

# Arizona Wildlife News

Centennial Year

Issue 1

Winter 2023, Volume 68



Official Publication of the Arizona Wildlife Federation



# What is AWF?

## Our Mission Statement

Arizona Wildlife Federation is a nonprofit organization dedicated to educating, inspiring, and assisting individuals and organizations to value, conserve, enhance, manage, and protect wildlife and wildlife habitat.

AWF is a statewide association of people interested in the present and future well-being of Arizona's wildlife, wildlife habitat and natural systems. We believe our wildlife heritage should not be jeopardized by any activity that fails to ensure its long-term health and sustainability. From the outset of the organization, AWF's primary goal has been the establishment and maintenance of a Commission/Department form of wildlife administration, free of political influence. We continue to work with the Arizona Game and Fish Department and Commissioners to assure that science-based best practices are used in the management of wildlife and habitat in Arizona.

## Our Newsletter

The official publication of the Arizona Wildlife Federation, the State affiliate of the National Wildlife Federation, Arizona Wildlife News (ISSN) is published quarterly as a service to affiliate members and Federation members. The editorials and commentaries in this publication do not necessarily reflect the mission of the Arizona Wildlife Federation. AWF is an equal opportunity provider.

The Arizona Wildlife Federation welcomes stories, art, and photographic contributions! We will consider, but assume no responsibility for unsolicited proposals, manuscripts, art, photographs, and transparencies. Contact the AWF office at (480) 702-1365 for details.

The Arizona Wildlife Federation is celebrating our Centennial in 2023. We are the oldest conservation organization in Arizona and were instrumental in forming the state's first commission and department to manage wildlife. This year, we are reflecting on our history in Arizona and looking toward our future with hope. We welcome you — our supporters — to tell us stories of past leaders and changemakers who made the AWF what it is today.

Published by the Arizona Wildlife Federation

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### ARIZONA WILDLIFE NEWS

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### JOIN THE CONVERSATION



# A Message from the Executive Director

By Scott Garlid, AWF Executive Director



Water is, without question, Arizona's most precious natural resource. Most landscapes in Arizona and the Southwest are defined by its absence. But in those places where water has held on and sustained its flow through our otherwise arid lands, it is truly awe inspiring. It not only supports us, but water is a magnet for recreation and wildlife.

Earlier this year, I rafted a portion of the San Juan River in southeastern Utah. The San Juan headwaters are in the San Juan Mountains of southern Colorado, with tributaries also coming from northern New Mexico. It winds its way west through the four corners area and drains a high arid region of the Colorado Plateau before joining the Colorado River at Glen Canyon. The journey of the San Juan, both geographically and over time, is a glimpse into the broader water challenges we face today. It takes water from the "upper basin" states and delivers it to the "lower basin" states; it has a past checkered with environmental issues from mining, and oil and gas extraction; it continues to serve many, sometimes conflicting, uses; and perhaps most importantly, its history with the rise and fall of the Puebloan people provides a stark warning of the implications of water scarcity in the region.

As I floated through the massive sandstone walls, and trekked the river sides to see the rock art and cliff dwellings of the San Juan's prior residents, I couldn't help but wonder how people 2000 years from now,

or for that matter 200 years from now, will look back on us.

If you haven't guessed by now, the theme of this issue of Arizona Wildlife News (AWN) is water. Inside, you'll read about challenges to the 50-year-old Clean Water Act, the amazing work by volunteers to haul water and create catchments that benefit wildlife, the ongoing threats of uranium mining to the seeps and springs around the Grand Canyon, restoration efforts for Arizona's native trout, and collaborative programs keeping the Verde River healthy.

The challenges of water issues in the Southwest are complicated and the solutions will not be simple. We all need to be part of the dialog. It will take people listening and talking openly and honestly. It will take balanced perspectives and a willingness to put the needs of others and the future ahead of our own interests. If you're not already, we hope this issue of AWF gets you thinking about a few of the implications of water quality and scarcity on the wildlife in our state.

Of course there's more to this AWF than just water. As always, the Arizona Wildlife Federation's Regional Directors bring you the news on conservation efforts from all corners of our state. Read the latest on feral horse and burro management, Rosemont mine, the Four Forest Restoration Initiative, I-11 planning for wildlife corridors, and an El Jefe sighting in Sonora in Regional updates.

This issue also kicks off AWF's Centennial year! Imagine...100 years of working for wildlife, conservation, and public lands in our state. It's something we're very proud of and look forward to reflecting on with you over the next year. Since Aldo Leopold was instrumental in AWF's origins, we're paying tribute to his work and his place in our history by hiding headshots of him in the pages of AWF. We hope you enjoy playing, "Where's Aldo?" Take a look at the photo on page 21 so you know what you're searching for! Aldo is hiding in three photos in this issue. The first one to send an email following each Centennial issue of AWF, along with the answers (page numbers and descriptions) with the subject line, "Where's Aldo?" to [awf@azwildlife.org](mailto:awf@azwildlife.org) will win some free AWF swag.

We hope you have a fantastic holiday season! The work we do at AWF is funded by your generosity so please consider us in your year-end giving!

Yours in conservation,

A handwritten signature in black ink, appearing to read "Scott Garlid".

Scott Garlid

# A Tale of Two Trouts

By Taylor Wheeler, Trout Unlimited



Big strides are being taken in the world of Arizona's native trout recovery. After nearly half a century, the Apache trout has been recommended for delisting from the Endangered Species Act list. This was only made possible through the concerted efforts of state, tribal, federal, and non-governmental organizations like Trout Unlimited. The recovery program for our very own state fish was first initiated in 1979 when the main goal was to preserve the remaining genetically pure fish and separate them from the introduced non-native trout species. These non-native species posed multiple concerns, such as the potential for cross-breeding, since the Rainbow and Cutthroat trout are genetically similar to native Apache trout. Aside from compromising the genetic purity of the Apache trout, these non-native Brown, Brook, Rainbow, and Cutthroat trouts outcompete the Apache trout for food and cover in the streambed and eat the young trout. To avoid this vast issue, masonry barriers were implemented to keep these problem species from traveling further up river into some of the last stretches of home water available to the Apache trout.



*Gila Trout immediately after being released in the Upper Marijilda Creek. Image by Alex Grant*

Fast forward roughly 40 years and with a combination of non-native fish removal, further implementation of physical barriers, and plenty of reintroduction of the Apache trout, there is finally ground being gained for our state fish. Excitingly, due to the successful removal of many non-native trout species, current projects are in the works to remove the barriers previously erected to separate trout species. This would allow the Apache trout to re-establish themselves in many new stream miles, uninhibited by any other trout species. The Apache trout is finally in good standing, and by the looks of it, the Gila trout is on the same trajectory.



*Hundreds of Gila Trout came all the way from Mora National Fish Hatchery in New Mexico to right by the Marijilda Creek near Mount Graham, Arizona*

Recovery efforts for the Gila trout have followed a very similar timeline. The Gila trout were listed as federally endangered about the same time as the Apache trout and have undergone an extensive recovery plan as well. Much of that conservation work has paralleled our state fish's path. Thanks to the executive actions of the U.S. Forest Service, U.S. Fish and Wildlife Service, The University of New Mexico, Arizona Game and Fish Department, and the New Mexico Department of Game and Fish, the Gila trout was relisted as threatened in 2006.



**Volunteers for Wildlife**

Restoring and improving habitat, planting native species, removing barriers to wildlife movement, & increasing landscape connectivity

**Learn more @ [azwildlife.org/involve](https://azwildlife.org/involve)**



Recovery was progressing smoothly until 2017 when a large wildfire tore through a 50,000 acre section of the Gila trout's home waters near Mount Graham in southeastern Arizona. With great haste and collaboration, folks rescued as many Gila trout as possible from Frye and Ash Creek before they suffered the impending impacts of the wildfire. Coming off the heels of this near-catastrophe, plans have been developed to reintroduce the Gila trout back into their native streams. These projects include stocking fertilized eggs, fry, and fingerling trout (which are 1-5 inches in length) into pools with the

intent to reestablish trout of a variety of ages back into these creeks.

Recently, for the third consecutive year, I had the privilege to partake in a successful stocking of trout into Marijilda Creek. After a nearly four-mile trek through the Mount Graham wilderness, we made it to the lower creek, a small coldwater system tucked away between the rugged terrain towering above.

While adding the young trout to the water, I noticed other adult Gila trout already swimming in the cold flowing water, giving all the signs needed that the watershed is definitely bouncing back to its former glory.

# Permanent Protection from Uranium Mining Still Pending Near Grand Canyon

By Amber Reimondo, Energy Director, Grand Canyon Trust



Uranium mining has a long and toxic legacy in the Southwest where lands, waters, homes, and living beings today are affected by uranium contamination that was sparked by operations decades ago. Around the Grand Canyon, uranium remains a point of interest for mining companies, but mining poses a particular threat here because the region is host to complex groundwater systems that are not, and may never be, well understood. What we do know is that these groundwater systems are interconnected. What happens on the lands high above the Colorado River at the bottom of the Grand Canyon can reach delicate seeps and springs and even the river itself. Without a permanent mining ban in the region, the Grand Canyon is vulnerable.

Supporters of the Grand Canyon Protection Act were optimistic about the 117th Congress, which began on January 3, 2021 and will end on January 3, 2023. Native American tribes, small business owners, local governments, hunters, anglers, and conservationists all believed that this bill to make permanent a temporary mining ban on about 1 million acres of federally managed land near Grand Canyon National Park would finally pass with this Congress. And, with your help, it still can.

## **Grand Canyon legislation reaches new milestone**

Since January 2021, the Grand Canyon Protection Act has indeed advanced farther than ever before. The bill passed the U.S. House of Representatives twice, with Arizona Congressman Raúl Grijalva's leadership, and was introduced in the Senate by both of Arizona's senators, Kyrsten Sinema and Mark Kelly. It even got a legislative hearing before the Senate Energy and Natural Resources Committee this past summer where it received a tie vote down party lines—a milestone for legislation that was first introduced in 2009 (then called the "Grand Canyon Watershed Protection Act") but took another decade to make it to the Senate. But record progress or not, in order to become law, the bill also has to pass the full Senate and be signed by the president. And this has yet to happen.

# Permanent Protection from Uranium Mining Still Pending Near Grand Canyon Cont'd.

## Uranium prices rise, mining companies zero in on the Grand Canyon

The past couple of years have also brought challenges. Current events continue to profoundly impact uranium politics and markets. The average price of a pound of uranium today is about 178 percent higher than it was in February 2021, when the Grand Canyon Protection Act was introduced in the current Congress. These factors together have given proponents of mining in the Grand Canyon region the opportunity to oversimplify complex issues and claim that the Grand Canyon is a sort of linchpin in global and national uranium supply. Spoiler alert: It isn't. Nonetheless, uranium companies have managed to muddy the political waters and further stall progress toward permanent protection for the Grand Canyon region.

## Grand Canyon uranium reserves are tiny

Despite the noise in the halls of Congress, the reality remains the same: the Grand Canyon region is not and never will be a factor that makes or breaks America's uranium supplies. In fact, only about 1 percent of U.S. uranium reserves and estimated uranium resources are located in the proposed mining ban area. And while elected leaders remain mired in partisan divisions over permanently protecting the Grand Canyon from mining, voters themselves support protecting the region regardless of their place on the political spectrum. Polling shows that among Arizona voters, more than twice as many Republicans support the Grand Canyon mining ban than oppose it.



## Profoundly important to Indigenous tribes and nations

The Grand Canyon region does not hold a significant portion of known and estimated mineable uranium in the United States. What uranium it does hold is more expensive to mine relative to other kinds of deposits. The Grand Canyon region isn't vital to uranium supplies, but it is a profoundly important place to many Indigenous tribes and nations, a complex hydrological landscape, and a critical watershed for the increasingly imperiled Colorado River. Particularly in the face of climate change, uranium mining could put precious water resources, economies, and Indigenous lifeways connected to the Grand Canyon at great risk. We won't stop making this clear to decision makers in Congress in the weeks and months ahead; this isn't over. We'll do everything we can, supporting tribes, tribal communities, and partners to ensure that someday, somehow, this region gets the permanent protection it needs and deserves from further unnecessary and unwelcome uranium operations.

# Threats to the Clean Water Act Put Arizona Waters At Risk

By Elise Lange, AWF Communications Manager

If you ask someone what they think of Arizona, they'll likely dream up an image of huge saguaro cacti, scorching temperatures, and dry, cracked landscapes. Arizonans know that this state is more than that. Arizona has diverse geography, over 800 native bird, reptile and mammal species, and 8,101 miles of streams that provide drinking water to over three million people.

Though those streams are often far beyond our sealed homes and paved neighborhoods, they are the lifeblood of Arizona. With recent news about cutbacks to the Colorado River, which provides water to over 40 million people across the Southwest, water is at the forefront of most Arizonans' minds. Fifty years ago, U.S. water was descending into an industrial stew, fueled by the post-war economic boom. New homes, entire neighborhoods, city blocks, and factories were erected.



*Water at Agua Fria National Monument*

In just two decades after the war, 7.6 million acres of wetlands — an area roughly the size of Maryland — were destroyed in the lower 48 states — Arizona included. Toxic waste and sewage were dumped, untreated, into the nearest convenient stream. A series of high-profile river fires — yes, rivers on fire — helped push Congress to act. Passed with sweeping bipartisan support half a century ago, few laws have been as transformative to people's quality of life as the Clean Water Act.

It is thanks to the Act that Arizona's intermittent and ephemeral streams are currently protected. Intermittent streams are those that flow regularly, but not always year-round, and ephemeral streams flow only after heavy rains. Seventy-nine percent of the total Arizona streams that provide drinking water are made up of these types of streams so their importance cannot be overstated.

While its implementation has faced continuous struggles over the years, the ongoing protective importance of the Act is crucial. The Act, according to a new report from the National Wildlife Federation, has helped to restore dumping grounds into productive, healthy waterways, kept areas safe for fishing and swimming, and increased fish and fish-dependent populations like Arizona river otters.



*Base and Meridian Wildlife Area, Avondale, Arizona. This area contains primarily all wetland, riparian and riverbank habitat*

Today, the Act's National Pollutant Discharge Elimination System program alone prevents 700 billion pounds of pollutants from entering our waters annually. Without the protection of Arizona waters, critical species like the Apache Trout that only live in cold-water streams in the White Mountains are threatened. Likewise, we risk losing continued recreational use of streams by anglers and outdoor enthusiasts — activities that provide \$13.5 billion to the state's economy

and support 114,000 jobs, according to a report released by Audubon Arizona.

Now, in a particularly cruel bit of timing, precisely on the Act's 50th anniversary this year, the Supreme Court heard a case that could gut the protections the Clean Water Act has provided for so long. The case, "Sackett v. EPA" is a radical



# Threats to the Clean Water Act Put Arizona Waters At Risk, Cont'd.



*A high up view of the Base and Meridian Wildlife Area, Avondale, Arizona*

opponent of clean water is seeking to withdraw the Act’s longstanding protections for roughly half the nation’s streams and wetlands. In Arizona, 6,381 miles of streams could lose protections.

What’s at stake is the integrity, and in many cases the very existence, of streams and wetlands that provide flood control, recharge waters during drought, filter pollution, provide habitat, and are used recreationally by many Arizonans. An angler’s favorite stream may no longer exist in its current state. These streams are themselves the lifeblood of larger rivers and lakes in Arizona — without them, we risk losing even more of Arizona’s water.

Arizona has been in a drought for over two decades and temperatures continue to rise year-to-year. Sackett v. EPA is a threat to healthy natural water systems.

If the plaintiffs succeed, a large portion of Arizona’s flood-absorbent wetlands — and at least half of the nation’s — would be at risk of being filled in and paved over. Upstream waterways that store and filter water could be erased from the landscape, worsening droughts and water quality.

These impacts will hit frontline communities hardest. Decades of under-investment in drinking water and proper treatment of waste means communities that have already historically faced a disproportionate share of flooding and water pollution, will have to bear the brunt of this ruling.

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The court will not reach a decision till January 2023 at the earliest. If federal protections are withdrawn, Arizona’s authorities will need to step in and strengthen our state and local policies to ensure the integrity of our waters.

If we don’t, the degradation of the landscape outside our homes will not only destroy already weakened habitats, it will foul the drinking water and flood the homes of our most vulnerable. We can’t allow Arizona to go back to an era where toxic waste and asphalt killed our most vital waters.

# Water for Arizona's Wildlife

By Steve Clark, Executive Director of the Arizona Elk Society



This past winter was a bit lacking as far as moisture goes in the high country north of Flagstaff. After the previous year's "non-soon" and the spring rains missing most of Region 2, Water for Wildlife volunteers were ready to get busy! Water for Wildlife is a partnership between Arizona Game and Fish Department (AZGFD) and several wildlife organizations, including AWF affiliate organizations, Arizona Elk Society (AES), Southern Arizona Quail Forever (SAQF), Yuma Valley Rod and Gun Club (YVRGC), Friends of Northern Arizona Forests (FoNAF), and several other "critter groups." Each organization tends to work in specific regions, often with a particular species focus, but regardless, Water for Wildlife helps all species.

Given their namesake, the Arizona Elk Society tends to focus on elk habitat in the higher elevations of our state. Yuma Valley Rod and Gun Club tends to do most of their Water for Wildlife work in the low deserts of Region 4, and FoNAF works mostly building and maintaining "trick tanks" in the Flagstaff area to support Waters for Wildlife (see article on P. 11). All Water for Wildlife organizations primarily utilize volunteers to accomplish their mission of getting water to wildlife. They do this with the aid of the ASGFD. The AZGFD wildlife managers help guide volunteers to where the water is most needed. For the AES, much of the information on where to haul is dictated by where the elk are at the time and where they are going in their yearly migrations. AES volunteers started hauling water to and around the high country early this past year. YVRGC also began hauling before the summer heat set in. In addition to hauling water, volunteers also maintain and repair old catchments and when needed, install new ones. This year, FoNAF volunteers rebuilt two Forest Service trick tanks (water collection systems) to provide reliable water for wildlife. With the amount of rain that fell this past summer (2022), YVRGC was able to cease water deliveries and focus on building and repairing water catchment systems in their region. Volunteers from the AES "Catchment Repair Squad" also found a variety of old water catchments that needed repairs and restorations to make them functional again. In reality, this is what Water for Wildlife volunteers really love to do — fix old drinkers and have more water available for the wildlife. After repairing old drinkers, it is amazing how soon wildlife — big and small alike — return to the water.



*Volunteers working on a water catchment*

Water for Wildlife relies on a team of dedicated volunteers from numerous organizations that travel thousands of ROUGH miles to supply life-giving water to elk, deer, bighorn sheep, and other wildlife. Some volunteers even use their own trucks on what are easily the roughest roads in Arizona. Whether working with AES, YVRGC, FoNAF, or any of the other organizations that deliver water and repair drinkers, these volunteers are at the front line in repairing and restoring the water catchments across our state. We all owe them a debt of gratitude for what they do for Arizona's wildlife...thank you volunteers!

# For the Angler

By Andy Clark, Sportfish Program Manager for the Arizona Game and Fish Department

## As we move into 2023, what are some water concerns facing Anglers?

Dwindling water resources is a concern on everyone's mind, but let's look at it through the lens of an angler. An obvious concern is water quantity. Is there enough water in an angler's favorite stream or lake to maintain a viable fishery? Dry or drought conditions are not uncommon in Arizona. These can affect different sport fisheries in different ways. For example, native and wild trout population numbers will decrease during periods of extended drought and rising water temperatures, reducing angling opportunities for these species. Despite this, many anglers that have grown up fishing in Arizona or have been here a while typically agree that they can catch fish during low water conditions. The key is periods of stability and the duration of the drought or dry period. The thing over the last decade that gives anglers fits are the wild swings in water levels. Fish usually "turn off" (stop biting) in streams as muddy or turbid water flows down into a reservoir. Fish in a lake also will turn off when water levels are rising quickly. Large flood events have been fewer in the last decade, but the intensity and timing of the events we have seen have been damaging.

Other concerns that are definitely tied to water quantity is water quality. With the types and timing of the high flow events and the management of water storage reservoirs designed to hold onto water longer, conditions have improved for invasive species such as golden algae, quagga mussel, New Zealand mudsnail, and others. These invasives compete directly with fish and other aquatic wildlife as well as release toxins into the water that kill fish. Low water conditions can also concentrate nutrients as well as contaminants that affect fish populations and fish consumption.

The Department understands these concerns as well as many others and is committed to working with many partners to monitor water quantity and quality in our state's lakes and streams, maintain a robust stocking program as well as strengthen partnerships with Federal partners to increase angler and boating access to waters through facility improvement or increased access permissions.

## Limestone Trick Tank Rebuild

By Robert Dyer, President of Friends of Northern Arizona Forests

For 2022, Friends of Northern Arizona Forests started their work season on March 26th rebuilding a water catchment called "Limestone." The Limestone Trick Tank is located within the Pinyon-Juniper country north of the Peaks, but for those of us riding in the back seats of the Forest Service trucks, we were sure it was near the Canadian border. It took two Saturdays to complete the rebuild. The finished job is a significant improvement according to the survey we conducted of the area's elk and deer utilization patterns. Over the two days we had 21 volunteers help: 15 from the Aspen Team, 3 from Arizona Elk Society, and 3 from the Mule Deer Foundation.



*Volunteers helping rebuild the trick tank*

### Background Information on the Limestone Trick Tank

Built in the early 1980's, this is one of numerous Forest Service trick tanks developed solely for wildlife even though it is in the middle of an active livestock grazing allotment. With the recent climatic changes that will surely continue for the foreseeable future, including warmer temperatures, less dependable precipitation, increased winds and lessened snowfall, these trick tanks serve an important purpose for many species of wildlife.

Recent studies specifically on mule deer behavior indicate that mule deer in this area frequently make an annual 75-to-90-mile migration from the slopes of the San Francisco Peaks to the forests south of the Grand Canyon, making the long return trip as well later in the year. These trick tanks are an important water source during these migrations and keeping them in good repair is well worth the effort. Arizona Game and Fish Department Wildlife Managers and Department biologists repeatedly emphasize the importance of these developments.

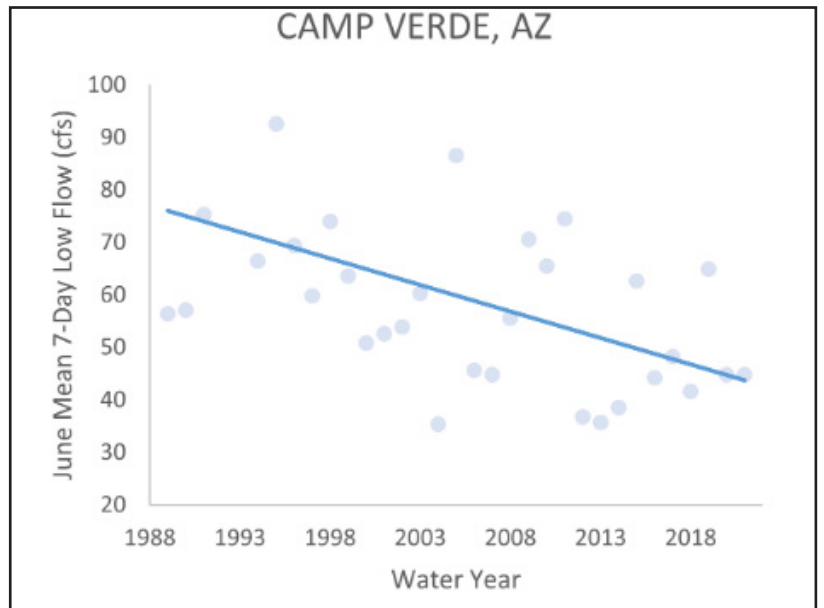
# Threats Facing the Verde River...and Solutions!

By Nancy Steele, Executive Director of Friends of the Verde River

This is the time to **preserve and protect our health, our families, and our livelihoods**. As we face a hotter, dryer future, it's never been more important.

One of the immediate consequences of a hotter, dryer climate is a decline in river flow. Since 1990, flow in the Verde River has been steadily declining. From 1990 to 2020, flow declined by 34 percent in the Upper Verde and 41 percent in the Lower Verde Valley<sup>1</sup>.

The downward trend suggests that at some point in the not-too-distant future, the Verde may not flow year-round. This would be devastating for all who depend on flowing water. People live and visit here because of the flowing river. Given that part of the economy depends on water recreation, it could harm the local economy. And the Phoenix metro area relies on water from the Verde for drinking.



## What is Friends of the Verde River doing to address this challenge?

The Verde River Exchange was designed to incentivize irrigators and others to leave some of their water in the river. Since 2016, over 24 million more gallons of water have been kept in the river. This is one thing we are doing. I'm going to address some of the additional things we are doing to keep the river healthy and flowing in the face of climate change. We need to tackle the root causes of lower flows – declining levels of water in our aquifers. The Verde and all rivers draw their baseflow from groundwater. Replenishing groundwater is a long-term strategy for the rivers.

How do we replenish groundwater? One of the most important things we can do is to slow down water runoff and keep it from washing rapidly into the river. We want to encourage more water to soak into the ground. With a higher water table, groundwater will seep slowly into the river, year-round, increasing river baseflow. There are three approaches we are taking to slow the flow and replenish aquifers: reducing erosion, planting natives, and harvesting rainwater.

## Reduce Erosion

Erosion gullies result from water running too fast downhill, uprooting plants, and removing topsoil. Gullies are everywhere in Arizona. One of our partnerships with the Forest Service addresses and solves the causes of erosion. Once we address the reasons gullies started in the first place, we can install low-tech structures to slow the water down. As a result, more water sinks into the ground, soil is deposited, and plants regrow. The ground is a better sponge, soaking in the rain. We have a goal of healing three to six gully systems, pending funding availability, by 2030.



*Riparian restoration work is of an AZCC crew member removing giant reed (Arundo donax) at a riparian restoration site in 2021*

# Threats Facing the Verde River...and Solutions!, Cont'd.



*The Munds Draw is a sediment reduction project that Friends of the Verde River worked on with Prescott National Forest near Perkinsville. From right to left see: Munds Draw before their work, immediately after, and one year later*

## Restore Native Plants

Native trees hold the water better than many non-native invasive plants. In the riverside zone, native trees slow down water on its way to the river. Every raindrop that falls on a leaf takes longer to fall and soak into the ground. Imagine pouring water directly on your countertop; it all runs off right away. Now imagine covering your countertop with a sponge and pouring the same amount of water on top. Water will first soak into the sponge before gradually running off. That's the goal: create sponges of plants and leaf litter, slowing down runoff. Friends and our partners in the Verde Watershed Restoration Coalition have so far restored over 11,000 acres of riverside lands. We want to keep those lands native and double our success in the next eight to ten years.

## Harvest the Rain

The third approach to replenishing the aquifer involves using nature's methods within the urban areas and on personal landscapes. Again, we want to slow down the rain and allow water to soak into the ground. One way to do this is by installing rainwater catch basins.

Take our first project at 497 S. Main Street in Camp Verde. When Yavapai Title remodeled their building, they wanted to make it as green as possible. Friends of the Verde River helped them manage runoff from their parking lot by installing three large catch basins. Their basins are designed to capture and soak in over 300,000 gallons of water annually.

Additional benefits include reduced flooding in downstream neighborhoods and improved water quality in the river. Our goal is to continue incentivizing smartly designed rainwater harvesting systems throughout the Verde.

## River Friendly Living

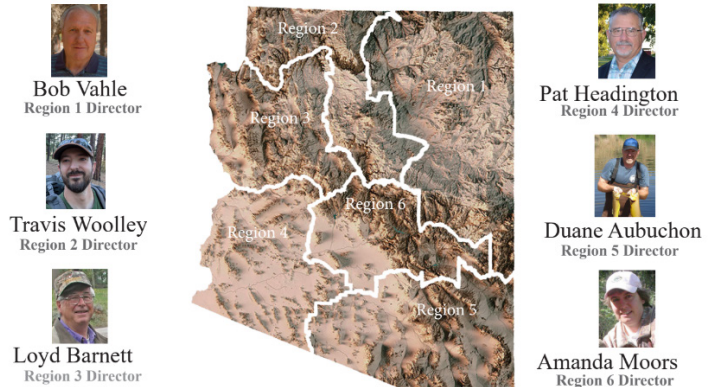
River Friendly Living is designed to reduce water use and help rivers. If you want to be river friendly, we invite you to contact us and get certified. With every person and business that signs up, the Verde Valley will become more resilient to climate change. And that's good not only for our local economy, but it's good for the planet, too. <https://verderiver.org/river-friendly-living/>

Take care of our earth. It's the only one we've got.

*1. The trend data are based on the average June 7-day low flow in cubic feet per second (CFS), measured by the U.S. Geological Survey. June is the lowest flow period because winter rains and snowmelt is over and summer monsoons have not yet started.*

# AWF Regional Roundup

Arizona Wildlife Federation divides the state into regions in the same manner as the Arizona Game and Fish Department. This map depicts each of those regions and the members of our Board of Directors who serve as directors for each area. Our Regional Directors are busy!



## Region 1 Director's Report

By Bob Vahle, Regional Director



Figure 1. Feral horse displacement of elk at an earthen water tank and depletion of available water for wildlife and authorized livestock by feral horses

### Heber Wild Horse Territory (HWHT) Management Plan

The decision on the Final HWHT Management Plan was scheduled for February 2022 and implementation of the management was scheduled for March 2022. To date, the Final HWHT Management Plan has not been completed, approved, and implemented as the population of feral horses not associated with the HWHT on the Black Mesa Ranger District continues to increase. This past September, a representative of the ASNF in the Supervisor's Office told Region 1 Director, Bob Vahle, that the completion of the HWHT management plan and final decision on the management plan would not likely be completed until the winter of 2022.

### Feral Horse Populations

The AWF along with other sportsmen / conservation organizations have expressed significant concern to the U.S. Forest Service (USFS) and Apache-Sitgreaves National Forest (ASNF) regarding the increasing populations of feral horses in many other areas on the ASNF (distant from the HWHT and particularly on the Springerville and Alpine Ranger Districts). In these areas feral horses are having significant impacts on riparian and meadow vegetation, and stream health (e.g., stream bank stability, water quality and quantity) on key streams in the Black River drainage that are federally designated "critical habitat" for the federally listed "Endangered" New Mexico Meadow Jumping Mouse and "essential" habitat for the recovery of the "Threatened" Apache (Arizona) trout. In addition, there are concerns that feral horses are also impacting the availability and quantity of key forage and water particularly during current drought conditions for many species of wildlife (e.g., elk, deer) and authorized livestock (e.g., cattle) managed by permitted livestock operators. See Figure 1.



Figure 2. Sign Posted in Alpine, AZ to "Save the Alpine Horses"

The AWF fully supports the USFS and the ASNF program to humanely begin removing “feral horses” and other unauthorized livestock (e.g., cattle) on the ASNF. In spite of current litigation filed by horse advocates and a request to halt any removal actions by the USFS and ASNF, approximately 150 feral horses have been removed to date. A “restraining order” that was filed by the horse advocates to halt all removal actions was denied by a federal judge ruling in July of 2022. Currently the Salt River Wild Horse Management Group out of Phoenix, AZ is spearheading a major campaign to influence the public in local communities of the White Mountains such as Alpine, AZ to oppose all removal of feral horses on the Alpine RD. See **Figure 2**.

### Four Forests Restoration Initiative (4FRI) Update

As a result of the many large scale destructive wildfires that have occurred in recent years across the West, and the inability of the 4 FRI project to rapidly accomplish the very large number of thinning acres originally planned, the U.S. Forest Service (USFS) has developed a new 4FRI Restoration Strategy Implementation Update for the 4FRI project starting in Fiscal Year 2022. The USFS has approved \$54 million per year for 5 years starting in Fiscal Year 2022 for the 4FRI project to mechanically thin, remove hazardous ground fuels, and use prescribed fire in areas of highest wildfire risk to communities and critical watersheds in the 4FRI project area. In Region I within the ASNF along the Mogollon Rim and the White Mountains this would include treatment areas around Forest Lakes, Heber-Overgaard, Show Low, Pinetop-Lakeside, Greer, Springerville, and Alpine. The acreage to be treated on the ASNF in 2022 included 14,388 acres of mechanical thinning, 11,500 acres of hazardous fuel reduction, and 43,881 of prescribed fire to reduce wildfire risk. The Final Decision on the 4FRI “Rim Country Project” was completed in September (see Region 2 Director’s Report).



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### ASNF Public Motorized Travel Management Plan

The final public comment period for the ASNF – August 2019 – ASNF Public Motorized Travel Management Plan - Revised Draft Environmental Impact Statement (DEIS) ended on October 29, 2019. At that time, AWF provided extensive comments on the proposed management plan and DEIS analysis. The ASNF had anticipated completing the final decision on the ASNF Public Motorized Travel Management Plan in July 2022 and implementing the plan in August 2022. AWF’s Region 1 Director, Bob Vahle, contacted the ASNF Supervisor’s Office in September and spoke with a representative who indicated that the completion of the ASNF – Public Motorized Travel Management Plan would likely not be completed until sometime in 2023. The ASNF is the only National Forest in the entire USFS system that has not completed and implemented a public motorized travel management plan.

# Region 2 Director's Report

By Travis Woolley, Regional Director

## Rim Country Final Record of Decision

The USDA Forest Service in September released the signed Record of Decision for the Four Forest Restoration Initiative (4FRI) Rim Country Environmental Impact Statement. This decision authorizes an additional 1.2 million acres of restoration work in The Apache-Sitgreaves, Coconino, and Tonto National Forests. These additional acres will now be greenlighted as part of the Wildfire Crisis Strategy, and the US Forest Service and partners will be working to implement these needed restoration activities.

## Region 2 Partnership Efforts

Region 2 of Arizona Game and Fish does a wide range of wildlife and habitat work across a broad geographic range, much of it in partnership with a wide array of landowners and stakeholders. Therefore, this update on ongoing projects will be through the lens of partnerships. From bison to pronghorn, fish to golden eagles, training youth, or litter cleanups, the AZGFD accomplishes much of its work through a variety of partnerships including private ranch owners, state and federal land management agencies, and long standing indigenous partnerships. For example, AZGFD is currently using pronghorn location data and partnering with the Arizona Department of Transportation (ADOT) to evaluate the efficacy and placement of a wildlife overpass to link pronghorn habitat and population from north to south across Interstate 40. This will build upon successful grassland restoration work and fence removal efforts AZGFD has already accomplished for pronghorn in partnership with the Kaibab National Forest, Arizona Antelope Foundation, and others.



Similarly, AZGFD has been working successfully with the Kaibab National Forest, National Park Service (Grand Canyon), and US Geological Survey to relocate bison from the Kaibab Plateau herd to different Native American Tribes/Reservations across the US. This partnership effort (together with ADOT) will make use of a \$100,000 investment to improve and install cattle guards to keep the House Rock herd confined to that area.

Some of the largest and most overarching partnerships which AZGFD engages with are with ranch owners. Examples of these partnerships include the Walking Cane Ranch (88,000 acres not managed for livestock) where AZGFD has established a hunting agreement and started projects to improve pronghorn habitat, the Babbitt Ranches where AZGFD is leading efforts with the Babbitts and private industry to help guide solar and wind installation, and the Forest Resources Study Group in Unit 5b (the longest standing habitat committee in the State of Arizona made up of Bar-T-Bar Nanch, Flying M, and the Hopi 3 Canyon Ranches). These ranching partnerships are critical to opening and maintaining access and improving wildlife habitat.

One of the key partnerships that AZGFD has recently been building upon is with the Hopi Tribe. In addition to the recent hunting agreement approved by the Commission in June (and subsequently approved by the Hopi Tribal Council), the partnership works together on trainings for tribal members to participate in Chronic Wasting Disease surveys, pronghorn surveys, and the North Kaibab deer check station. The AZGFD also participates in the Hopi summer youth camp.

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# Region 3 Director's Report

By Loyd Barnett, Regional Director

Winter 2023

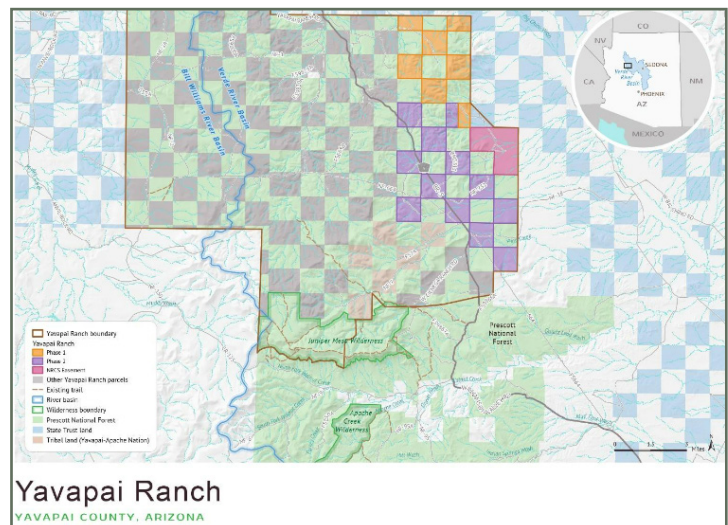
## Burros

For a number of years we have reported the increasing problem of burros within the BMHMA, and their impact on the resident desert bighorn sheep. The BMHMA extends from the Lake Mead National Recreation Area south to I-40. The Black Mountains contain the largest contiguous area of desert bighorn sheep habitat. With no significant predation, this burro population grows at approximately 15 percent annually and can double in five years. In August 2020 the BLM issued a decision to bring the burro population down from the estimated population of 2200 to the appropriate management level (AML) of 478, and then maintain it at that level. To maintain the level, a combination of maintenance gathers and fertility controls (approved vaccines) would be employed. Between September 2020 and September of 2021 just under 1000 burros were removed. In May of 2022 another nearly 1100 were removed.

As the AML has apparently not yet been reached, a gathering of 700 additional burros was scheduled to begin in October, 2022 and may last for up to 6 months. Some burros gathered during operations may be part of the Humane Society Porcine Zona Pellucida (PZP) project. If captured, these burros will be treated with PZP and released back to the area near their capture site.

## Yavapai Ranch

We have previously reported on the nearly 100,000 acre Yavapai Ranch, which consists of a checkerboard pattern of Prescott National Forest and private lands. The majority of the private sections are not fenced separate from the adjacent National Forest, and they are managed together. The public can recreate and hunt on the private sections as well as on the National Forest. However, there is no assurance that this is permanent. The private lands are zoned so they can be subdivided as small as 2 acres.



In 2021 the AWF, along with numerous other organizations, submitted letters supporting Forest Service acquisition on a group of private sections along the eastern boundary, as well as for Farm Bill funding for an agricultural conservation easement on several adjacent private sections. Neither received immediate funding. However, it now appears that the first phase of Forest Service acquisition, beginning in the northeast corner, will be funded in the next fiscal year. Phase II of Forest Service acquisition, which would be immediately south of Phase I is now being proposed. The family which owns the ranch is willing to sell the majority of the private checkerboard land to the Forest Service. It is expected to take several phases of funding through congressional appropriations. The accompanying map illustrates the area and Phases I and II acquisition proposals. It also illustrates the 3 sections of private land adjacent to the checkerboard area for which an agricultural conservation easement is being funded through a Farm Bill.

Recently the AWF submitted letters supporting Phase II of acquisition, citing the following reasons: 1. Enhanced recreational access and consolidated resource protection; 2. Protection of the upper Verde River and state water supplies; 3. Protection of important linkages within the Resilient and Connected Network of Lands in North America; and 4. Contribution to wildfire risk mitigation efforts.\*

Consolidated ownership will not only increase treatment effectiveness but also reduce management costs due to a more consolidated land ownership pattern.

Conserving the Verde River, mitigating wildfire risk, protecting resilient wildlife movement corridors, and enhancing public recreational access are top priorities for AWF. The proposed Upper Verde River Watershed – Yavapai Ranch Phase II project provides an important contribution towards those conservation outcomes.

Conserving Wildlife and Habitat

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# Region 5 Director's Report

By Duane Aubuchon, Regional Director

## Habitat Partnership Committee 2023 Project Review

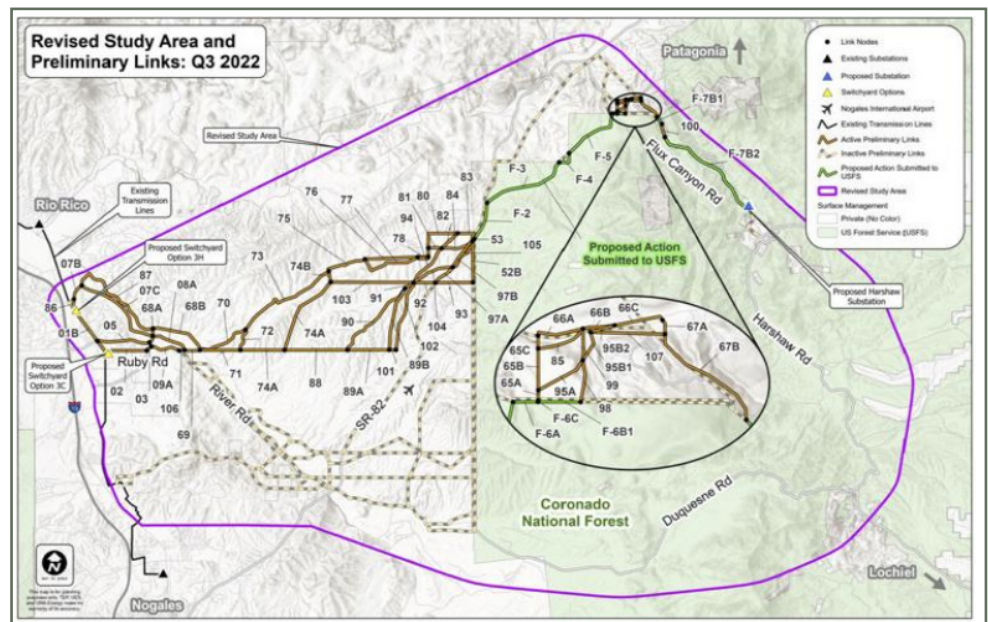
It is that time of year again when the Arizona Game and Fish Department coordinates the annual review of applications submitted for funding through the Habitat Partnership Committee program. As the Arizona Wildlife Federation's (AWF) representative to this Committee, I contacted the Department's coordinator, Andrew Cavalcant, and arranged to review projects throughout October and will contact other AWF Regional Directors if more input or information might be required. This program has resulted in thousands of on-the-ground projects benefiting the state's wildlife and I look forward to seeing what is being proposed for next year.

## Santa Cruz County Hermosa Mine Powerline Project

Last quarter, we looked at a road easement proposal from Arizona Minerals Inc. (or South32) considered by the Santa Cruz County Board of Supervisors. That road would provide additional access to the Hermosa Mine in the Patagonia Mountains. Recently, UniSource – Santa Cruz county's only electric supplier – has been developing potential plans for a 138kV transmission line, which would stretch from Rio Rico to Harshaw. South32 is funding the project and is the only customer for the service. Several routes are under consideration, including some that could have impacts on wildlife or the Coronado National Forest. UniSource will continue to accept public comments until they present a proposal to the Arizona Corporation Commission, expected to occur sometime in mid-September.

## Fort Huachuca Groundwater Pumping Plan

I previously reported that a US District Court rejected an environmental plan developed by the US Military (Fort Huachuca) and approved by the US Fish and Wildlife Service (USFWS) that included groundwater pumping in the San Pedro River basin. Recently, other environmental groups appealed the federal court ruling to challenge the USFWS's granting of groundwater credits to Fort Huachuca that fail to return water to the imperiled San Pedro River. The appeal states that the USFWS wrongly gave Fort Huachuca credit for ending groundwater pumping in an area where it had been terminated a decade earlier. The court had approved the mitigation credits based on the assertion that groundwater pumping was likely to restart in that area, even though previous court rulings state that the groundwater pumping must be certain to occur. Fort Huachuca's off-post groundwater pumping is the single greatest impact on water levels in the San Pedro River. As one of the last free-flowing rivers in the desert Southwest, several endangered species occupy the San Pedro River, including southwestern willow flycatchers, desert pupfish, loach minnows, spikedace, yellow-billed cuckoos, and northern Mexican garter snakes.



Proposed Powerline Routes for the Hermosa Mine Project from UniSource

## Rosemont Mine and the Copper World Expansion Mine

Since the last quarterly report, there have been a couple of new actions on the Rosemont/Copper World Expansion Mine in the Santa Rita Mountains. First, the 9th Circuit Court of Appeals denied Hudbay's (the Canadian copper mining company) petition for a rehearing of the Court's previous ruling three months earlier. They now have 90 days to appeal to the U.S. Supreme Court. The original Court decision ruled that Hudbay Minerals could not dump tailings and waste rock on the Coronado National Forest because mining claims must have a proven mineral value and are not approved as

just a dumping site. This was great news for protection of the National Forest. Second, Hudbay Minerals has begun the process required to purchase two parcels of State Trust land through the Arizona State Land Department. These parcels are 200 acres total and occur on the northwest side of the Santa Ritas. This is in addition to Hudbay's 2016 acquisition of 160 acres of State Trust land on the west side of the mountains. Along with their purchase of other private land parcels, the company's focus is more on the Copper World project as opposed to Rosemont. However, Hudbay's Preliminary Economic Assessment Technical Report proposes to increase the footprint of the Rosemont/Copper World project by expanding the number of open pits to four, increasing the amounts of tailings and waste rock, and establishing onsite copper cathode production that would generate 140,000 tons of sulfuric acid annually, creating a hazardous materials risk to wildlife. The Arizona Corporation Commission has approved a second extension to the Tucson Electric Power Company that allows Hudbay to build a 138-kilovolt transmission line along Santa Rita Road to the western side of the Santa Rita Mountains.

The Pima County Board of Supervisors has passed a resolution opposing the Rosemont/Copper World project. This is the third resolution the Board of Supervisors has passed opposing Hudbay's mining proposals in the Santa Ritas. The AWF concerns still center around the water consumption levels associated with the mining operation, as well as wildlife impacts from mine construction/operation and the lack of commitment to previous mitigation plans developed to compensate for those impacts, which were addressed originally by the Rosemont Mine Copper Company prior to their sale to Hudbay Minerals.

As a side note, the jaguar called El Jefe that was photographed on several trail cameras near the Rosemont Mine through 2015, but not seen for several years, was photographed again by a trail camera in central Sonora last November. His age is estimated at 12 years.



*El Jefe from the Santa Rita Mountains in 2015, trail camera photo from the University of Arizona and U.S. Fish and Wildlife Service*

## Interstate 11

Several environmental organizations have filed a lawsuit over the Record of Decision regarding the Interstate 11 corridor route, claiming that all the planning to date has occurred without the federal agency properly completing the legally required evaluation of impacts to public lands. The lawsuit asserts that public lands, including the Sonoran Desert and Ironwood Forest National Monuments, Saguaro National Park, and Tucson Mountain Park, were not considered public parks or recreation areas of national, state, or local significance, falling within the scope of what environmental laws require the project to consider. The focus of that lawsuit is on the route west of Tucson, which the project evaluation left as an option along with the route through Tucson.

Federal Highway Administration officials have asked the US District Court to dismiss the lawsuit because no decisions have been made on what route to choose through Pima County, or even whether the project will ever go forward. Though most involved in project planning are positive it will move forward. The state legislature recently authorized \$25 million in funding for the further Tier 2 study in Maricopa County, but that will not yet include any of Pima County, where the Arizona Department of Transportation will still need to prepare a Tier 2 Environmental Impact Statement to evaluate specific alignments.

# Regional Events in Arizona

Region 1

For the Birds! Raptors & Songbirds of the White Mountains  
January 7, 2023 @ 6:00 pm - 7:00 pm



<https://wmnature.org/event/for-the-birds-raptors-songbirds-of-the-white-mountains/>

Region 1

Timber Mesa Christmas Bird Count  
December 31, 2022  
Meeting time TBA



<https://www.whitemountainaudubon.org/special-events/>

Region 2

Grand Canyon Art Exhibit and Sale, Kolb Studio  
September 18, 2022 - January 16, 2023  
@ 9:00 am



<https://www.nps.gov/planyourvisit/event-details.htm?id=3CE579C0-F904-7B64-92E4662DF86DB884>

Region 2

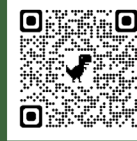
Pinyon Jay Project and Birdwatch in Arizona  
January 14, 2023 - September 9, 2023  
In your free time!



<https://www.grandcanyontrust.org/pinyon-jay-project>

Region 3

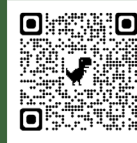
MLK Day of Service: Volunteer at Verde Valley  
riparian restoration  
January 16, 2023  
Times vary per project



<https://verderiver.org/volunteer/>

Region 3

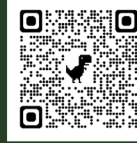
Verde Valley Birding and Nature Festival  
Register for Early Bird Jan. 29-31, 2023  
April 27-30, 2023  
Time TBA



<https://verderiver.org/birding-festival/>

Region 5

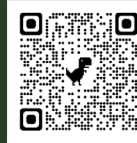
30th Wings Over Willcox Birding and Nature  
Festival  
January 12-15, 2023  
All day



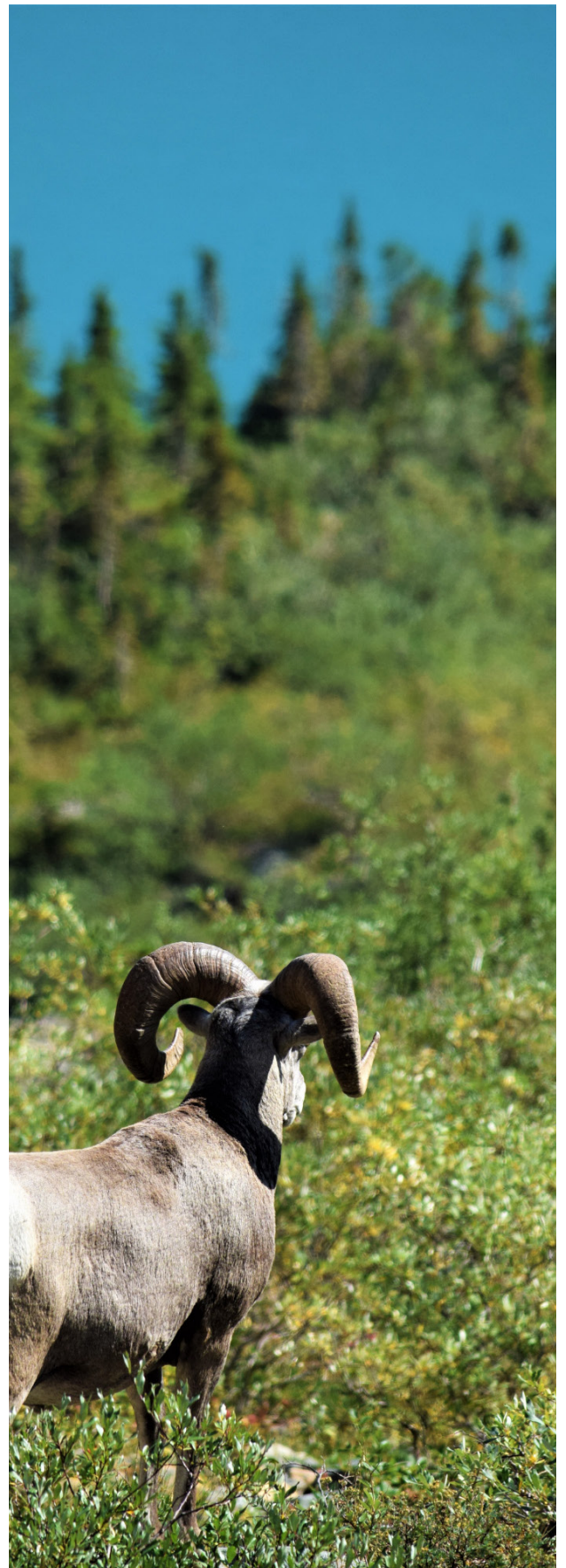
<https://www.wingsoverwillcox.com/index.asp>

Region 5

Javelina Peak Tank Redevelopment  
February 25, 2023  
Time TBA



<https://adbss.org/projects/>



# 100 Years of AWF: Centennial Spotlight

By Trica Oshant Hawkins, Conservation Programs Director

## Centennial Spotlights

This winter, AWF is kicking off a full year of celebrating our 100 year anniversary: Our Centennial! Along with a series of special events and activities, we will be sharing our amazing history with you in the form of “Centennial Spotlights” – articles on the people and events that made the Arizona Wildlife Federation what it is today. We stand on the shoulders of giants and we want to share their stories and contributions with you. These are stories worth telling and people worth remembering for what they have done not only for AWF but for Arizona wildlife. As we look ahead to our next 100 years, we honor those who laid the foundation for AWF and science-based wildlife stewardship in Arizona.

## Centennial Spotlight: Aldo Leopold and the Formation of the Arizona Game Protective Association

Aldo Leopold is a name very familiar to most people who know and love wildlife. He is considered to be the “father of wildlife conservation.” But few know of the impact that Aldo had on Arizona wildlife, and the role he played in the establishment of the Arizona Wildlife Federation. While he is perhaps best known for establishing the country’s first wildlife ecology program at the University of Wisconsin and restoring his family’s severely degraded parcel of land in the Wisconsin countryside (all documented in his seminal book, *A Sand County Almanac*), Aldo actually spent his formative professional years in the Southwest.

In 1909, following his graduation from Yale University, Leopold took a job as Forester on the newly minted Apache National Forest in the Arizona territory. Given his work ethic and practical intelligence, Aldo quickly moved up the ranks to the position of Forest Supervisor for Carson National Forest in New Mexico. During his time in the Southwest, Leopold spent many hours in the field documenting wildlife and vegetation, and noting changes in the landscape. He was also witnessing firsthand, an obvious decline in habitat quality and wildlife populations. It was during these early years in the Southwest that Leopold

avidly participated in eradication efforts of many predators. At that time, it was believed that (as Aldo put it),

*“because fewer wolves meant more deer, no wolves would mean hunter’s paradise.”<sup>1</sup>*

But it was also here that Aldo began learning his greatest lessons. He came to understand that all animals play a role in the balance of nature, and wolves and other predators are necessary for a healthy ecosystem. He began to see nature



1911, Aldo Leopold, in a hat and chaps, poses next to a horse in the Arizona desert

## 100 Years of AWF: Centennial Spotlight, Cont'd.

in the balance of nature, and wolves and other predators are necessary for a healthy ecosystem. He began to see nature as a community of interacting living organisms. He began to develop a land ethic.

As Aldo was internalizing these lessons, it was becoming clearer to him that wildlife needed to be managed scientifically. In Albuquerque, New Mexico, where Aldo was stationed at the time, he organized a statewide organization to address this issue by rallying and assembling a group of sportsmen. Together, they formed the New Mexico Game Protective Association (NMGPA), an affiliate of the American Game and Propagation Association, which had been recently formed in New York in response to the “rampant slaughter of game in the absence of state and federal laws.”<sup>2</sup> The year was 1916 and wildlife populations were at all time low across the country. Many species were in danger of extinction or already extinct.

Like New Mexico and the rest of the country, Arizona was experiencing the same issues of declining wildlife, and had minimal wildlife regulations. It was also clear that wildlife were primarily being managed through the whims and desires of politicians.

That same year (1916), a group of 35 sportsmen convened in Flagstaff, Arizona and formed the Flagstaff Game Protective Association.<sup>3</sup> Aldo Leopold was at this meeting, having helped rally these Arizonans to the cause. It wasn't until October, 1923, however, that the statewide Arizona Game Protective Association (AGPA) was formed, following in the footsteps of New Mexico. Again, Aldo Leopold was there to guide and assist.

### **The primary objectives of AGPA were to:**

- Secure proper and scientific management of our fish, wildlife, and other resources in perpetuity for the full enjoyment of Arizonans;
- Secure a game and fish commission and department, the same to be sufficiently staffed with competent personnel free to work without political obligation or interference;
- Give that commission broad regulatory powers to enable them to accomplish their purpose; and
- Educate the public with the principles of sportsmanship and the need for proper resource management.

That first meeting of AGPA marked the beginning of true game management in Arizona. The tide did not turn over night however and many worked tirelessly over the years to ultimately ensure that wildlife are managed scientifically, competently, and without political influence.

As the Arizona Game and Fish Department and Commission matured, the need for the formative and oversight focus of AGPA shifted. In 1951, AGPA affiliated with the National Wildlife Federation and became the Arizona Wildlife Federation. Today, AWF's mission remains very close to when it was the AGPA, stating that “AWF is dedicated to educating, inspiring, and assisting individuals and organization to value, conserve, enhance, manage, and protect wildlife and wildlife habitat.”

Coupled with its mission, advocacy has been a hallmark of AWF throughout its history. For nearly 100 years, following in Aldo's footsteps, AWF has successfully rallied supporters and forged common ground among opponents. As a result, AWF has been instrumental in issues regarding public lands protections, the right to hunt and fish, improvement of outdoor recreation and wildlife habitat, the enforcement of state and federal conservation laws related to fish and wildlife management, and other legislation that impacts Arizonans' opportunities to enjoy the great outdoors.

Although Aldo Leopold left the Southwest in 1928 to live and teach in Wisconsin, his legacy remains very real and present here. We are proud of the role that Aldo, the father of wildlife conservation, played in the formation of Arizona's first and oldest conservation organization, the Arizona Wildlife Federation. Indeed, we stand on the shoulders of giants.

1. Aldo Leopold. 1949. *Thinking Like a Mountain in A Sand County Almanac*. Random House.

2. John Crenshaw. 2003. *A Century of Wildlife Management, Part 3. New Mexico Wildlife (Vol. 48 No. 2)*.

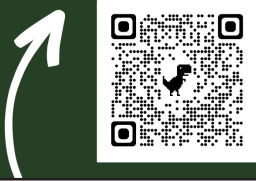
3. David Brown. 2012. *Bringing Back the Game: Arizona Wildlife Management 1912-1962*. Arizona Game & Fish Department.

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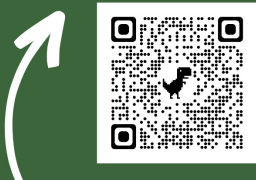
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