

Arizona Wildlife Winter 2015 News



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ARIZONA WILDLIFE NEWS

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In This Issue

Page 3	President's Corner
Page 4	Regional Roundup
Page 6	Buffelgrass
Page 8	Wildlife and Military Base Preservation
Page 9	SRP Healthy Forests Conference
Page 10	Northern Arizona Shooting Range
Page 11	Keep our Public Lands Public
Page 12	Teaching Conservation-Trout in the Classroom
Page 14	BOW Happenings
Page 16	PLRED
Page 17	Arizona Organizations Unite
Page 18	Historical Tales
Page 21	Camp Cook
Page 22	Members

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 courtesy of George Andrejko with the Arizona Game & Fish.

Back cover courtesy of photography student Deanna Bailey. A light dusting of snow covers Lockett Meadow and the tops of San Francisco Peaks.

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

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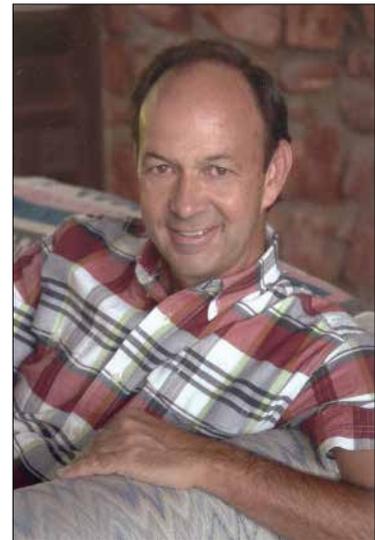
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President's Corner

By Brad Powell



With the cooler weather and the approach of the Holiday season, I was reminded of the wish list of gifts that we all compiled when we were kids. The list of things I would like for Christmas this year is significantly different that the list of toy guns, trucks and candy that I dreamed of as a youth. I am sure your list may be different than mine but I also bet since you care about Arizona's fish and wildlife that we will share some similar wishes.

My wishes:

Arizona's state legislature needs to quit wasting our hard earned tax money trying to take over the Federal public lands. There is a long list of reasons why this effort is misdirected but a few of them include that its unconstitutional, would ultimately significantly reduce access to these lands and is way beyond the financial means of the State to manage these lands. While we can all agree that there are problems with the Federal land management system this crazy idea needs to go extinct.

Congress needs to reauthorize the Land and Water Conservation Fund. This fund has been one of our nations

most successful Conservation laws. Congress this year let it lapse for the first time in its 50 year history. The Land and Water Conservation Fund (LWCF) has provided funding (off shore oil receipts) to help protect some of Arizona's most special places and ensure recreational access for hunting, fishing and other outdoor activities. Arizona has received over \$200 million in LWCF funding over the past four decades, investing in important areas such as the Grand Canyon and Saguaro national parks, Lake Mead National Recreation Area, Coconino National Forest, Buenos Aires National Wildlife Refuge, San Pedro Riparian National Conservation Area. LWCF grants also provided the funding to local communities to create trails, parks, playgrounds, urban wildlife refuges, greenways and other recreational facilities.

Pass the Public Lands Renewable Energy Development Act. Arizona is blessed with a bounty of renewable energy resources. This important bill introduced by Congressman Gosar and Co-sponsored by virtually all of the States delegation shares the royalty revenues that result from renewable energy development with the State, County and a conservation fund designed to mitigate the effects of

large-scale development.

For my final wish I hope that all of you whether you are a hunter, angler, birdwatcher, hiker or camper get involved, talk to your legislators, help them understand the importance of Arizona's outdoor legacy. Our legislators often have a poor understanding of what we value. Lets make sure we do our part to help them learn about Arizona's outdoor resources and ultimately to be accountable to you and I, the voters.

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:
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Send your e-mail to:
editor@azwildlife.org

REGIONAL ROUNDUP

Region II - Tom Mackin
Regional Director



Modifying Fences for Pronghorn

Aug 25 – Attended the Annual meeting of the Northern Arizona Shooting Foundation, the operating entity for the AZGFD Northern Arizona Shooting Range (NASR), where I was elected to a three year term as a Director at Large

Aug 26 – Attended the monthly Four Forest Restoration Initiative (4FRI) Stakeholder Group meeting in Pinetop where we discussed the upcoming new EIS for activities on the East side of the 4FRI area and other topics

Aug 27 – With numerous FS staff and FoNAF volunteers, worked on modifying $\frac{3}{4}$ mile of fencing in GMU7E to improve pronghorn/wildlife movements

Aug 28 – Met with AZGFD Region II representatives for a visit to a proposed HPC project in GMU6B/11M to protect wildlife habitat from OHV abuses in the important Woody Ridge Wildlife Corridor

Aug 28 – Along with representatives from TRCP and Northern Arizona Flycasters, we met with a staff member from Sen. John McCain office to discuss the proposed Lee's ferry operation recommendations, the reauthorization and full funding of the Land and Water Conservation Fund(LWCF) and the importance of reaching a bi-partisan budget agreement before sequestration commences

Aug 29 – With several FoNAF volunteers we worked on maintenance and repair of several aspen exclosures in GMU7E

Aug 30 – Worked as a volunteer Range Safety Officer at the AZGFD NASR

Aug 31 – With another FoNAF volunteer we visited a historical homestead site adjacent to an important spring in GMU6A where the FS has requested assistance to build a log worm fence to keep OHV's from driving into a wet meadow area.

Sept 1 – With another volunteer, we assisted AZGFD region II staff with preparations for the upcoming Coconino County Fair exhibit highlighting family recreational opportunities, Watchable Wildlife and other related topics

Sept 2 – Continued Fair preparations

Sept 2 – Attended the joint meeting of the Grand Canyon Chapter of Trout Unlimited and Northern Arizona Flycasters, discussing the upcoming Trout In The Classroom activities involving three local schools. Received a presentation on the history and current status of the Lake Powell fishery

Sept 3 – Assisted with the setup of the AZGFD booth at the Coconino County Fair

Sept 4 – Volunteered at the AZGFD booth at the Fair

Sept 5 - Volunteered at the AZGFD booth at the Fair

Sept 7 - Volunteered at the AZGFD booth at the Fair

Sept 8 & 9 – Assisted AZGFD staff with elk surveys in GMU 9, south of Grand Canyon NP

Sept 10 – Attended Board meeting for Northern Arizona Shooting Range

Sept 11 – With several other FoNAF volunteers, made repairs to a wet meadow exclosure fence surrounding Hoxworth Spring SE of Flagstaff in preparation for Forest Service planting of Bebb's

Willow at this former location of willows

Sept 12 – Attended a training session for Trout In The Classroom (TIC) presented jointly by Trout Unlimited (TU) and AZGFD. TU has coordinated having TIC in 18 schools around the state this year, an increase from 3 in previous years

Sept 14 – Assisted AZGFD development Branch with installation of a new storage tank liner and collector repairs in GMU9

Sept 15 – With FS employees and volunteers from FoNAF assisted with modifications to several miles of range fences on the CNF to make them more wildlife friendly

Sept 17 – With other members of AWE, we visited Rogers Lake Natural Area for a site visit to see existing progress and discuss future plans and improvements

Sept 19 – Attended the AWF BOD meeting held in Flagstaff

Sept 22 – Attended the AZSFWC meeting in Phoenix

Sept 23 – Attended the monthly 4FRI stakeholders meeting in Flagstaff, discussing the planning process for the east side analysis area

Sept 24 – Returned to GMU9 to continue work on trick tank rebuild

Sept 25 – With FoNAF volunteers assisted with build of new log worm fence at Babbitt Spring to reduce motorized access to historic cabin site and wetland

Sept 26 - Assisted with demonstrations and public outreach for joint USFS and AZGFD National Public Lands. National Hunting and Fishing Day at Lake Mary outside Flagstaff

Sept 27 – Assisted with AZGFD Hunter Ed Field Day for 19 students at the Northern Arizona Shooting Range outside Flagstaff

Sept 28 - Returned to GMU9 to complete work on trick tank rebuild

Sept 29 – Met with AZGFD Region II Habitat Manager to prioritize HPC proposals

Sept 30 – Met with Mingus Union H.S. TIC teacher and assisted with tank setup in preparation for egg delivery

Oct 2 – Assisted FoNAF and FS with repairs to a large wet meadow enclosure recently damaged by winds and runoff. Site

was recently planted with Bebb's Willows in hopes to restore this historic willow location

Oct 9 – With another volunteer we visited the site of a trick tank rebuild in GMU7W and welded approximately 350 of new pipe rail enclosure fence

Oct 11 – Led hike for visitors to Flagstaff Arboretum discussing history of Arboretum, importance of our ponderosa pine forests and other general topics about the Arboretum and gardens

Oct 12 – With another volunteer we worked on water distribution on the Pat Springs Pipeline in preparation for winter shutdown, making sure drains are open, drinkers topped off and tanks are at least 50% full

Oct 13 – Continued work on the Pat Springs Pipeline

Oct 14 – Attended the Annual meeting for FoNAF, including election of Officers and discussed plans for the 2016 work season

Oct 15 – Attended the Hunt Recommendation meeting at AZGFD Reg. II office on the proposed hunt tag levels for various game species for 2016

Oct 18 – Returned to trick tank rebuild in GMU7W but construction has been delayed due to road and soil conditions

Oct 23 -27 – Continued winterizing of Pat Springs pipeline and other trick tanks in preparation for colder conditions

Nov 1 - Completed winterizing of Pat Springs pipeline and other trick tanks in preparation for colder conditions

Nov 9 – Met with reporter and photographer at the AZGFD Northern Arizona Shooting Range(NASR) to provide them with information regarding the Range, some future plans and membership opportunities

Nov 10 – Attended the BOD meeting for the Northern Arizona Shooting Foundation, the operators of the NASR and discussed plans for 2016

Nov 13 – Attended the Community Open meeting of the Diablo Trust and I made a presentation on some of the years accomplishments relative to wildlife and carrying capacity on the ranches



AES volunteers repair a trick tank in Unit 9



New welded pipe fence at a trick tank in Unit 7W

Buffelgrass

There is no doubt that buffelgrass is an existential threat to the Sonoran Desert and we desperately need to manage this problem.

by Thom Hulen

Habitat destruction is the greatest threat to wildlife. Habitat destruction can occur rapidly, for example habitat destroyed by fire, urban spread, chemical spills and mineral development or it can occur slowly with the spread of invasive species and climate change. As is often evident in our modern world, habitat destruction is the result of several factors working together.

Great examples of this “synergy” of activities are the spread of invasive species facilitated by changes in climate.

In Arizona one major threat to habitat is the spread of Buffelgrass *Pennisetum ciliare*. Buffelgrass was introduced to the southwestern United States in the 1930s from Africa as cattle

forage. Even though several introduction efforts failed in Arizona it did grow well in Sonora, Mexico and by the early 1980's small populations were recorded growing in southern Arizona. Since then buffelgrass has spread rapidly throughout the Sonoran Desert and where conditions are suitable buffelgrass can overtake native vegetation.

Buffelgrass threatens Sonoran Desert plants by overcrowding and outcompeting native plants for water and sunshine. Buffelgrass's dense stem and leaf growth makes too much shade for native seed germination.

Another important factor is that buffelgrass is adapted to seasonal wildfire whereas most Sonoran Desert plants are not. The saguaro, a Sonoran Desert keystone species, and all cacti, and the various palo verde trees conduct photosynthesis on its trunks and limbs. Palo verde trees do have leaves but their trunks and limbs are the primary sites for photosynthesis. Succulents such as yucca and agave plants have broad long lasting leaves. When these plants are subjected to fire the primary or only surface where photosynthesis occurs is destroyed and the plant dies.

There have been significant buffelgrass wildfires in southern Arizona and Sonora, Mexico. Today thousands of acres of formerly Sonoran Desert habitat in Sonoran have been transformed into buffelgrass pasture.

The livestock industry in Mexico continues to grow buffelgrass as a valuable livestock forage. This makes control efforts in Arizona more challenging. Furthermore there is research in developing a more cold tolerant variety. A cold tolerant variety would encourage the buffelgrass invasion beyond the Sonoran Desert.

In Arizona, the primary dispersal pathway are roadways where seeds catch a ride on vehicles. It is quite common to see buffelgrass growing along roads in southern Arizona. Under the right conditions, buffelgrass will grow outward from the roads into the adjacent landscape. In my experience, the buffelgrass begins its infestation along desert swales and washes where there is more water available. In areas with suitable precipitation buffelgrass will migrate up slopes, particularly in areas that previously burned.

Land managers and volunteers have been working to control buffelgrass by organizing events where buffelgrass is removed by hand and treated with herbicides such as glyphosate (Roundup™).

Today buffelgrass is a significant threat in the Saguaro National

Monument near Tucson where hundreds of acres are infested and park managers have determined that aerial spraying is necessary to protect the monument's native plants.

There is no doubt that buffelgrass is an existential threat to the Sonoran Desert and we desperately need to manage this problem.

Mechanical removal with hand tools is not practical in all areas and there is some concern that buffelgrass is spread inadvertently this way. Herbicide treatment works, but as with just about anything people do there are unintended consequences. We are all familiar with the unintended consequences of pesticides on wildlife such as DDT on bird shell formation. Recently some evidence that suggests glyphosates may be contributing to the crash in honey bee populations.

Like it or not we are stewards of our planet and it is our responsibility to make sure our actions do not destroy what we need to survive. Humans are probably unique in that our survival relies on aesthetic values. We are nourished by beautiful plants, animals and landscapes just as we are by clean air, water and food.

Buffelgrass infestation is just one of the conservation challenges we face today. Fortunately it is one challenge we can master if we take the right management steps.

First we need to eliminate buffelgrass dispersal along roadways. State and counties road departments do treat right of ways for weeds, but their effort is not enough. There needs to be more aggressive and systematic treatment of infested areas.

Second we should do what it takes to manage buffelgrass on places such as Organ Pipe National Monument, Saguaro National Park, Ironwood Forest National Monument and eventually all lands.

To discourage wildfire private land owners and local governments should take responsibility to help reduce the threats encouraged by buffelgrass infestations.

Third discourage the continued cultivation of buffelgrass in Mexico and the further development of new buffelgrass varieties.

Like most if not all invasive species, we will probably not eliminate buffelgrass from our landscapes but we can make sure that buffelgrass does not destroy the Sonoran Desert and its wildlife. That would be too great a loss to suffer.

Wildlife and Military Base Preservation

By Ian Dowdy, AICP



Fact: The Department of Defense manages a higher density of threatened and endangered species on military lands and ranges throughout the United States than any other agency.

This is one of several findings that were shared with communities throughout Arizona over the past summer and fall in a unique collaboration between my organization, the Sonoran Institute, the Arizona Wildlife Federation, Arizona military leaders, and urban planners.

For years I, and many of my other colleagues in the conservation community have recognized that military ranges are exemplary stewards of the wildlife that live on and around these facilities and that it is high time that we raise awareness about encroachment pressures that are caused by land management decisions outside of military lands in rural areas of Arizona.

Over the past eight years, it has become clearer that the health of landscapes around military facilities is directly connected to the operability and efficiency of the training activities that occur there. In our research, three specific cases come to mind and are featured in the report “Mutual Benefit: Preserving Arizona’s Military Mission and the Value of Publicly-Owned Lands.” The report was released in Washington DC in July of this year.

First, water resources are scarce in many areas and require a careful balance between users and its benefit to the natural environment. In the case of Fort Huachuca, the San Pedro River and the endangered Huachuca water umbel relies on the same source of water as the legendary military installation. Thankfully, over recent years the installation has focused on water conservation and now aims to live in

harmony with this incredible natural feature.

Secondly, wildlife know no boundaries between the public lands around military installations like the Barry Goldwater Range and other desert lands nearby. For the endangered Sonoran pronghorn, the range is just as much its home as the Cabeza Prieta Wildlife Refuge that has seen significant degradation over the past decade from border crossers and resulting enforcement activities. As a result of the great stewardship of the Range and wildlife organizations, this species has seen a tremendous recovery from only about 20 individual animals in 2002 to over 200 today.

Third, development pressures are no longer confined to private and state landholdings in Arizona. Today, renewable energy development has become a land user across federal lands and can occur in areas that were considered too remote to require mitigation planning and prevention. In military Special Use Airspace that covers 51% of the state, these vertical obstructions could occur in a variety of areas, reducing the efficiency of the military mission.

These three examples are among many that we discuss in our report. They demonstrate why communities should accept responsibility to proactively identify and resolve encroachment issues before they become a burden on the military mission. In the first example, while Fort Huachuca found it necessary to implement significant water conservation measures, the larger share of the responsibility should rest with Sierra Vista and other communities in the region who draw from the aquifer and compound the problem. Like the other examples, the military facility is often faced with the larger share of the burden of resolving the problem when it should be addressed by the broader range of contributors.

In the second case, where the Barry Goldwater Range bears significant responsibility for managing the endangered Sonoran pronghorn, it seems logical that increased attention should be placed on conserving wildlife blocks and corridors surrounding the facility so that it will have a smaller share of management scrutiny and expense. Again, had proactive measures been implemented to conserve habitat and reduce the impacts of border-related activities, it could be that this iconic North American species would enjoy a broader range and require less active management expense toward a more successful recovery.

In the third case, solar development is generally not a major concern for military operations, though towers in Military Training Routes can cause a notable obstruction and a potential risk to pilots. Other major activities that could occur in federal lands are also worthy of additional scrutiny as they can cause further habitat fragmentation, obstruct movement corridors, and infringe on the use of lands by recreationists. It is essential that the overall habitat integrity be considered when land management decisions are made in order to reduce the direct, indirect, and perceived encroachment threats on military missions.

Overall, the aim of the study was to demonstrate that while the U.S. military are generally excellent stewards of wildlife and natural lands in Arizona, policy decisions and actions involving lands near to these installations and ranges must recognize that the landscape is interconnected and that actions will almost certainly impact military operations and effectiveness.

The “Mutual Benefit” report and its subsequent meetings at the Pentagon, on Capitol Hill, and in four workshops in Arizona, resulted in significant outreach and awareness of this big-picture issue. Huge thanks to the Arizona Wildlife Federation and Ben Altenecker, Glen Dickens, and Tom Mackin who participated in the forums and helped to review the report.

To learn more please visit:

<http://www.sonoraninstitute.org/where-we-work/south-west/military-mission-preservation.html>

Ian Dowdy, AICP, MBA is the Director of the Sun Corridor Legacy Program and is based out of Phoenix.

Sonoran Pronghorn photo courtesy of the Arizona Antelope Foundation.

SRP Healthy Forests Conference



Tice Supplee, Jim Walker and Sarah Luna

AWF co-hosted a partnership booth at the recent SRP Healthy Forests Conference in Scottsdale. Thanks to AWF at-large BOD members, Thom Hulen and Sarah Luna, and important partner groups Trout Unlimited and Audubon's Western River Action Network for being there to distribute information about shared goals and priorities.

Northern AZ Shooting Range

Tom Mackin
Region II, Director
Photos by Jake Bacon



Richard "Dick" Kersey & Tom Mackin at the 100 yard rifle pistol range.

After several long decades of frustration and disappointment, in July of 2012, residents and sportsmen of Arizona welcomed the opening of the Arizona Game and Fish Department Northern Arizona Shooting Range (NASR), approximately 20 miles SE of Flagstaff and only 5 miles from I-40 at Winona. The AZGFD, after trying for Forest Service land exchanges or permits finally agreed that the best and most expeditious course would be to purchase a suitable piece of land that met the needs for range development. When the 160 acre Foster Ranch became available, a purchase agreement was negotiated at an initial cost of approximately \$2,000,000. Since the opening, numerous improvements have been made and progress will continue in the years to come.

Operated by the non-profit all volunteer Northern Arizona Shooting Foundation, the range is currently open to the public on Friday through Sunday, 11 AM until 3 PM. Current amenities include a 12 position 50 yard range, a 14 position 100 yard range, both primarily used for rifle and pistol shooting. In addition there are 5 trap fields including one with a skeet overlay and our ever popular 12 position sporting clays field. Depending on weather and road conditions, a 5 stand field is also frequently available. There is also a new 5 target archery fixed distances target practice area and for 2016 there will be a 14 target 3D walk through course available as well.

This range is important to the shooting public overall but it also provides some additional benefits. Prior to the opening of the range, local, State and Federal Law Enforcement agencies would often have to conduct their

trainings and qualifications on Forest Service land, usually an abandoned cinder pit, gravel or material barrow pit, areas that have been used and abused extensively for years. These sites were not safe, secure or even suitable in many cases for these law enforcement activities. Through a user arrangement, over 15 agencies are now able to use the NASR on a reservation basis Monday through Thursday, providing a much better location for these activities. In addition, the AZGFD Hunter Education Program mandatory Field Day/live fire exercises also had to resort to these same hazardous locations but now, the NASR hosts 6-8 Hunter Ed events each year, certifying over 200 students from around the State.



Additional reservations have been made for specialized groups requesting training and range time including Scout troops, first time Women's shooters classes, private citizens wishing to gain familiarity with new or existing weapons and many others. In addition, there are several competitive or practice sessions reserved for Practical Pistol, Cowboy Style shooters, various registered trap, skeet or sporting clays events and many others each month.

The Arizona Wildlife Federation has strongly endorsed our citizens firearm ownership rights, the need for the Hunter Education program, support for our law enforcement agencies and all of these items require a suitable area to practice safe firearms handling and improve weapons proficiency. The NASR and Foundation are therefore very important to the membership of the AWF and the citizens of our State. For membership, range hours, volunteer opportunities and other information please visit their website, <http://www.northernarizonashootingrange.org/>.

Keep our Public Lands Public

By Brad Powell, AWF President

Arizona hunters and anglers have serious concerns about transferring federal public lands to Arizona to be managed by the state. On October 20, I was at the Capitol sharing my concerns at a packed Senate hearing along with taxpayers, conservation group representatives, and others from across Arizona. It is important to point out that many transfer opponents in the room are very often not in agreement on a host of other issues.

It is also significant that the Committee mandated to study the transfer of public lands – the so-called Transfer of Public Lands Committee - has thus far failed to hear from important wildlife management agencies, outdoor recreationists or other stakeholders who might be impacted by the transfer of public lands. Yet, at the October 20 hearing, opposition witnesses were limited to two minutes for their presentations, often stopped in mid-sentence and much like the old “Gong Show,” pulled from the podium. The witnesses that spoke in favor of the transfer were given unlimited time. Two of the committee members objected to this obvious bias but were told by the committee chair that she was in charge and would do as she wished. The bias of the committee Co-chairs throughout the hearing is apparent and unfortunate.

This Committee was established by Governor Ducey to consider the implications of transferring Arizona’s public lands to Arizona. This is not a new idea. In 2014, the Governor vetoed 3 related measures, as had former Governor Brewer in 2012. In addition putting an exclamation point on this issue, Arizona citizens (over 1.3 million) voted by a 2-1 margin to oppose the transfer in 2012.

Yet, here we were again discussing why the transfer is a bad idea. And, right now in Arizona it is a particularly bad idea. Here’s why.

Public Lands Access

In Arizona wildlife enthusiasts, sportsmen and women depend on our Federal public lands for hunting, fishing and wildlife viewing. These public lands, including our National Forests, Wildlife Refuges and Bureau of Land Management lands are the strongholds for fish and wildlife, they provide our clean water and provide the access for a vibrant outdoor-based recreation economy. A century old tradition of hunting and fishing dependent on access to our public lands is at risk.

Shortage of private lands myth

The Arizona State Land department manages 9.2 million acres of land. At Statehood, Arizona was granted 10.9 million acres of land. for the sole purpose of generating revenue

primarily for the states education program. A primary method of generating revenue is to sell these lands to the highest bidder. Arizona currently has 12.1 million acres of private land. If more land is needed for development or to increase the tax base certainly this 9.1 million acres will accommodate that need for many years

Public Lands Costs

Why would Arizona seek billions of dollars of liability and management responsibility to assume ownership of the 25 million acres or so of parks, forests and public lands in our State? Arizona’s State budget has struggled to pay for essential services and has cut back substantially on management of state parks and other state lands. Firefighting costs alone would exceed the States budget ability – the federal government faced a \$1.74 billion price tag for wildfire management on the nation’s public lands in 2013. In Arizona’s bad fire years the federal expenditure has topped \$100 Million, the state allocates 5 million per year for fire fighting expenses. In addition a massive expansion would be required for the state government to adequately assume the land management responsibilities. State legislators would need to push through exorbitant tax hikes or sell off the most valuable parcels to the highest bidder.

Neighboring States in the West have studied the idea and concluded that the cost would take a toll on their budget. Idaho found that it would run a deficit of nearly \$111 million per year if it were to take on management of just 16.4 million of the 34 million acres of public land within the state’s boundaries. Montana’s land management costs, would range from \$300 million to \$500 million annually.

Litigation Costs

The transfer of public lands will almost certainly fail to survive court challenges – at a time when the state simply cannot afford more and more costly litigation. Millions of taxpayer dollars have already been wasted on this effort across the west -why would we continue to throw more good money after bad.

Arizona is blessed with a treasure of Federal Public lands. If the Transfer of Public Lands committee does their job without a bias it will show that this bad idea will result in higher taxes, the sale of important fish and wildlife habitats, lessened public access for outdoor Recreation and significant budget deficits for the State. Lets let our elected representatives know that its time for them to work with the Federal Government to improve their management and quit wasting our valuable tax dollars on this absurd idea.

Teaching Conservation

Trout-In-The-Classroom



Students at Foothills Academy in Cave Creek

“They’re hatching!”
“Cool.”
“Awesome!”
“Yesterday they were just eggs!”
“We need to take care of the little fishes now.”

Words of excitement every teacher and conservationist wants to hear from students.

By John Doss and DJ Zor

The Arizona Council and chapters of Trout Unlimited are bringing the excitement of the outdoors to classrooms throughout Arizona with an expanded Trout-In-the-Classroom (TIC) Program. Trout-In-the-Classroom brings nature into the schools by offering students of all ages a chance to raise trout in a classroom setting. Caring for the fish fosters a conservation ethic in the students and a connection between caring for the fish and caring for the water. The program is a unique way to bring lessons about aquatic ecosystems, water quality, life cycles, food, fish biology and fishing recreation into the classroom.

Arizona’s Trout-In-the-Classroom is an interdisciplinary program in which students in grades 3 - 12 learn about coldwater conservation while raising trout from eggs to fingerlings in a classroom aquarium. The program has applications in environment, ecology, science, mathematics, social studies, language, fine arts, and physical education. The program also offers classroom and field trip curriculum to give the students both a hands-on and outdoors experience to enable them to understand the importance of our fisheries and water conservation.

Throughout the school year Trout-In-the-Classroom allows students to:

- Raise trout from egg to fry.
- Monitor tank water quality.
- Learn to appreciate water resources and the importance of cold-water conservation.
- Foster a conservation ethic.
- Begin to understand and appreciate ecosystems.
- Apply science, math standards and concepts to real-world applications.

One of the many reasons for schools enrolling in the TIC program is the diversity of subject matter that teachers can integrate into their lesson plans through raising trout. During the year, each teacher can tailor the program to fit his/her own curriculum needs. TIC can easily help teachers cover S.T.E.M. (Science, Technology, Engineering, Math)

as well as art, reading, language arts, social studies, and even Arizona's history. This unique learning experience allows students the opportunity to raise, care for and maintain the trout in their classroom starting in the fall through the end of the school year. At the conclusion of the school year, the trout will be picked up by the Arizona Game & Fish Department.

The TIC program has many interdisciplinary applications and connects all students (urban, suburban, rural) to their community by reinforcing the importance of water and wildlife conservation.

Trout are an ideal subject to introduce these topics. The timeline of a trout's development synchs well with the school year calendar. Eggs hatch and fish grow while school is in session, providing students the opportunity to experience life cycles as part of their education. As an indicator species, trout directly reflect the quality of water in which they live. It has been said that "If fish can't live in the water, we can't drink it".

In the Classroom

Arizona's Trout-In-the-Classroom has ambitiously expanded in the 2015 - 2016 school year from 3 to 17 classrooms involving over 1,800 students. On September 12th, 12 new teachers and 20 volunteers attended a day-long workshop for training including equipment set-up, water quality, aquarium maintenance, care and feeding of the fish. Participating schools are located in Bouse, Cave Creek, Cottonwood, Flagstaff, Glendale, Goodyear, Litchfield, Paradise Valley, Payson, Peoria, Phoenix, Pine, Prescott, Scottsdale, Tucson, and Wickenburg.

In elementary school, the focus can be on caring, growth, understanding life cycles, and the seasons. A high school program might explore water chemistry, the nitrogen cycle, natural resource management, watershed geology and ecology. Young anglers better understand the value of their local fisheries when they have seen the trout life cycle up close and personal in this way.

These Arizona schools are now part of a network of over 4,400 classrooms in 36 states involving over 100,000 students.

Teachers comment that "one of the most positive aspects of the TIC program is that it takes science out of the text book and makes it come alive for students".

Partnerships

Arizona's statewide TIC program is made possible through a unique partnership between The Arizona Council of Trout Unlimited, individual TU Chapters and volunteers, Arizona Fish and Game Department and the Arizona Sportsmen For Wildlife Conservation. This partnership provides curriculum resources, workshops for teachers, volunteers and program partners, technical support, trout eggs and funding.

Trout Unlimited is dedicated to providing staff and volunteer support for teachers, serving as a TIC go-to resource for teachers and is instrumental in securing funding to sponsor teachers in covering the cost of the equipment and program.

The Arizona Game and Fish Department provides the trout eggs, supplemental materials/equipment, staff and

volunteer support for teachers, and supporting curriculum materials and/or activities to aid teachers in the success of the program.

The Arizona State Council of Trout Unlimited received a generous grant from the Arizona Sportsmen For Wildlife Conservation (AZSFWC) to help fund a large portion of the equipment costs for starting many of the new schools in the program.

AZSFWC is an umbrella organization that serves wildlife conservation and sportsmen's organizations throughout the state of Arizona. Their membership is diverse yet focused on all things important to wildlife, its habitat and to furthering the hunting and angling heritage for future generations. The funding provided comes largely from their conservation license plate fund and is provided to organizations for work in one of three categories: habitat, education or hunter/angler recruitment projects. By going to www.servicearizona.com to renew a vehicle license, one can select to choose the option for a conservation plate which will cost an extra \$25. Of that amount, \$17 is returned to AZSFWC for funding eligible conservation projects such as the TIC program.

Volunteers are a key factor in supporting the teachers and the various components of the TIC program. The program is always looking for volunteers to assist in the expansion into more schools throughout Arizona. Anyone who is interested in knowing more about the program or its volunteer opportunities is encourage to visit www.aztic.org for more information.

The Future

The vision of Trout Unlimited is to ensure that robust populations of native and wild coldwater fish once again thrive within their North American range so that children can enjoy healthy fisheries in their home waters. Trout-In-the-Classroom brings the importance of this vision directly to the members of this next generation allowing them to discover it for themselves.

"They're hatching!" "Cool." "Awesome." Arizona Trout Unlimited Council would like to hear these expressions of excitement in even more classrooms in the coming years and will be working hard to make that happen across Arizona.

For more information on Trout-In-the-Classroom and Trout Unlimited in Arizona visit www.aztic.org and www.az-tu.org.

Small Fry Fish in a Tank



WOW, WHAT A YEAR!

2015 Wrap Up



by Linda Dightmon

"I just wanted to extend a huge thank you to the coordinators, sponsors and instructors at BOW. I was born and raised in a family that camped, fished and hunted but I was never really able to do those things first-hand. In BOW, I felt the courage and strength to try new challenges without being belittled or embarrassed for my lack of knowledge (or skill!). I want to really really thank you for making all participants feel warm and welcomed which enabled us to push our comfort zone (including going Aussie style!). I am now an official BOW groupie! "

*Thank you again!
Wendy Steward*

As we contemplate the 20th anniversary of the Arizona Becoming an Outdoors-Woman Program, there is much to be proud of. We planned and executed three weekend BOW workshops. We took on the challenge of hosting the 2015 BOW coordinators conference. We held an instructor appreciation campout and dinner using game meats that we harvested. But time marches on. At this writing in early December, the 2016 BOW Deluxe registration is posted and more than half full. Final touches to the Spring registration are in the works and ladies will be able to sign up in the next few weeks.

The 2015 BOW Deluxe was held at Saguaro Lake Ranch in January. The ranch was initially built to house the construction workers of Stewart Mountain Dam. The Dam was completed in 1930 and the property was turned into a fishing lodge and later into the guest ranch that we have today. The cabins are true to the era with a few modern amenities. There is air conditioning but no television.

The BOW Deluxe was a full workshop with 40 ladies participating. The weather was picture perfect with clear conditions. Everyone received tee shirts with our 20th year logo. I was especially pleased to be able to have a sky watching evening with comet Lovejoy as a special guest. Many thanks to Jan Weaver for bringing her fancy telescope for us to play with. The 2015 BOW Deluxe was embarrassingly easy to coordinate with the entire weekend running smooth.

Dates for the 2015 coordinators conference were in early February. Yep. We had roughly 10 days in between events! For the conference, we stayed with Saguraro Lake Ranch. The Goldfield mountains and Bulldog cliffs make this scenic venue the perfect place to show off our desert. We had coordinators representing Alaska, Wisconsin, North Dakota, Montana, Arkansas, Maryland, Florida, Minnesota, New Hampshire, New York and California. Those states have awesome wildlands but Arizona has the Sonoran Desert.

During the three day conference we had over 16 hours of working sessions. It was a brainstorming of 30 strong and determined women. Together we shared strategies to keep our program fresh and current without losing the primary objective. The goal is to create a fun outdoor learning experience in a safe non-threatening manner with patient enthusiastic instructors.

Hosting the conference was a personal challenge and (I am not going to lie) a whole bunch of stress for me. These ladies are my peers and I wanted to show off our program and our state. Shuttles to and from the airport were arranged as well as 'Road Trip Morning' and 'BOW Outdoor Adventures'. Our amazing Arizona team of volunteers came through once again and we had the bonus of perfect weather. The delegates loved our hospitality and headed home with memories of February sunshine and tools to make their program better. North Carolina hosts the next conference, scheduled for 2017.



A BOW Deluxe participant enjoys the trail ride in our iconic Sonoran Desert at Saguaro Lake Ranch

In April, we returned to Friendly Pines Camp for the twentieth Spring BOW workshop. The camp is located in the Ponderosa pines of the Bradshaws about 20 minutes away from downtown Prescott. This venue has been a children's summer camp since 1941, a vision from Bud and Brownie Brown. They are well known for Camp-Not-A-Wheeze for asthmatic children and Camp Rainbow for kids with cancer or blood disorders. It is still ran by their decedents.

In 1995, the Arizona BOW founders discovered the camp and saw it as the perfect place for our program. It could accommodate 100 participants plus instructors with classrooms as well as sleeping areas. Each cabin has bathrooms, heat, showers and bunks. Campers need to bring their own bedding and toiletries. There is a private pond for fishing and paddling classes, an archery range, the always popular horseback trails and high ropes course. Perfect. In the philosophy of, 'Why fix what isn't broken?', we have stayed there from the get go. So, each year at the beginning and the end of the Friendly Pines season, the women invade the children's camp.



The Paddling class practices maneuvers at Friendly Pines Pond

Kathy Greene coordinated this April workshop. It was a full camp with over 90 women coming to learn and play with us. Once again we were really lucky with the weather. Sunny days and mild nights were enjoyed. We had usual four, three-hour sessions with fun 1995 activities sprinkled in between. There was a scavenger hunt for 90's items and ladies wearing grunge

oufits. Saturday night grossed \$3,500 between raffles, auctions and Bowtique sales. We also recognized our 5 and 10 year volunteer instructors.

In July, we held a 'thank you' instructor campout and wild game dinner. It has always been a challenge to find a time and a place for instructors to get together. We have tried dinners and happy hours with limited success. Everyone has busy lives but everybody camps. So why not a weekend campout? So many great ideas are hatched around a campfire. We held the event on the rim where it is cool. Folks could come just for the Saturday night dinner or stay and camp. To celebrate our 20th, we hired chefs to prepare the game feast. It featured buffalo, elk, deer and javelina.

The weather was a major snag in our plans, as unlike our previous events, it rained pretty much the ENTIRE weekend. Our turnout was not as hoped but the 25 plus that attended enjoyed a five star dinner and great comradery albeit under tarp. We are going to try again in 2016 in a nearby campground that allows rigs.

Our final workshop of the year took place at Friendly Pines in September. We had a super full camp with 100 participants and a dozen more on a wait list. With the exception of one little thunder shower, the weather behaved. The entire weekend progressed without any real issues. That means that forty plus sessions, three presentations, campfires, night fishing, game tastes, and fly tying happened without incident!

We had a wonderful Saturday evening raising another \$3,500. Our program included recognizing board members and volunteer instructors present. We learned a little history from Mark Hullinger, one of the founders, and laughed at BOW Follie skits both old and new.

We were really lucky this year to have such great numbers in our workshops. With the extra heavy schedule and 20 year preparations there was little time left for marketing. We maintained the usual one third veteran and two thirds new ratio.

Attendance numbers indicate a real need for the Becoming an Outdoors-Woman program. For 2016, we will be developing fun new graphics and returning to marketing efforts. I plan on using the space in this column to showcase our talented instructors for they are the backbone of our success. We will do another campout in mid July for our instructors.

The BOW Deluxe is filling up fast and the April BOW registration will be out in early January. 2016 BOW dates are January 22-24, April 15-17 and September 9-11. I hope that you can join us.

WHADDA' YA' KNOW (answers on page 21)

1. How did the city Flagstaff derive its name?
2. When was the Arizona-Sonora Desert Museum founded?
3. What is the official state mammal?
4. Where is the geographical core of Arizona?
5. Marble Canyon of Grand Canyon derived its name from?

COME JOIN US!

2016 BOW Dates

Mesa - January 22-24

Prescott - April 15-17

Prescott - September 9-11

Scholarships available for April & September

For questions about the Becoming an Outdoors Woman program:



Contact Kim at:

awf@azwildlife.org or 480-644-0077

Public Lands Renewable Energy Development Act

By Brad Powell



In this photo, l-r, are Ben Alteneider (AWF/TU), Steve LaFalce (TU State Regional Council), Sarah Luna (AWF), John Hamill (TRCP), Tice Supplee (AZ Antelope Foundation), Brad Powell (AWF/TU), Steve Clark (AZ Elk Society), and Congressman Paul Gosar.

Arizona was not blessed with large deposits of oil and gas but its abundant renewable resources of sun and wind will provide the power for our future. Public lands in Arizona will play a key role in the development of these resources. The development of these resources will require large tracts of public land. Currently the permitting process often impedes or delays development of these valuable resources.

Development of large-scale renewable energy projects also impacts important fish and wildlife habitat and community resources such as roads. The current royalty payment structure provides no funding to State, Counties or for conservation purposes.

Congressman Gosar introduced the Public Lands Renewable Energy Development Act (H.R.596 in the 113th Congress) with the support of nearly all of the Arizona Congressional delegation. This Bill provides public land management agencies with a permitting process tailored to the unique characteristics and impacts of renewable energy projects.

This bipartisan bill removes government red tape and develops a streamlined process that will drive investment towards the highest quality renewable sources. The legislation also establishes a revenue sharing mechanism that ensures a

fair return for all. The Public Lands Renewable Energy Development Act distributes revenues derived through this Act by returning 25% to the state where development takes place, 25% to the counties of origin, 15% is directed for the purposes of more efficiently processing permit applications and reducing the backlog of renewable energy permits, and 35% is deposited into a fund for sportsmen and conservation purposes, including increasing access and outdoor recreation like hunting and fishing.

Federal lands are not taxed and this bill will provide an important funding source for state and local governments to deliver critical services and develop much-needed capital improvement projects, such as road maintenance, public safety, and law enforcement. The bill also provides critical funding to mitigate the effects of these developments on fish and wildlife habitat and sportsmen access. This funding will ensure that these developments can be done in a way that minimizes negative environmental effects.

Congress deadlock is a reality these days. The Public Lands Renewable Energy Development Act is one of the few bills that enjoy bipartisan support. Please take the time to let your elected representatives know that you support this bill and want to see it passed this Congress.

Arizona Organizations Unite in Support of PLRED



ARIZONA WILDLIFE FEDERATION
PO Box 51510
Mesa, AZ 85208

November 6, 2015

The Honorable Paul Gosar
U.S. House of Representatives
504 Cannon HOB
Washington, DC 20515

Dear Congressman Gosar:

We are very proud of the strong bipartisan support shown by Arizona's Congressional Delegation in co-sponsoring and working for prompt action to move the Public Lands Renewable Energy Development Act forward this year. On behalf of thousands of Arizona hunters and anglers we thank you for your support and ask that you continue your efforts.

Arizona's public lands provide some of our best opportunities to hunt and fish. We recognize that these same public lands also hold great potential for wind and solar energy development and that Arizona is one of six western states with designated public land solar energy development zones. We support the development of renewable energy resources on public lands, as long as it is done in the right places and in a manner that conserves fish and wildlife habitat.

The Public Lands Renewable Energy Development Act insures that a substantial portion of the royalty revenues generated by public lands renewable energy development is applied to offsetting impacts on fish and wildlife habitat and hunting and fishing access. In addition it ensures that significant funds are provided to the State and County that these developments occur within. In doing so this measure moves wind and solar development forward in a way that sustains our sporting heritage. Balancing development with protecting opportunities to hunt and fish is critical.

Support for this legislation is broad. In addition to sportsmen, the bill is supported by the National Association of Counties, the Western Governors Association, fish & wildlife and other outdoor recreation organizations, business groups and others.

Again we thank you for supporting this important legislation, and we look forward to working with you to move the bill through the legislative process this year.

Sincerely,

Anglers United
Dave Bohl, President

AZ Antelope Foundation
Shane Stewart, President

AZ Bass Federation Nation
Don McDowell, Conservation Chair

AZ Big Game Super Raffle
Charlie Kelly

AZ Bowhunters Association
Randy Ellard, Chairman

AZ Chapter of Safari Club International
Gilbert Quintana, President

AZ Deer Association
John Koleszar, Vice President

AZ Desert Bighorn Sheep Society
Gary Drake, President

AZ Elk Society
Steve Clark, Executive Director

AZ Flycasters Club
Gary Lashewich, President

AZ Houndsmen's Association
Floyd Green, President

AZ Outdoor Sports
Tom Slaughter, President

AZ Sportsmen for Wildlife Conservation
Jim Unmacht, President

AZ State Council of Trout Unlimited
Steve LaFalce, Chairman

AZ Trout Unlimited – Zane Grey
Chapter
Jim Walker, President

Arizona Wildlife Federation
Brad Powell, President

Coconino Sportsmen
Tom Mackin, President

Mohave Sportsman Club
Ron Hooper, President

Outdoor Experience 4 All
Eddy Corona

South Eastern Arizona Sportsmen Club
Daniel Ward, President

SRT Outdoors
Patrick McDowell

The Bass Federation AZ
Don McDowell

Xtreme Predator Callers
Ron Moore

1-2-3-Go...
Janet Drake



Historical Tales



Reproduced by Ryna Rock from AGPA Arizona Wildlife & Sportsman, Winter 1998

ALDO LEOPOLD

By Steve Gallizioli

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 Sand County Almanac. It is ironical that this is the only one of his publications that has caught the attention of the public. While the Almanac is one of 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 (now University) 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, no 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 preliminary results of ongoing research, quoting extensively from the voluminous correspondence he carried on with biologists 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 spent 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 Forest 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 State 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 have 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 close 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 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 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 of the 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”.

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-populations of deer on the Gila National Forest in New Mexico and the knowledge of what was happening on the Kaibab where an overpopulation 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 reversed himself on predators. The turnabout apparently due to an epiphany he experienced on his hunts in the Sierra Madre Occidental in Mexico. There, on the Rio Gavilan, 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 creations.”

Here too, he found evidence of an abundance of lions and wolves, (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 Madre 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 Country Almanac relating the story of the mother wolf 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 of predators. Leopold had been encouraged by one of his PhD candidates to acknowledge in one 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 wolf 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 head 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 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."

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 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 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 usually means overgrazing."

Leopold on Conservation Groups

Members of the Arizona Wildlife Federation 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 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 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 Protection 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 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 nearer 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 1930's 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 reaching 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 first hand encounter with 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.



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Facebook!**

www.facebook.com/azwildlife

Camp Cook

By Ryna Rock



Dan's Saucy Chicken

- 6-8 boneless, skinless chicken breasts
- 1/3 c cider vinegar
- 2 Tbsp canola oil
- 1/2 c brown sugar
- 1 medium onion, chopped
- 3 Tbsp soy sauce
- 1 medium green pepper, chopped
- 1 (12 oz) can tomato paste
- 1/2 c mild salsa

Brown chicken in oil in a 12-in dutch oven. Combine rest of ingredients and pour over chicken. Simmer in dutch oven until cooked (approx. 1 hr)

Grilled Squash

- 1 medium zucchini squash
- 2 small yellow squash
- Butter
- garlic powder
- salt and pepper

Wash and prepare squash to cook on grill. Cut squash in long spears rather than slices. Place in the center of a piece of aluminum foil large enough to roll shut around the squash. Sprinkle with a small amount of salt, pepper,

and garlic powder. Cut 2-3 slices of butter from a stick of butter and place on top of squash. Roll aluminum foil shut in the center and then on the ends. Place on grill or on the hot coals in your campfire and cook for about 10-15 minutes, or until tender. This will cook faster on hot coals.

Cherry Chocolate Fudge Cake

- 2 (1-oz) cans cherry pie filling
- any ingredients needed for cake mix
- 1 (1 lb 2.25-oz) pkg chocolate fudge cake

Pour pie filling into bottom of a 12-inch dutch oven. Mix up the cake mix according to package directions and gently pour over the cherries. Cover and cook 45-60 minutes-test with toothpick. Do not overcook on the bottom.

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

WHADDA' YA' KNOW

Answers

1. Flagstaff derived its name from a flag-raising ceremony held on the Fourth of July in 1876. Boston travelers chose a tall pine, trimmed its branches from the bottom up and attached a flag to the top in observance of the nation's centennial.
2. 1952 and is dedicated to the interpretation of the bi-national Sonoran Desert region.
3. Ringtail – It is a small creature and has some similarities with the fox. The length is around 2.5 feet and is a timid, night-time animal.
4. It is located 55 miles southeast of Prescott.
5. Named by John Wesley Powell, in his words, "The limestone of the canyon is often polished, and makes a beautiful marble. Sometimes the rocks are of many colors - white, gray, pink, and purple, with saffron tints"

BOW Scholarships

Did you know that ... Scholarships are available for first time attending Becoming an Outdoor Woman participants? The next opportunity for application will be for the 2016 April workshop.

Go to www.azwildlife.org for applications.

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