always been reenergized by these conferences. Burnout forgotten when we hear about how a single participant's life changing successes. And yes, every program has a dozen.

This year, Arizona is hosting the conference. It will be at Saguaro Lake Ranch February 4th through the 8th, with Wednesday and Sunday being travel days. A quick review of the working agenda reveals individual states/provincial reports, social media, BOW guidelines, program evaluations, fundraising and outreach. Our keynote speaker will be Doug Burt of AZGFD introducing Arizona's Hunting and Angling Heritage Working Group (HAHWG).

As host of this conference, it is my personal mission to be sure of two things. First, every delegate must have a great time. The second thing is to show off my state. I am in the process of arranging a road trip morning and a half day outdoor adventure.

To date we have 26 attendees. There are three coming from New Brunswick, Five from Alaska, three from the

Dakotas, two from New England and three from the Midwest. Anyone see a pattern here? OK, to be fair there are half a dozen from the southeast and two from California.

Want to help? Contact Linda at azodlady@yahoo.com or Kim at the AWF office

APRIL BOW AT FRIENDLY PINES CAMP

Dates are April 17-19

We are currently working on the registration for this camp and it will be up by the first of the year.

There will be three new classes offered. The first one will be instructed by our beloved "Holly "Moose". It is called *Unplug and Unwind: Taking time for you*. No electronic devices will be allowed and the classroom will be in the woods.

The other two classes will be taught by one of our core instructors, Jean Groen. The first one, is titled. *Prickly Pear and Its Many Uses*. This class will focus on the history of this versatile plant later the participants will learn how to harvest the fruit and render juice. Her other session will be a hands on class about *Home Canning*. There has been a recent interest in getting back to healthy organic foods and maybe we can help.

SEPTEMBER BOW AT FRIENDLY PINES

Dates are September 11-13

20 YEAR CELEBRATIONS!

Specific events are still in the planning stage but one thing is for sure. There WILL be an instructor appreciation party and a 20 year anniversary theme will be weaved into all BOW workshops of 2015. After all, it is a thing to celebrate!

AND BEYOND...

About 10 years ago, outdoor writer John Stanley asked me if I felt that soon, there would be no need for the BOW program. He felt that we would outgrow women's only workshops. That the 'woman's equality movement' would prevail and all would be equal in the wilderness.

Twenty years is a long time for a program of this nature. It was initially believed that BOW would be germane for only half of that time. A handful of states like Wisconsin have long past that twenty year mile stone.

Not yet, Stanley, not yet, but we are getting there.



Arizona BOW!

Like us on Facebook



*Wrap up the holiday with a Christmas BOW!
Gift certificates available from the AWF office
Contact Kim at :
awf@azwildlife.org or call 480-644-0077*



New Board Members



Kellie Tharp

Ms. Tharp is the Education Branch Chief for the Arizona Game and Fish Department where she oversees all of AZGFD's educational programs including hunter, angler, boater, off-highway vehicle and wildlife education in addition to the Adobe Mountain Wildlife Center.

With an M.S. in Environmental Science and Policy and a B.S. in Wildlife Biology, Ms. Tharp has more than 15 years of experience in wildlife conservation and education. Ms. Tharp and her staff were responsible for developing "America's Wildlife, Yesterday, Today and Tomorrow" the interactive curriculum about the North American Model of Wildlife Management, which is available in versions for school and non-school settings.

Ms. Tharp serves as the Chair of the Association of Fish & Wildlife Agencies' Education Subcommittee, chairs its North American Conservation Education Strategy Steering Committee, serves as the Primary Investigator for the 2013-2014 Multistate Conservation Grant Project "Expansion and Coordination of State Agencies' Fish and Wildlife-related Recreation Initiation Programs Using Community-based, Crossover Outdoor Skills Models" and was recently appointed as the Vice Chair for the Western Association of Fish and Wildlife Agencies Resource, Information and Education Committee.

She was the 2011 recipient of the Association of Fish and Wildlife Agencies Mark J Reef Memorial Award recognizing her as the young professional of the year. Ms. Tharp was recently selected as one of the 36 fellows from across the nation to attend the National Conservation Leadership Institute.



Trica Oshant Hawkins

After receiving a B.S. in Wildlife Ecology and Renewable Natural Resources from the University of Arizona, Trica guided natural history and diving expeditions in Mexico. She left the Southwest for three years to serve as Education Specialist for Hawk Mountain Sanctuary in Pennsylvania. While in Pennsylvania she also served on the Raptor Rehabilitation Advisory Committee for the Pennsylvania Game Commission.

Returning to her desert home, she worked as a consulting field biologist before envisioning and co-founding the Environmental Education Exchange in 1991. Through the EE Exchange, Trica has partnered with numerous agencies, utilities and organizations throughout the region in the development and presentation environmental education programs and EE master planning.

Trica is currently the Co-founder and Education Director of the Environmental Education Exchange; on the Board of Directors of the Arizona Wilderness Coalition; a member of the Catalina Bighorn Restoration Advisory Committee for the Arizona Game and Fish Department; a Leopold Education Project Facilitator; and is working on a Master's degree in Environmental Studies from Prescott College



Historical Tales

Reproduced by Ryna Rock from Arizona Wildlife News Winter 1998

ALDO LEOPOLD

BY Steve Gallizioli

Aldo Leopold is probably as familiar to conservationists and environmentalists today as Jesus Christ is to Christians and Mohammed to Muslims. And, his Sand Country Almanac, the medium through which most people have learned about Leopold, has become as revered as the Bible or the Koran.

Leopold's reputation as a philosopher-environmentalist-ecologist has now reached a point where it is almost impossible to pick up an article or other publication on the environment, natural resources, or ecology, that doesn't draw freely on the thought provoking views so eloquently presented in the Almanac. It is ironic that this is the only one of his publications that has caught the attention of the public. While the Almanac is one of his several books he published, Leopold was a prolific writer and wrote hundreds of popular and technical articles and papers for newspapers, magazines and scientific journals.

Leopold's name meant nothing to me personally until I enrolled at Oregon State College in 1947 aiming for a degree in Wildlife Management. His Game Management, a 500 page hard cover book published in 1933, became the primary text for an entire year in an introductory course in wildlife management. At the time, and for years to come, it was the only comprehensive volume available as a wildlife management text.

While hundreds of scientific papers have since been published, the product of a wealth of wildlife research, non one has yet to produce as wide ranging a publication as Game Management. In it Leopold covers the entire spectrum of the then embryonic field of wildlife management, drawing on his own experiences as well as those of published accounts. He also relied heavily on the preliminary results of ongoing research, quoting extensively from the voluminous correspondence he carried on with biologists from throughout North America.

For much of this article I have drawn heavily on Curt Meine's excellent biography of Leopold, published in 1988. This is a fascinating account and I urge anyone interested in learning more about this remarkable man to get a copy and

read it.

Leopold spend only some nine years in the southwestern part of the United States and only two years of that in Arizona. Despite his relatively brief stay here, he draws heavily on his observations in Arizona in the essays that comprise the Almanac. In the short span of this article, I will focus largely on his activities in the southwest and particularly in Arizona.

LEOPOLD ON HUNTING

Leopold grew up in a hunting family. His father, uncles, and grandfather were all avid hunters. It's not surprising then, that Leopold himself was introduced to the sport at an early age and developed what became a lifelong passion for it. Later in life, after he retired from the Forest Service and took the position of Director of Woods Products Laboratory in Madison, he became fascinated with the sport of archery and was soon heavily involved in making his own bows, arrows, and other archery equipment. Before long he would be trying his skill at bow hunting for deer. His wife and children also became skilled archers, his wife, Estella, winning the Wisconsin Stage archery championship five years running.

He was almost as fond of nature study, especially bird watching, and hunting and birding complemented each other on his outdoor outings. Frequently he would return from a hunt without having fired a shot but would nevertheless consider it to have been one of his red letter days having provided him the opportunity to add another bird to his "life list", or because he had had the opportunity to record some hitherto unobserved facet of animal behavior. He considered hunting and the study of nature as activities that were not merely enjoyable, but absolutely vital to the conduct of life. He thought that only reading came closer to being as important a way to spend free time.

While most of his hunting was for waterfowl, rabbits and upland game, he also hunted whitetails and mule deer. Beginning with a lengthy deer hunt in 1929, he made several two-week hunts in the Gila Wilderness Area in New Mexico and south in the Sierra Madre Occidental in Chihuahua with

his brother, Carl, and his oldest son, Starker. He and Starker always hunted with bow and arrow, Carl with a .30-.30.

Most environmentalists are probably little aware of Leopold's enthusiasm for hunting. For the most part, what they they know about him they learned from reading his *Almanac*. The essays comprising the original version of the *Almanac* published in 1949, made scant reference to his love of hunting. This was rectified in the enlarged version published in 1966 which contains a number of essays from another book, *Round River*, also published posthumously, in 1953. *Round River* was a collection of excerpts from Leopold's hunting journals. It never became popular because the lengthy series of hunting tales didn't go over well with non-hunting conservationists. Thankfully, some of the best of *Round River* was included in the later edition of the *Almanac*.

Probably the best of these hunting essays is the one titled "Goose Music".

In my opinion it ranks up there with "The Land Ethic", in the closing section of the *Almanac*. Every hunter should read both essays not once but several times.

The closing sentences of this essay I'll quote in full: "I hope to leave them (his three sons) good health, an education, and possibly even a competence. But what are they going to do with these things if there be no more deer in the hills, and no more quail in the coverts? No more snipe whistling in the meadow, no more piping of widgeons and chattering of teal as darkness covers the marshes; no more whistling of swift wings when the morning star pales in the east? And when the dawn-wind stirs through the ancient cottonwoods, and the gray light steals down from the hills over the old river sliding softly past its wide brown sandbars – what if there be no more goose music?" While Leopold is not recognized as a poet, these lines are clearly more poetry than prose.

LEOPOLD ON PREDATORS

To the many protectionists who have adopted Leopold as their patron saint, it may come as a surprise (shock!?) to learn that for most of the years he spent in Arizona and New Mexico, Leopold was in tune with the popular wisdom of the day: He believed strongly that the road to game abundance called for a heavy dose of predator control. On occasion he got fired up enough to call for the total eradication foot he large carnivores of the southwest.

In an article in the *Pine Cone*, an Albuquerque magazine he edited, he called for a "practical, vigorous, and comprehensive plan of action....to meet this common problem". The "common problem" was predators!

Apparently the popular crusade against predators generally, and the wolf in particular soon achieved some measure of success. At the annual convention of the New Mexico Game Protective Association in 1920, the issue of predator control was surprisingly conspicuous by its absence. The reason for this was that most of the wolves were gone. A year earlier J. Stokely Ligon of New Mexico, who had been charged with elimination of the wolf, estimated that no more than a dozen remained in the state. A colleague guessed that there were even fewer in Arizona and that it was likely that they had been totally eliminated from that state.

Leopold, however, was not satisfied with this state of affairs. He proclaimed that "...as the work (predator control) progresses, the remaining animals become fewer, more sophisticated, and more expensive to catch. It is going to take

patience and money to catch the last wolf or lion in New Mexico. But the last one must be caught before the job can be called fully successful" (emphasis added).

It wasn't until 1925, a year after the American Society of Mammalogists had argued, on scientific grounds, that large scale predator control did more harm than good, that Leopold finally began to reconsider his long-held belief that the only good predator was a dead one. In a memo that year to one of his colleagues concerning management of the Wichita National Forest he concluded with "...it is important to avoid the extermination of predators..."

By 1929 reports of a growing over-population of deer on the Gila National Forest in New Mexico and the knowledge of what was happening on the Kaibab where an over population of mule deer was destroying deer habitat resulted in Leopold's moderating his views. He began to advocate that lions, at least, should be allowed to increase in numbers in the Gila.

Surprisingly, there is virtually no mention of wolves and mountain lions in *Game Management*, even though there is extensive discussion of smaller predators, e.g. fox, mink, skunk, and raptors.

By the end of 1936 Leopold had completely reverse himself on predators. The turnabout apparently was due to an epiphany he experienced on his hunts in the Sierra Madre Occidental in Mexico. There, on the Rio Bavian, he found an unspoiled wilderness; clear trout streams, bordered by sycamores and cottonwoods, lush rangelands, unlogged forests "...a picture of ecological health...near to being the cream of creation".

Here too, he found evidence of an abundance of lions and solves, (and surprisingly, a scarcity of coyotes!) along with an equal abundance of prey species, especially deer and turkeys. It was here where he first realized clearly that land is an organism, and that elsewhere he had seen only sick land, whereas in the Sierra Madres habitat and wildlife were still in perfect aboriginal health. Leopold may have been the first observer to consider the ecological relationship of wolf and coyote. In *American Forests*, March 1937, writing again about his observations on the Rio Gavilan, he wrote: "There are no coyotes in the mountains, whereas with us there is a universal complaint...that the coyote has invaded the higher country to wreak havoc on both game and livestock...I submit for the conservationist to ponder the question whether the wolves have not kept the coyote out?"

It's a question that has surfaced again with the current effort to reintroduce the Mexican wolf into its historic habitat in the Blue Wilderness Area. The question as now restated is "Would the wolf add significantly to the kill of big game by predators, as some hunters fear? Or might the wolf, by reducing the numbers of the now extremely abundant coyote, a predator known to prey heavily on deer fawns, actually be a beneficial influence?" Only time will tell—if the wolf again becomes an established presence in the Blue country.

Apparently the paragraph in *Sand County Almanac* relating the story of the mother wot shot by Leopold and his crew along the Blue River in Arizona, and the "...fierce green fire in the eyes of the wolf...." was in the nature of atonement for his earlier radical views on predators. Leopold had been encouraged by one of his PhD candidates to acknowledge inane of these essays that his views on predators had undergone a major change over the years. He finally did so with the anecdote about the wot with the "green fire" eyes.

LEOPOLD ON LIVESTOCK GRAZING

While his writings, during his time on the Apache National Forest, speak mostly of his work surveying the timber resources, he was, early on, confronted with a problem that was to plague him as long as he was a Forest Service employee—overgrazing by domestic livestock. He left little in the way of a written record of range conditions on the Apache, however, except to mention his having to check on overgrazed allotments.

Range conditions were apparently much worse on the Carson National Forest in northern New Mexico, than on the Apache, when he was transferred two years later. Overgrazing was so prevalent that it quickly became one of Leopold's biggest problems. At the time, there were 220,000 cattle and 1,750,000 sheep on the Carson. Leopold noted that because of severe overgrazing "There is practically no game in this country....".

Ranchers on the Carson were unwilling to accept the new grazing restrictions imposed in early 1912. Leopold's job was to see that they obeyed them. In a letter home he reported "By God, the individual Allotment and every other reform we have promised is going to stick—if it takes a six-shooter to do it!" Leopold and his rangers, however, managed to keep their revolvers holstered; their task called more for diplomacy than gun play.

Soon, Leopold began having problems with his supervisor over livestock grazing. He pushed hard for fewer heads of livestock on overgrazed ranges; his supervisor preferred not to make waves.

The first World War undid whatever had been accomplished to improve range conditions. Believing it necessary to raise a maximum amount of beef for "our boys in Europe", all restraints on grazing were lifted. The result was overgrazing on an unprecedented scale. An unintended consequence was the death of thousands of cattle to starvation. On the Tonto National Forest in Arizona in the years immediately following the war, some ranchers lost more than half of their livestock to starvation.

From the outset of his Forest Service work in Arizona, erosion became one of Leopold's chief concerns. He soon recognized that in most cases the onset of severe erosion coincided with the introduction of livestock to the area. In Susan Flader's *The River of the Mother of God and Other Essays* by Aldo Leopold he is quoted: "At the mouth of one Utah canyon...erosive deposits display seasonal color layers, from which a chronology similar to that of tree rings has been built. It shows more movement of soil since the introduction of livestock to the watershed 50 years ago than had previously occurred since the recession of the glacial epoch"(emphasis added).

Leopold eventually came to the conclusion that "range control", whether through a reduction in livestock numbers or by better distribution of grazing pressure, was not enough. In a *Journal of Forestry* article he wrote: "The truth of the matter is that any system of grazing, no matter how conservative, induces erosion...no system of Range Control...can be relied upon to stop erosion already started".

Early in his Forest Service career he had been inclined to go along with the wide-spread belief that the problem of grazing's adverse impact on wildlife on erosion, and on range productivity in general, could be resolved by adjusting livestock numbers to range carrying capacity. He gradually

came to realize, however, that, in the the southwest at least, any grazing was probably too much. In a 1937 article in *American Forests* he said "I sometimes wonder whether semi-arid mountains can be grazed at all without ultimate deterioration. I know of no arid region which has ever survived grazing through long periods of time.....The trouble is that where water is unevenly distributed and feed varies in quality, grazing unusually means overgrazing."

LEOPOLD ON CONSERVATION GROUPS

Members of the Arizona Wildlife Federation (AWF) will be surprised (as I was) to learn of Leopold's involvement in the genesis of the Federation. AWF members are familiar with some of the early history of the organization. They know that it came into existence to do something about the politics then rampant in fish and wildlife management. They also know that eventually the AWF, in 1923, was successful in getting the legislation passed that provided for a policy-making Game and Fish Commission and a working Game and Fish Department subject to a minimum of political interference. And they know, too, about the role played by Tom McCullough, for which the McCullough Award is named, in making it all happen.

What most did not know, never having read or heard anything about it, is that Aldo Leopold was involved in the early stages of the formation of the Arizona Game Protective Association, the predecessor of the AWF! On page 156 of *Meine's Biography* we find this: "He, (Leopold), helped organize the first Game Protective Associations in Arizona, at Flagstaff and Springerville. He spoke to a large crowd at the Empress Theatre in Flagstaff. he then went on and formed two other local GPAs at Tucson and Payson."

He had earlier been instrumental in the formation of the New Mexico Game Protective Association. On October 19, 1915, he led the organizational meeting and was elected secretary of the Albuquerque Game Protective Association. Within a few months he had organized two other GPAs at Taos and Magdalena. His efforts at forming local GPAs culminated in the formation of the New Mexico Game Protective Association on March 15, 1916, with a membership of 1000.

Within a year, through Leopold's efforts, the organized sportsmen had turned New Mexico into one of the most progressive states in the nation for game conservation. Their accomplishments were soon known throughout the country. Leopold received this letter from Theodore Roosevelt: "My dear Mr. Leopold, through you I wish to congratulate the Albuquerque Game Protective Association on what it is doing. I have just read the *Pine Cone*. I think your platform simply capital. It seems to me that your association in New Mexico is setting an example for the whole country. Sincerely yours, Theodore Roosevelt".

Aldo Leopold died April 21, 1948, of a heart attack while fighting a grass fire near his beloved "shack". This was the former chicken coop rebuilt by Leopold and his family on the 160 acre abandoned farm he purchased in 1935. He was determined to restore it to its original condition and spent countless days planting thousands of trees of various species and doing the many other things necessary to improve the area.

This worn out piece of land had become the focus of most of the Leopold family's outdoor activities from the mid 1930s on. It was also the source of many of the observations woven

into the essays of the Almanac.

Leopold was 61 years old and at the peak of his powers at the time of his death. The conservation movement suffered a severe blow with his passing, and this loss was reflected in the comments of his many friends and colleagues: "The cause of conservation has lost its best friend." ".....Aldo was just reading the height of his powers and his wisdom, at the peak of his rich and creative life." The things which Aldo gave to us are as deathless as the Human Race."

And what would Leopold think of the conservation and related events of the past 50 years? Surely there is much he would deplore, including the proliferation of off-road and all-terrain vehicles, jet skis and 200 horsepower outboards. A man who fashioned his own osage orange and yew bows would probably look with distaste at the weird mechanical devices that pass as "bows" today. He would be unimpressed with the endless array of gadgets of every conceivable size, shape, and color available today, all of them intended to make life in the outdoors easier and to make the catching of fish and the taking of game just a question of having the right lure, scent, or ultra high tech device. He would probably not be surprised, but

would be distressed nonetheless, that conservationists are still fighting to eliminate overgrazing on our public lands.

But, I also think he would be pleased with some developments that have occurred and some that did not come to pass as he feared would happen at the time of his death. First, Leopold would applaud the fact that the proposed Rampart Dam in Alaska and another in the Grand Canyon were never built. He would be delighted that many areas have been formally declared "Wilderness Areas". I'm sure he would look favorably on the Endangered Species Act, despite its current shortcomings.

Considering his altered views on the large predators, especially the wolf, he would be especially pleased to know that the species has now been re-introduced into Idaho and into Yellowstone Park, and that releases of the Mexican Wolf will soon take place in the Blue Wilderness Area, the locale of Leopold's only forest hand encounter with the wolves.

And, perhaps most of all, he would realize his success as both a father and a conservationist in the fact that all five of his children became recognized naturalists and conservationists in their own right.

Camp Cook

By Ryna Rock



Hawaiian Fish Kabobs

- 1 pound fish fillets, 1" chunks
- 1 can pineapple chunks, undrained
- 1/4 cup vegetable oil
- 1 pkg spaghetti sauce mix
- 4-6 slices bacon

Drain syrup from pineapple, reserving 1/2 cup. Combine syrup with oil and contents of envelope of seasoning mix. Alternate fish and pineapple chunks on 4-6 skewers, weaving bacon around them. Brush with seasoning mixture. Grill over hot coals, turning and brushing kabobs frequently with seasoning mixture. Cook about 10 minutes or till fish flakes easily.

Yams, Apples, Potatoes Dutch Oven Recipe

- 4 apples
- 3 tsp cinnamon
- 2 yams
- 1/4 tsp salt

- 2 sweet potatoes
- 1/4 Tbsp vegetable oil
- 1 1/2 tsp nutmeg
- 2 cups apple cider

Peel apples, yams, and potatoes and cut into 1/4 inch slices. Mix them together. Mix nutmeg, cinnamon, and salt into cider. Pour oil and 1 cup of cider into 10 in. Dutch Oven. Put 1/4 of apple/yam/potato mixture in Dutch Oven. Pour 1/4 cup of cider on top. Repeat with 3 more layers. Cook 50 minutes with 8-10 briquettes on top of lid and 8-10 under bottom. Check halfway through cooking, stirring the mixture for even cooking. Serves 8 guests.

Grilled Bananas

- Bananas
- Semi-sweet Chocolate Chips
- Miniature Marshmallows
- Aluminum Foil

Cut one side of the banana open without hitting the ends or cutting through to the bottom side. Carefully edge the banana open and put in some chocolate chips and marshmallows. Wrap each banana tightly in aluminum foil. Heat the Bananas over coals for 3 or 4 minutes. Turn and cook another 3 or 4 minutes. Remove the bananas from the grill and let them cool a bit especially if you're serving these to kids. Once they've cooled a little, they can be served right in the tin foil. You'll probably want to provide plastic spoons.

Oven size	Number of briquettes	
	Top	Bottom
10-inch	10 to 12	8 to 10
12-inch	12 to 14	10 to 12
14-inch	14 to 16	12 to 14
16-inch	16 to 18	14 to 16

Welcome New Members

Jason Agresta	Chandler	AZ
Kristin Bagby	Glendale	AZ
Sarah Baxter	Little Rock	AR
Laurie Boeck	Fairbanks	AK
Leesa Burton	Phoenix	AZ
Dan Carey	Florence	AZ
Shannon Chaboudy	Sun City West	AZ
Holly Cremer Berkenstadt	Madison	WI
Molly Finney	Prescott	AZ
Dustin Gransee	Mesa	AZ
Art Gransee	Mesa	AZ
Jennifer Grant	Glendale	AZ
Marj Haley	Omaha	NE
Patricia Handy	Annapolis	MD
Cathie Harms	Fairbanks	AK
Susan Herrgesell	Cottonwood	CA
Nicole Hoffman	Peoria	AZ
April Howard	Tempe	AZ
Sherry Howell	Cottonwood	CA
David Kolstad	Mesa	AZ
Sandra Larson	Peoria	AZ
Cindy Leach	Scottsdale	AZ
Joel Letcher	San Tan Valley	AZ
Tiana Mamaradlo	Henderson	NV
Craig Maris	Laramie	WY
Jami McCabe	Topeka	KS
David Morris	Mesa	AZ
Leah Moseley	Little Rock	AR
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Regis O'Connor	Buffalo	NY
Margaret Padula-Baker	Fountain Hills	AZ
Jonathan Smith	Payson	AZ
Jeff Stewart	Tucson	AZ
Barbara Swan	Tucson	AZ
Ronald Towles	Gilbert	AZ
Doug Williams	Mesa	AZ
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Arizona Wildlife Federation
P. O. Box 51510, Mesa AZ 85208
480-644-0077
(FAX) 480-644-0078
awf@azwildlife.org

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WHADDA' YA' KNOW

Answers

1. Some Arizona native plants are protected by law.
2. Highly Safeguarded, Salvage Restricted, Salvage Assessed and Harvest Restricted
3. A Creosote Bush can live for thousands of years.
4. In your tire treads and the treads of your hiking shoes.
5. Yes.....in the mountains of southeastern AZ, the White Mountains, and along the Verde Rim
6. Sustaining basic resources and people living on the land through conservation, and economic & social considerations.

Did you know that scholarships are available for first time BOW participants? Apply now for the April workshop. Go to www.azwildlife.org for applications.

Want to help at BOW?

We are always looking for folks to help bring stuff to camp and drive the shooting class to the range. We also need drivers for the Coordinators Conference.

Contact Kim at: 480-644-0077



Please take a moment to review the list of Life Members and past Benefactors to make sure we have not missed anyone. If you want to add someone to the list or upgrade your own membership status, please use the membership form provided below.

AWF Membership Application

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Check Enclosed!

Please bill my Mastercard Visa Discover

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- 45 Family
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- 100 Patron
- 500 Life Member
- 325 Distinguished Life Member (65+ or Disabled Veteran)
- 500 Benefactor
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- 500 Corporate

All Membership fees are tax deductible

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Arizona Wildlife Federation
PO Box 51510
Mesa, AZ 85208
(480) 644-0077
Fax: (480) 644-0078
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