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ARIZONA WILDLIFE NEWS

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AWF MISSION STATEMENT

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

Front cover: A view from the top of the world...err the Mogollon Rim. See story on page 12. Photo by Linda Dightmon

Special thanks to Ryan Kreuzer for the cover design & layout.

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

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President's Corner

By Brad Powell

As I write this I can smell the Thanksgiving turkey beginning to cook. Cranberries are glistening from the kitchen table; the smell of pumpkin pie and the hum of fellowship in the kitchen are making me smile. I like most Americans am certainly glad the election season is over. This was an unusual and rancorous election season. Whether you celebrated the victory of the candidates you supported or you frowned on the news of the victors, we can all be pleased that our democracy is strong and another season of voting has come and gone. One of the benefits of a little age is that we have witnessed this political transition many times, the prospects of change are always disconcerting but they also always offer unforeseen opportunities.

I have been thinking about what some of these changes will mean for the Arizona Wildlife Federation. Our work, the conservation of Arizona's Wildlife is non-partisan and will be just as important, maybe even more so in the coming years. Our voices (sportsmen/women and wildlife enthusiasts) will be vital in the coming years. There are many issues that divide our State/Country but Conservation, the idea that we can take actions today that will make Arizona a better place for our children is a unifying action that is supported by a great majority in our State and Country.

It has always been essential that we work in bipartisan fashion. We will need to continue to develop and strengthen our relationships with both parties as we seek common ground that benefits Arizona's wildlife. In our 94 years of existence we have seen numerous republican and democratic presidential administration's come into power. Change is the hallmark of our political structure. We will continue to focus on some of our key priorities:

- Keeping Federal Public lands public
- Keeping a strong Wildlife Commission system
- Working with Federal Land management agencies to prioritize wildlife in their planning efforts
- Educating Arizona's citizens about wildlife and the outdoors
- Working with our Federal and State legislators to support wildlife conservation

There is no doubt challenges lie ahead but there will be a need for the Arizona Wildlife Federation and others in the outdoor community to play an even more prominent role to ensure that Arizona's wildlife and its habitats are protected and enhanced for future generations of Arizona's citizens.

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.

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REGIONAL ROUNDUP

Region II - Tom Mackin
Regional Director
August-November, 2016



For our regular readers you know that I frequently document my Regional Directors Report with a diary of activities. I love the outdoors, wildlife, seeing suitable habitat and working to improve conditions whenever I can. I'm fortunate to live in Flagstaff, adjacent to some of the most beautiful and plentiful higher elevation wildlife habitat in all of Arizona so my opportunities are plentiful. I also have the great support of many other dedicated folks that share my passion for wildlife and habitat and also the willingness to get involved and work hard to make improvements whenever possible. I therefore make my report in this format to show the diverse opportunities that are available and necessary to enhance our public lands and improve their suitability for all wildlife species. Unfortunately there's much work that needs to be done, I guess that's volunteer job security for me, and so I ask you to please take your love of the outdoors and wildlife to the next level, work with many of the fine wildlife NGO's, the AZGFD or find other opportunities to get involved. We can no longer just sit back and enjoy the outdoors without making a difference and preserving our AWF legacy for generations to come.

August 21 – Led a hike at The Nature Conservancy Hart Prairie Preserve, covering topics such as the historic homestead, the San Francisco Peaks, Bebb's Willows and landscape changes

August 22 – Moved water to various drinkers and storage tanks on the Pat Springs Pipeline

August 23 – Attended a meeting with other 4FRI stakeholders to discuss a new work group dealing with non timber harvesting activities in the 1st 4FRI EIS

August 23 – Attended the monthly Arizona Sportsmen for Wildlife Conservation meeting in Phoenix, discussing items such as the Tonto NF plan, the proposed Grand Canyon Heritage National Monument and the awarding of various grants from the conservation license plate program

August 24 – Attended the monthly 4FRI Stakeholder Group meeting in Flagstaff, received updates from the FS on their activities as well as other stakeholder updates

August 24 – Attended a program at the Museum of Northern Arizona where there was roundtable discussions regarding Public

Lands and how they should be managed

August 25 – Worked on repairs to a leaking valve at a wildlife trick tank in GMU 11M

August 26 – With another volunteer we worked on repairs to a fence around a wildlife trick tank, damaged by grazing livestock in GMU7E

August 26 – Attended a meeting of the Northern Arizona Shooting Foundation, discussing an overview of their finances, upcoming firearms events and planning for possible winter closure or reduced hours of operation

August 29 – With other FoNAF volunteers and FS staff we visited the several existing aspen exclosures and removed ponderosa pine logs from trees that the FS had dropped earlier in the year to improve aspen propagation

August 30 – With another FoNAF volunteer, we visited a site NE of Flagstaff to look at an existing fence built with woven sheep wire that is planned for removal and rebuild to enhance pronghorn movements in the area

September 1 – With 20 other FoNAF volunteers and FS staff, we removed an

existing older aspen exclosure that was built too close to a Mexican Spotted Owl activity center. There was very little aspen left and the fencing was considered a hazard to the MSO's in the area

September 2 – Led 2 hikes at the Arboretum of Flagstaff discussing the history of the Arboretum, ponderosa pine, aspen, water conservation and other related topics

September 3 – Served as a Range Safety officer at the Northern Arizona Shooting Range where we hosted numerous firearms shooters and guests

September 4 – Volunteered for the AZGFD at their booth at the Coconino County Fair, answering questions from Fair goers and providing information about the various Game and Fish programs

September 5 – With another volunteer, we went to a FS trick tank at in GMU7W and removed an old fence that was damaged in the 2000 Pumpkin fire on Kendrick. The fence was mainly on the ground and attached to some T-posts and burned stays, presenting a significant hazard to wildlife, livestock and humans as well

September 6,7 – With another volunteer and several AZGFD staff, we conducted the annual on the ground elk survey in GMU9 south of the Grand Canyon. Numbers of elk sighted was a bit better than last year's survey and the results will be included in the determination for next years elk hunting permit numbers

September 8,9 11 – With another volunteer, we spent three days moving water into storage and drinkers on the Pat Springs Pipeline in GMu7E, providing much needed water for the varied wildlife north of the San Francisco Peaks

September 10 – With 9 other FoNAF volunteers, we completed the construction of a new aspen enclosure near Hwy. 180 NW of Flagstaff and started on another site nearby, protecting the current and future aspen for browsing

September 12 – Met with two of the Coconino County Supervisors to discuss the AWF proposed alternative to the proposed Grand Canyon National Monument

September 12 – Met with AZGFD Hunter Ed staff and other volunteer Hunter Ed instructors for a "listening session" on issues we may be having as well as hearing about Department plans and changes to the Hunter Ed program

September 13 – Visited the Northern Arizona Shooting Range and started preparations for the upcoming Hunter Ed Field exercise for 25 students wishing to complete their Hunter ed class

September 13 – Participated in a conference call with other members of the 4FRI Steering Committee, making plans for the next 4FRI Stakeholder Group meeting and discussing other issues

September 14 – With another volunteer, we traveled to GMU9 south of the Grand Canyon and made repairs to two AZGFD trick tanks that had been damaged by a fallen tree

September 15 – With 8 other FoNAF volunteers and several FS staff, we removed an old woven wire sheep fence and rebuilt it with barbed and smooth wire to improve pronghorn movement

September 16 – Attended a meeting of the stakeholders in the Arizona Watchable Wildlife Experience, AWWE, to discuss the program and make recommendations for improvements

September 16 – Led the first of two Hunter ed activities for 25 students, administering a 50 question examination based on the on-line curriculum the students had already completed

September 17 – Attended the quarterly AWF Board Meeting in Phoenix

September 18 – Completed the second half

of the Hunter ed program for 25 students, the field day exercises including a mock hunt, matching of dummy ammunition to specific weapons, live fire activities and handling firearms when crossing a fence or getting out of a vehicle

September 21 – Met with employess of Loomacres Wildlife Management, an airport wildlife mitigation company, at the Northern Arizona Shooting Range (NASR)

September 21 – Participated in an NWF conference call regarding Public Lands

September 22 – Attended a meeting of the newly formed First EIS Implementation Work Group to discuss our charter and review potential non-timber harvesting/ non-managed fire activities in the footprint of the 4FRI 1st EIS

September 22 – Met with the AZGFD Region 2 head of Law Enforcement to discuss the issue of young hunters that require Hunter Ed before they can legally hunt big game potentially doing so without meeting that requirement

September 23 – Load several FS vehicles with supplies need for a FoNAF work project scheduled for September 24

September 24 – With 12 other FoNAF volunteers, we worked on a new several acre aspen protection enclosure off FR245 on the Coconino NF

September 25 – With another volunteer, we served as Range Safety officers at the NASR SE of Flagstaff

September 27 – Attended the monthly meeting of the AZSFWC in Phoenix and received a presentation from Jim DeVos of AZGFD on current issues including the Mexican Grey wolf reintroduction program, the proposed GCNM and other items. We also received a presentation on effectively using Social media and website changes to reach more individuals

September 28, 29 - With another volunteer, we spent two days moving water into storage and drinkers on the Pat Springs Pipeline in GMu7E, providing much needed water for the varied wildlife north of the San Francisco peaks

September 30 – With a dozen FoNAF volunteers and two FS staff members, we completed modifications to over ¼ mile of pasture fence north of the San Francisco Peaks to improve travel opportunities for pronghorn and other wildlife

October 2 – Met with the new AZGFD Wildlife Manager for GMU9 south of the GCNP and showed him how to operate the 11 mile long Tusayan Wildlife water pipeline to provide water for wildlife west of Hwy. 64

October 3,5 - With another volunteer, we spent two days moving water into storage and drinkers on the Pat Springs Pipeline in

GMu7E, providing much needed water for the varied wildlife north of the San Francisco Peaks

October 5 – Participated in an online/phone webinar sponsored by the CFLRP discussing building trust in collaborative efforts

October 7 – With several other FoNAF volunteers we made repairs to a few aspen exclosures NW of Flagstaff where trees had fallen on the fence or other repairs were needed

October 8 – Volunteered to lead tours at the Flagstaff Arboretum discussing the history of the Arboretum, ponderosa pine, aspen, water conservation and other related topics

October 9 – Served as a Range Safety Officer at the Northern Arizona Shooting Range

October 11 – Met with two other officers of the Northern Arizona Shooting Foundation to discuss the operation of the clay target venues at the NASR

October 11 – Participated in the monthly 4FRI Steering Committee call to discuss the next meeting agenda and other related topics

October 12 – With several representatives from the Forest Service, we visited T-Six Spring, South of Flagstaff, to discuss possible restoration activities under the 4FRI scope of work

October 13 – With several other FoNAF volunteers, we drove south of Flagstaff near Mormon Lake to make repairs to several aspen exclosures and log worm fences

October 14 – Visited the Pat Springs Water Pipeline to monitor the current status of water storage at numerous tanks and drinkers

October 15 – Met with the Clay target venue directors for the NASR to discuss possible changes in their operation and winter shutdown

October 17 – With another G&F volunteer, we traveled to GMU 9 south of the Grand Canyon N.P. to make repairs to two wildlife water developments

October 18 – With two other FoNAF volunteers, we made repairs to three aspen exclosures south of Flagstaff where trees had fallen on the fences and snapped both the upper and lower HT wire in several locations

October 18 – Met with the Arizona Watchable Wildlife Experience (AWWE) stakeholders to discuss work on a new strategic plan to carry us through the next 3-5 years

October 19 – Attended the AZGFD Region II 2017 elk and pronghorn hunt recommendation meeting where we received a presentation by GMU on the populations, calf/fawn survival, survey results and other items

October 19 – Met with AZGFD GMU 9

Wildlife Manager, AZGFD Development Branch representatives and Forest Service wildlife biologists to discuss the renovation of 10 wildlife drinkers in GMU9 over the next 4-5 years in order to provide adequate distribution of water developments

October 19 – Attended the Annual meeting and election of officers for Friends of Northern Arizona Forests where I was once again elected President of the Board

October 20 – Attended the monthly 4FRI Comprehensive Implementation Work Group meeting to discuss our new charter, plans for implementing our first project and the role we'll fulfill in relation to the larger 4FRI effort

October 20 – Participated in the monthly NWF Conservation Funding caucus conference call

October 21 – With another AWWE stakeholder, we visited Marshall Lake near Flagstaff to observe and discuss the work that was done earlier this year by the Forest Service to improve the wildlife viewing experience at that site

October 22 - Volunteered to lead tours at the Flagstaff Arboretum discussing the history of the Arboretum, ponderosa pine, aspen, water conservation and other related topics

October 23 – Visited the NASR to collect the Daily Shooter Activity sheets and financial receipts for the weekend's activities

October 24 – With several other FoNAF volunteers and FS folks, we visited 6 aspen

enclosures near Mormon Lake to install flashy bird diverters to minimize collisions between birds, including nearby Mexican Spotted owls, and the enclosure fencing

October 25 – Traveled to to pick up a replacement welder from AZGFD Development Branch that I use to assist with repairs at numerous wildlife water developments

October 25 – Attended the monthly Arizona Sportsmen for Wildlife Conservation meeting where we discussed current issues, potential grants and future planned activities

October 26 – Attended the monthly 4FRI Stakeholder Group meeting

October 27 – Continued work on several trick tanks, preparing them for colder weather by draining the lines to the drinkers. Assisted AZGFD with the removal of a dead elk, possibly a wounding loss, from an earthen tank in GMU7W

November 2 – Weatherizing several more trick tanks at higher altitudes, night time temperatures now frequently below freezing

November 7 – Winterizing the Pat Springs Pipeline while moving the final 60,000 gallons of water to lower elevations

November 8 – Attended a tour of a site that's part of the Flagstaff Watershed Protection Project, viewing areas that have been treated, log landings, slash piles ready for chipping and hauling. Other participants included representatives from the NAU

Ecological restoration Institute (ERI), NAU grad students, City of Flagstaff, USFS, TNC, CBD and other guests

November 9 – Winterizing the Pat Springs Pipeline while moving the final 60,000 gallons of water to lower elevations

November 10 – Participated in a webinar on wild horse and burro management arranged by the Western Governor's Association

November 10 – Participated in the NWF Sportsman's Caucus monthly call

November 11 12- – Winterizing the Pat Springs Pipeline while moving the final 60,000 gallons of water to lower elevations

November 13 – Volunteered as a Range Safety Officer at the NASR Shooting Range

November 14 – Visited a former FS/NAU Arboretum built in the 1930's with representatives from the FS, Rocky Mountain Research Station and FoNAF to discuss possible opportunities for cleanup and restoration

November 15 -- Winterizing the Pat Springs Pipeline while moving the final 60,000 gallons of water to lower elevations

November 16 - Participated in the NWF Public Lands Caucus monthly call

November 17 - Traveled to GMU9 to make repairs to several trick tanks and prepare them for winter temperatures

November 18 – Attended the Annual meeting and election of officers for the Northern Arizona Shooting Foundation



Region III - Loyd Barnett Regional Director

Burros – As previously reported, the existing burro population is several times greater than the approved Appropriate Management Level (AML) in the Black Mountain Habitat Management Area (HMA). A 2014 aerial survey resulted in a population estimate of approximately 1500-1800 — vs. the AML of

478 (the population in 2016 has two years of increase since the aerial survey). Because of the high cost of simply holding and feeding, capture and removals have been primarily of limited scope, and located where public safety is involved (urban area highway conflicts), or where private land is being impacted. This summer a private contractor was used for bait and capture removals adjacent to Bullhead City and Lake Havasu of 30 and 50 head, respectively. In addition, a 75 head removal was done at the request of private land owners in the Golden Valley area just east of the Black Mountains due to damage being done to fences and private land. However, there have been no removals to address the habitat damage and conflicts with native desert bighorn sheep in the Black Mountains. Throughout much of the state, burros have now expanded well beyond the areas they inhabited when the Wild and Free Roaming Horse and Burro Act was passed in 1971.

The BLM is currently preparing an Environmental Assessment on a proposal by the Humane Society of the United States (HSUS) to conduct a four year pilot study on

the effectiveness of the contraceptive vaccine PZP and feasibility of application. It requires capture for the initial treatment and it is hoped subsequent booster shots may be able to be given without trapping, via darts. A follow up booster and then annual boosters are required to maintain effect.



HSUS proposes to conduct the study treating approximately 100 jennies distributed within the south portion of the Black Mountain Herd Management Area (HMA) — south of Arizona Highway 68 from Kingman to Bullhead City. BLM would supervise trapping and identification (freeze branding) and HSUS funded veterinarian and other staff would conduct the treatment and follow up evaluation. In the meantime, the BLM is preparing another EA on the burro situation in the Black Mountain HMA, projected to be completed in 2017. **Meanwhile the burro population continues to grow at about 25 percent per year!**

Land Management – The Prescott National Forest Land Management Plan completed in 2015 was appealed by several groups from divergent viewpoints. The Plan, developed over a several year period with very extensive public participation, replaced the previous plan completed in 1987. In June 2016, the Forest Service Washington Office upheld the Record of Decision for the Plan. One area of appeal involved areas recommended for Wilderness Designation (Wilderness can only be designated by Congress; however recommending them means they will be managed in a manner to preserve their suitability for potential designation). The Arizona Wilderness Coalition appealed believing there should have been much more acreage recommended. The Arizona Game and Fish Department, under the direction of the Commission, appealed under the philosophy that no more acreage was needed or should be recommended.

Verde River – The Verde River Basin Partnership (of which AWF is a charter member) recently hosted a field trip to show and explain the status and importance of both beavers and otters in the river. Both are well established. Dr. Walt Anderson of Prescott College explained studies

the college had done on the Verde River and findings that a series of beaver dams had resulted in significantly reducing a flood peak from a major monsoon storm that caused the uppermost dams to be damaged. Their field studies also documented that otters were using the same areas as beavers but were not in conflict for food sources, as beavers are herbivorous and the otters carnivorous. Beavers and some of their dams can now be found within the Cottonwood-Clarkdale area.

The native river otters in Arizona were extirpated many decades ago. In the 1980's the Arizona Game and Fish Department brought in river otters from Louisiana and planted in them in the Verde River and tributaries. Today they are well established throughout much of the upper and middle portion of the watershed, including major tributaries. Studies have shown that a major portion of their diet is crayfish – a non-native species which competes for food and other habitat components of native fish. The otters are opportunistic. Prescott College studies found they generally selected larger, slower non-native fish, with minimal take of the small native fish which are on the threatened and endangered listings. They have also been found sampling the large brood trout at the Page Springs Fish Hatchery.



Images courtesy of AZGFD with George Andrejko behind the glass

Proud To Be An American Outdoorsman

By Kirk Deeter



I have been very fortunate to have a career that takes me throughout the world, fishing and hunting, and writing stories about those adventures. But while the exotic certainly captivates the mind, those that happen on American soil—public lands that we all own—live in my heart.

In fact, it strikes me that when I speak with dedicated anglers and hunters from other countries, they almost all share a sense of awe for the vast amounts of lands and waters that all Americans (and visitors) can access.

Public lands are indeed, arguably, one of this country's greatest ideas.

That anyone could conceive of giving them away, or selling them off is shameful. Not just a bad idea. Shameful.

Most of my favorite fishing adventures took place the high country in the Rockies. I can't tell you the name of most creeks, because there were no signs. I didn't catch monster trout, but then again I'd trade a thousand fat, stocked trout for one wily native. The best part of all was the price I paid to get there, a sweat and maybe some sore feet.

Who can argue when the price of solitude is a hike?

The same can be said for elk hunts, hikes, skiing in the backcountry and many other diversions that were only possible because of public lands.

And now I am sharing those things with my son. I beam

at the thought that he will be able to share the experiences with his grandchildren too, and I shudder at the thought that others would take that away for short-term gain.

So I definitely side with the National Wildlife Federation, and I pledge to support public lands. It is imperative that our elected officials, and anyone who seeks political office, do the same.

We learned how to fish from our parents on public lands, and taught our own children the same. But will these places be there for our children's children?

It strikes me that the same people who want to give away these amazing resources will be the ones who also complain loudest that our kids are out of shape... that they have attention disorders... that they are absorbed by social media. So many good things can happen when children walk on more than pavement.

Once it's gone, it's gone. Let's never get this close again.

*Kirk Deeter is a veteran of the fly-fishing industry, and is the editor of **TROUT Magazine**, the signature publication of Trout Unlimited. He has produced award-winning stories from around the world, and co-authored the best-selling **Little Red Book of Fly Fishing**.*

Fish Health Surveys Inform Conservation

Craig Springer USFWS



I'm standing in a small side room at Willow Beach National Fish Hatchery, just off a larger chamber where a dozen concrete raceways lie. Double-doored olive metal cabinets stand against white walls under effusive florescent light. Well-used grease boards smudged with eraser marks under blue-ink to-do lists fit the narrow space on one end opposite an industrial-sized sink. On a long wall, a hygienic 12-foot-long stainless-steel counter is where the work gets done today. Two biologists stand over the counter immersed in their labors that involve isopropanol, forceps, test tubes and scalpels. They are here to assay the health of fish held at this federal facility.

Every effort is made to ensure that fish brought into national fish hatcheries—and the fish going out—are robust and disease-free. Toward that goal, Marlene Rodarte and Ashlie Peterson, fisheries biologists from the U.S. Fish and Wildlife Service's Southwestern Native Aquatic Resources and Recovery Center - Fish Health Lab recently collected razorback sucker and rainbow trout tissues for the annual exam at Willow Beach. The two scientists own a combined 42 years of experience in fish health, and laboratory practices. They are two among a staff of six fish health biologists at Southwestern ARRC, led by a doctor of veterinary medicine, Martha Keller.

The Southwestern ARRC is based in Dexter, New Mexico in the southeast part of the state near the more recognizable cities of Roswell and Carlsbad. That's where scores of processed fish tissue samples taken for this annual check-up will be further examined. The Southwestern ARRC houses the fish health lab, a molecular genetics laboratory and is the largest native species fish culture program in the Southwest. The Southwestern ARRC conserves 15 threatened or endangered species and conducts research on 4 to 6 additional species of concern.

What Rodarte and Peterson endeavor to do here is akin to your annual check-up. It's preventative medicine. Following a protocol expected of all 71 national fish hatcheries, the rainbow trout and razorback sucker are tested every year for a selection of diseases.

Rainbow trout were recently brought back to Willow Beach National Fish Hatchery following a three-year hiatus caused from a serious structural failure that interrupted its water supply. A new water intake was dedicated in October 2016, welcoming back the popular sports fish to the 57-year-old facility that sits 12 miles downstream of Hoover Dam on the Arizona side of the Colorado River. The Arizona Game and Fish Department supplied 51,000 fingerling rainbow trout to jump start the program. Later this year, hatchery biologists will once again start raising rainbow trout from fertilized eggs sent from Ennis National Fish Hatchery in Montana.

The razorback, so named for a prominent ridge on its nape is endangered with extinction. It's native to the Colorado River and its larger tributaries and the hatchery is part of a large endeavor to improve the fish's conservation status. The sucker with a belly the color of a wet lemon and sides ruddy like the flesh of a blood orange is curiously shaped for a life in fast-flowing water; the 'razorback' is a keel that keeps the fish oriented upright and on the river bottom in otherwise sweeping flows.

As a matter of good science protocol, fish health practitioners follow rigorous and repeatable methods to



Marlene Rodarte, right with Ashlie Peterson Southwestern Fish Health Unit taking tissues from razorback sucker and rainbow trout at Willow Beach National Fish Hatchery (photo Craig Springer USFWS)



Ashlie Peterson Southwestern Fish Health Unit with a razorback sucker at Willow Beach National Fish Hatchery keel on nape (photo Craig Springer USFWS)

collect fish tissues. There's much work at a laboratory bench examining kidneys and spleens and in the case of trout, skulls reduced to a granular slurry to be examined with much time over a high-powered microscope. Obviously the fish must be sacrificed to examine internal tissues and those sacrifices are kept to a minimum. Sacrificed fish are bathed in a compound called MS-222, a piscine Prozac of sorts, an FDA-approved anesthesia that humanely dispatches the animal.

The time investment to assay wild or hatchery fish populations is quite large. Tissues are collected and processed and shipped to the laboratory in New Mexico. From start to finish, from gathering fish to looking at fish tissues through scopes to the having final data for Dr. Keller to report to fisheries managers, an annual hatchery exam may take on the order of 120 hours to complete. One always hopes for a clean bill of health, but in the event that disease pathogens are found, Dr. Keller offers potential remedies or treatments.

Rodarte and Peterson have seen the Southwest like no others. Shortly after visiting Willow Beach on the Arizona-Nevada border, their work took them to the legendary Lake Fork east of Dallas, Texas, a fishery known for growing massive largemouth bass. The fish health program services nine national fish hatcheries as well as the state game and fish departments in Arizona, New Mexico, Oklahoma and Texas. They have examined alligator gar and largemouth bass, Gila trout and Apache trout, Texas blind salamanders and some of the rarest fishes in the world, all with an eye on finding diseases. They've seen peculiar things in the bellies of fish, like song birds and field mice. Despite handling fish day after day, they both still enjoy angling and hunting.

And they do ferret out disease-causing pathogens. The work is essential to fisheries conservation, be it common game fishes such as rainbow trout or the imperiled sucker with the curious ridge on its back. No matter the species, understanding the health of captive or wild fishes is necessary to make informed management decisions.

To learn more about fish health and the National Wild Fish Health Survey, visit www.fws.gov/wildfishsurvey

WHADDA' YA' KNOW

(answers on page 22)

1. What do you call a group of owls?
2. How far can an owl rotate their neck?
3. Name the world's smallest owl
4. Which tiny owl only weighs about as much as 25 pennies?
 - a) Northern Saw-whet Owl
 - b) Flammulated Owl
 - c) Northern Pygmy Owl
5. Which birds reclaim old badger and prairie dog homes?
 - a) Northern Saw-whet Owl
 - b) Short-eared Owl
 - c) Burrowing Owl

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Regional Perspective on Wild Horse and Burro Management

Tom Mackin, Region 2 Director

I recently participated in a webinar, presented by the Western Governors Association, titled *The Future of Wild Horse and Burro Management: Challenges and Opportunities*, part of the Western Governors' [National Forest and Rangeland Management Initiative](#). As a follow up to this webinar I'd like to share the following information recently emailed to participants. As many of you know this is becoming an important issue in Arizona but we're not in the worst shape

compared to many of our bordering states.

For more information or to view the webinar or slides, please visit: <http://www.westgov.org/initiatives/forest-and-rangeland-initiative/webinars>

Again, this is becoming a larger issue here in , numerous vehicle horse/burro collisions, property damage, resource degradation, etc. and anything the AWF can do to work towards an appropriate solution is the purpose of the article.

Moderator **Congressman Chris Stewart (UT-02)** guided panelists in a discussion of the economic and environmental impacts of wild horses and burros on western rangelands, as well as the challenges associated with responsible and humane management of horses and burros on public lands, and possible solutions to growing herd populations. Here's a sampling of comments by the panelists:

"In , and across the West wild horse management is no longer an emergency, it is a disaster. The program is at a breaking point ... We must gather 100 percent of horses in an (Herd Management Area). Those horses that are to be returned to the range, but be treated with permanent or near permanent fertility control. We cannot continue to round up horses and not curb reproduction. We will be removing 1000 to 1100 horses from this again in a few years if we don't slow reproduction."
J.J. Goicoechea, Eureka County Commission Chair, Eureka County, Nevada.

If we had proper management and the horse populations were within (Appropriate Management Levels), you would have good range, healthy horses, healthy wildlife, healthy livestock, and healthy local economies for these rural communities... This is, and will be, the worst case of inhumane treatment of animals and man-made ecological disasters in the history of the West."
Tammy Pearson, Commissioner, Beaver County, Utah.

"By 2030, we will have spent over \$1 billion on the wild horse problem. We are reaching the point where something has to give: it is becoming more cost prohibitive. One of the problems is that the economic impacts from wild horses is not felt evenly across the country. Your average citizen in an urban setting, and even some other rural counties, doesn't feel the impacts of wild horses."
Dr. Eric Thacker, Professor of Wildland Resources, Utah State University.

"The need for proactive management on these western rangelands cannot be stated strongly enough. The fact that we typically have five to, at best, 15 inches of annual precipitation makes it critical that we do proactive management and not let rangelands get degraded, because once they pass a threshold, they cannot be reclaimed."
Callie Hendrickson, Executive Director, White River & Douglas Creek Conservation Districts in Rio Blanco County, Colorado.

"This is a call to action. Let's get the Congress educated, and let's overcome our fear of the politics of this and have a clear mandate to the (Bureau of Land Management) to follow the law. They've got the tools they need right now to do what needs to be done, but they are intimidated by the politics of the national activists."
Kathleen Clarke, Director of Utah Public Lands Coordinating Office.

The Rim Country Project...

What is it?

Bob Vahle, Region 1
Regional Director



Mogollon Rim in Central Arizona

If you have driven north along State Highway 87 or east along State Highway 260 from Payson, Arizona along or towards the top of the “Mogollon Rim”, you may be observing changes in forest structure and appearance (e.g., tree density and arrangement) now or in the near future resulting from implementation of the “Rim Country Project”.

The Rim Country Project is a large landscape forest restoration project that is a part of the larger Four Forest Restoration Initiative (4FRI). The 4FRI project is a large collaborative effort to restore forest, woodland, grassland, stream/riparian and other key ecosystems in portions of four Arizona National Forests – the Coconino, Kaibab, Apache-Sitgreaves, and Tonto along the Mogollon Rim in northern Arizona. This collaborative project includes the U.S. Forest Service as the primary land management agency and over 45 stakeholder groups and individuals representing local city, county and state governments; environmental/sportsman organizations such as the Arizona Wildlife Federation; educational institutions; and industry representatives.

The 4FRI project is the largest forest restoration project in the American West which will ultimately implement forest restoration treatments such as mechanical tree thinning, prescribed burning, and other habitat improvements (e.g., aspen restoration; stream/riparian restoration) on 2.4 million acres of the four national forests over a 20 year period. The goals of the 4FRI landscape initiative including the Rim Country Project are to reduce the risk of uncharacteristic and catastrophic large landscape wildfires, promote the

reintroduction of natural fire, accelerate and restore overall forest and watershed health, improve wildlife habitat, conserve biodiversity, protect old-growth, restore natural forest structure and function so that forests are more resilient to climate change, and support sustainable forest industries that strengthen local economies.

The Ponderosa pine forest type which stretches almost continuously from the south rim of the Grand Canyon, across the Mogollon Rim, to the White Mountains in eastern Arizona is the predominate habitat type found within the Rim Country Project area. Based on research of this forest type completed by personnel of Northern Arizona University and other researchers, it has been determined that current conditions in many forested areas found within in the four Arizona national forests in the 4FRI project including areas with the Rim Country Project are unnaturally dense in many areas and unhealthy (See – Figure 3.) Consequently they are very susceptible to forest insect and disease outbreaks particularly during periods of drought and at high risk for the onset of high intensity large landscape scale wildfires. Unfortunately, because of the current condition of many of Arizona’s forest stands in terms of excessive tree densities, high forest ground fuel loading (e.g., excessive needle and limb litter), insect and disease problems, and drought Arizona has suffered its two largest wildlife fires (i.e., 2002 Rodeo-Chediski Fire – 460,00 acres; and 2011 Wallow Fire – 538,049 acres) in recent years. As a result of the significant environmental, economic, and social impact of these large wildfires there has been major emphasis and

effort by the U.S. Forest Service and 4FRI stakeholders to develop, plan, fund, and implement large landscape restoration projects such as the Rim Country Project as part of the 4FRI landscape project.

In addition to the ponderosa pine habitat type in the Rim Country Project area, there is also a wide diversity of other habitat types such as ponderosa pine/Gambel oak, ponderosa pine/evergreen oak, mixed conifer, pinyon-juniper, oak woodland/shrubland, chaparral, and stream/riparian habitat. This diversity of habitat types provides habitat for a broad spectrum of wildlife species including big game (e.g., elk, mule deer, and Merriam's turkey), small game (e.g., Abert's squirrel, red squirrel), nongame (e.g., Arizona tree frog, porcupine, and acorn woodpecker) and species of special concern (e.g., Mexican spotted owl, Northern goshawk). Each of the wildlife species inhabiting the project area has special habitat needs that are essential in meeting their basic food, cover, and water requirements. As a stakeholder in the 4FRI and Rim Country Project, the Arizona Wildlife Federation's objective is to promote that all wildlife species habitat needs are factored into the planning and implementation of a large landscape restoration projects. Restoration treatments such as mechanical tree thinning and the use of prescribed fire that are needed to reduce fire risk and habitat loss are also needed to restore more natural habitat conditions in terms of sustainable tree density, age/size class distribution, spatial arrangement, and vegetative diversity (e.g., grass/forb composition and abundance) which will benefit a large number of wildlife species (See – Figure 4.).

small forest openings to more resilient late successional forest stands (i.e., old growth) which will benefit many wildlife species including species of concern such as the Mexican spotted owl and Northern goshawk in consideration of their foraging, roosting, and nesting requirements. Finally, a large number of other special actions and treatments have been identified and incorporated into the implementation plan for the Rim Country Project that will benefit a wide variety of wildlife species. Some of these actions and treatments include the restoration and protective fencing of springs, aspen stands, maple stands, wetlands, and



Figure 3 -Excessive ponderosa pine tree density prior to mechanical thinning.



Figure 4 -Desired ponderosa pine tree density after mechanical thinning.

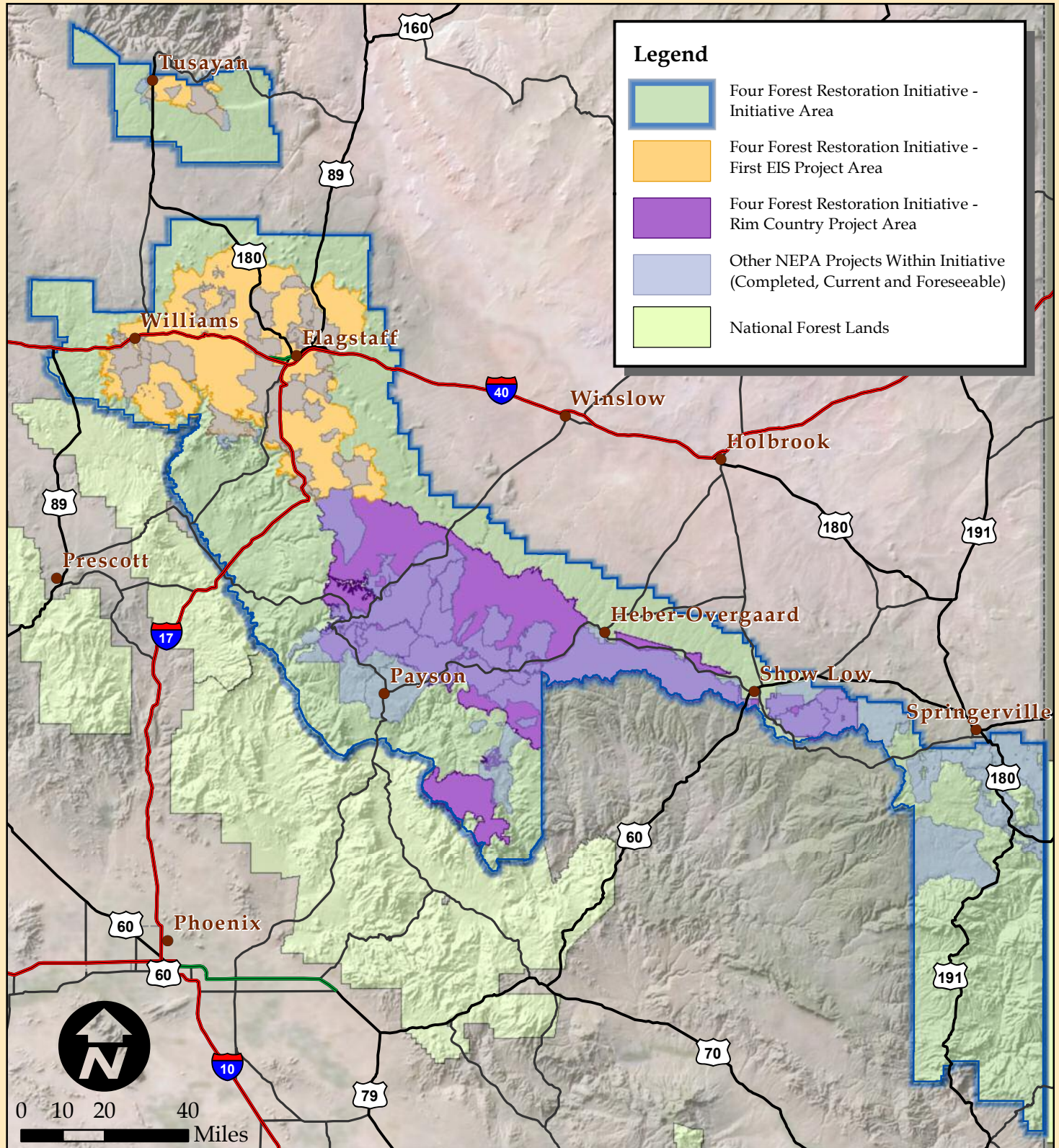
For example, forest thinning treatments are planned within the Rim Country Project to promote the development and spatial arrangement of forest successional stages from

stream/riparian areas that are key habitats for a large number of wildlife species.

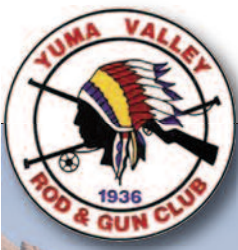
The objectives and concerns for maintaining suitable habitats and viable populations of these species and the hundreds of other species that inhabit the Rim Country Project area closely coincide with the mission of the Arizona Wildlife Federation which is an all volunteer, statewide association of people interested in the present and the future well-being of Arizona's wildlife, wildlife habitats, and natural systems. Participation as a stakeholder and cooperator in large landscape forest restoration projects such as 4FRI and the Rim Country Project are a high priority for the organization since these type of projects can help reduce the risk of significant habitat loss due to large landscape wildfires, accelerate the restoration of unhealthy and unsustainable habitat conditions, and improve the health, sustainability, and diversity of key habitats for a wide variety of wildlife.

If you are interested in learning more about the mission of the AWF please visit www.azwildlife.org. For additional information regarding the 4FRI project and Rim Country Project please visit www.fourforestrestorationinitiative.org.

Four Forest Restoration Initiative - NEPA Projects



Four Forest Restoration Initiative projects including Second Environmental Impact Statement Draft Boundry



The Yuma Valley Rod & Gun Club



Since 1936, the Yuma Valley Rod & Gun Club (YVRGC) has been an Arizona leader in the conservation of wildlife, habitat, and natural resources. The YVRGC provides high quality public education on conservation issues, outstanding firearms safety training, strong support for the Second Amendment to the Constitution and provides recreation and organized activities to its members and the public. The Yuma Valley Rod & Gun Club is an active participant in charitable and other community service activities, especially those related to conservation and sportsmanship.

Eighty year's ago a group of local farmers in Yuma County got together and wanted to have a "Big Bass" fishing derby and a "Big Deer" contest amongst themselves. From there the YVRGC was formed and began expanding its activities.

Today the YVRGC is over 600 members strong and holds over 28 events annually. These events include a Youth Fishing Clinic, Special Needs Children River Cruise, Youth Dove Hunt, Youth Quail and Small Game Camp, and a Military Appreciation Float Tube Derby. The YVRGC is also very involved in the Hunter Education Program holding at least five classes a year free to all participants.

The YVRGC continues to be a very dedicated and aggressive conservation partner with the Arizona Game and Fish Department, ensuring wildlife, wildlife habitat, and

wildlife dependent outdoor recreation remain as the Department's major management focus. The YVRGC assists the department with many wildlife conservation activities especially with the construction of numerous waterhole catchments throughout Southwestern Arizona.

The YVRGC continues to be politically active, involved at the local, state, and national level. Because of all the attempts to reduce and or eliminate wildlife management and wildlife dependent outdoor recreation the YVRGC is proud to be a partner with the Arizona Wildlife Federation (AWF) and continues to aggressively protect this heritage for future generations to enjoy.



Steve Bilovesky



A REMEMBRANCE

August 8, 1941 - November 4, 2016



2013 September BOW Shotgun class with Steve sporting his signature cowboy hat



by Russ Gunderson



It was a common outpatient surgery on Monday afternoon and he called me late that afternoon to say he was back home with a clean bill of health and the MD's had placed no activity restrictions on him. Follow up calls were

exchanged during the balance of the week and were all upbeat. The call on Saturday morning from his daughter was unexpected and heart rending. Steve had suddenly passed away the previous evening.

For a moment of cold silence, time stood still and then the memories of Steve came flooding over me.

A career in Education from being a teacher to military dependents in Japan to a principal, to an AV Director, Special Ed Director, a Business Manager to a Superintendent in the West Valley occupied Steve's professional life. Raising a family with his wife Pat formed the basis of his personal life.

His spiritual life was active at the Apostles Lutheran Church in Peoria where he was an Elder and taught Bible study.

Along the way he and his brother collaborated on construction and development projects where he learned his way around hammers and saws. He turned his boundless energy to some four legged friends and became a fair to middlin' roper with appropriate silver belt buckles and the requisite boots and spurs.

Boredom was not in Steve's vocabulary and he and Pat joined Friendship Force and traveled around the world making new friends in their homes and hosting

foreign friends in their home. He made friends easily and kept them all close. He did the same for his grandchildren, taking them all on multiple hunting trips, teaching them the ways of the wild, buying them their first guns, guiding them thru Hunter Education classes and on many big game hunts.

Teaching was natural to him and he became a Hunter Education Instructor with the Arizona Game and Fish Department and finally a Chief Instructor certifying many Graduates.

An equal opportunity Teacher he became involved in the Becoming an Outdoor Woman program and had a hand in teaching women the basics of firearm safety, handgun, shotgun and rifle shooting. Along the way and all the time Steve was adding to his bucket of buddies whom he always remembered. In his own way, Steve was our Mentor and we all have become richer for having been touched by him.

He was a Good Man and will be missed.

By: Russ Gunderson, a Friend

Remembering Steve

by Linda Dightmon

I was in the forest chasing Abert's Squirrels when the phone chirped reminding me of that other world. I had not been smart enough to turn it off and the silly thing had found a spot where there was service and I had a voice mail. I stopped under a Ponderosa to see what was what. The call was from Steve. It seemed right somehow, listening to his baritone on this beautiful early fall afternoon. The call was about a detail that I had missed while reporting my hours from the last Hunter Education field day and precise directions on how I was to fix my error. It was the last time that I would hear his voice.

I first met him when about 10 years ago when I joined the ranks of the Hunter Ed team. Russ and Steve were co-leaders and did a great job of keeping our little rag tag group in line. I liked how they worked together during the eight week course. I admired

his ability to control a room full of ten-year-olds and pegged him as an educator.

At BOW workshops, Steve would usually conduct the orientation at the range. This is what he is doing in these photos. (Yep, he talked with his hands.) He understood the student. BOW ladies were often anxious about handling firearms and he was encouraging and supportive from the beginning.

He spoke about his grandkids with pride and about the hunts they shared and about traveling with Pat in their camper. And ohhh...that laugh! It was a unique hearty kinda giggling thing that could startle the unsuspecting.

He was an exceptional human being and I am so proud to have worked with him and to call him a friend and yes he will indeed be missed.



Historical Tales

Reproduced by Ryna Rock from Arizona Wildlife Sportsmen's news, August 1971

ENVIRONMENTAL ASSESSMENT OF RESOURCE

by Jim Ruch, National Wildlife Federation

This was composed at an altitude of 40,000 feet on a transect across the northern American continent, bisecting the U.S. from San Francisco to Washington, D.C.

No more fitting place could be found, I suppose, except perhaps a space vehicle orbiting the earth, or looking back at this planet from its only moon. Crossing Nevada, I have just looked down on a freeway, a dam, an irrigation project, reseeded rangeland, dirt roads, a mine, a copper smelter, large and small towns—and an apparently inexhaustible supply of untouched or “barren” land.

I know that ahead I will see, barring clouds and smog, virtually every artifact and alteration that we have laid upon our land. All of these made evident, and easier to comprehend in their entirety, from my “cosmic” perch. But Nevada is a good place to start. Here the chicken scratches on our barnyard are fewer. Here it is possible to be optimistic about the future, to look down and say, “what can we do tomorrow that we have not done before?” Here the hopelessness of coping with a Los Angeles, a Washington, D.C., a New York does not overwhelm the viewer.

But I must acknowledge the stream of unburned hydrocarbons passing the window, the dirty brown smudge hanging in the sky behind me. This platform which gives me a supernatural viewpoint is changing the world over which I fly. And a sense of urgency enfolds me. There are two kinds of alterations on the surface below. Hills, mountains, lakes, rivers, and forests are one; roads, cities, farms—the marks of man—another. The difference is time. A hundred, hundred thousand years for one, a short century for the other. Time is our compelling reason for being concerned. The force that moves me ten miles in one minute drives all of us to our involvement.

Although we must discuss “how” we judge the effect we are making on our environment, we must first be committed to a policy of applying these judgements to our actions. You do not need me to tell you our time has run out. You are reading this because you agree. The basic and total question we must answer is, “Can species Homo sapiens in a very short period of time, alter his moral, political, and legal structures so that they do, in fact, give priority to the indefinite maintenance of his habitat—call it environment or life support system if you will.

I suggest that we have the tools to do so; it remains to be seen if we have the will or the maturity to do so.

With exception of the divine right of certain things, it is only in this century that we have seen fit to give social concern to the “rights” of wildlife species—both for the intrinsic value and for their maintenance to meet our demands. It is only very recently that we have extended this protection to the habitat upon which wildlife depends, and without which it will cease to exist.

Only a few years ago, it was considered near revolutionary to confer beneficial priority rights to water for fish habitat and at the same time to downgrade the beneficial priority of water for waste disposal. These changes in social priority are by no means yet universal, even in our country.

There is no doubt that, where such changes haven't taken place, they are a result of environmental evaluation which has become public knowledge. This brings me to a point that I urge upon you most strongly. Environmental assessment, if it is to succeed in its purpose, must have two goals; It must be used to educate as well as implement. Without the former, we will not succeed in the latter.

There is no doubt in my mind that the communicative process must be included, coequally, in the environmental process if we hope to accomplish anything by them. I am disturbed by the continual downgrading and fund cutting of information programs in public agencies charged with environmental evaluation. And so, in everything I say about the "how" of evaluating wildlife and environmental impacts of resource development, remember it carries with it the fullest possible requirement for public disclosure and information programs.

Now let us turn to the problems of evaluating the impact that resource developments have on fish and wildlife. Keep in mind that these impacts deal with habitat changes for fish and wildlife. Considered in this light, the evaluation of environmental changes is similar for fish and wildlife and for a particular wildlife species—man. This is why those of us apparently concerned with fish and wildlife often seem to be involved in the spectrum of environmental impacts on people. We are watching the "canary in the coal mine". So, in order to be specific, let us confine ourselves to the state-of-the-art of fish and wildlife habitat impact evaluation as it operates today.

This form of evaluation has evolved with the science of game management. In a very short period of time, it has passed through about three phases. The first of these was the "Rescue" or "Bambi" Phase.

With the horrifying realization that we had decimated our wildlife species at the turn of the century, this phase went into effect. Its "buzz" words were protection, refuges, and stockpiling. The popular belief was that if we stopped or limited hunting and fishing, we would shortly build up great game and fish populations. The timing was such that this dramatically raised populations of many species. But it was a fallacy, because it didn't deal with the basic problem that we soon would face—rapid deterioration of fish and wildlife habitat. Unfortunately it was simple, and simple minds accepted it was gospel. They still do.

But soon inquiring scientific minds began to delve into fish and wildlife problems and in a few universities and schools, practical wildlife management science began to emerge. Unfortunately it got no further than the walls the universities and the minds of the graduates. This was the "Ivory Tower" Phase. The result was inevitable. When these graduates got out into the field and began to apply their theories in practice—and many times it was strictly practice—they ran into public opinion that had been molded in the earlier phase. The results were explosive, as many a Fish and Game Department Director discovered to his chagrin. Fortunately (or unfortunately) the results usually were reported only in the sports pages and outdoor magazines and the new science

reached the public through a few talented people, Aldo Leopold and Ding Darling, among others. In general, people didn't care and very few people who were trained in the new science had any training to help them communicate the new knowledge. However, after the great war with the explosion of technology and population, the demand for fish and wildlife began to run up against the other works of man. Progress in the form of resource development was making inroads into fish and wildlife populations. It was also affecting people adversely. The fish and game scientists were increasing, and they could see the problems. But they were still coping with the "Bambi" mentality and the "growth is good" hangup. The third phase, the "Age of Bio-Politics" was born. You are familiar with that term, I don't have to define it. Some of you might want to split phases and add a new one in the past five years called the "Age of Environment", but being a grouper myself, I look at this as the logical extension of "Bio-Politics".

But who, in this phase, was really concerned with fish and wildlife? A fairly small group. the state fish and game agencies, the federal Fish and Wildlife Service, and a very few fish and wildlife biologists in the Forest Service, and a few other agencies. Also a select number in the fish and wildlife departments in the colleges and university community and a few conservation organizations.

Unfortunately, when the time came to evaluate impacts of resource development, these people were virtually helpless. Why? No money! And when money was put up to start some studies in connection with resource development, it was put up by development agencies and private companies and corporations concerned with resource development for a profit.

Some biologists did get involved with these projects, but they were often paid to prove that something could be done, not why it shouldn't, and a new term appeared—biositute!

In many cases this is an unfair term because the men involved had both outstanding technical competence and high personal integrity. The problem is, they were working within a system which was self-defeating from the start. It is the same system which has stymied many fish and game agencies and citizen's conservation organizations.

They were all playing with a stacked deck and the rules of the game went something like this: A resource development agency, reacting to pressures from growth oriented industry or interests, decided to build something—a dam, a highway, or so forth. Given this preordained situation, the fish and wildlife and environmental interests were asked to do something about the potential fish and wildlife losses.

Reacting defensively, our fish and wildlife evaluations did the best they could and offered recommendations on a project-by-project basis.

These recommendations frequently were altered or rejected before they even reached public attention because they cost too much—in the opinion of the resource developers or the political decision makers. And the alternative of not building the project was rarely, if ever, even considered. This approach—and rejection in some cases—resulted in a perceptible shift in the bio-political power base. It accelerated rapidly when a growing segment of the public began to realize that resource development was not just making things tough on birds, bass and bunnies—it was having an obvious negative effect on man. The result, of course, has been legislation, including the Clean Air and Water Acts, the EPA, etc. And suddenly we are overwhelmed with a plethora of projects to evaluate—and don't have the tools we need.

How many fish and game agencies have had their budgets substantially augmented with general public funds to carry out field investigations for EPA statement reports? How about the agencies that are making these reports? Some federal and state agencies, Bureau of Reclamation, Corps of Engineers, are beginning to staff up with qualified professionals in the biological/ecological fields to work on this job, but the effort so far has often been woefully inadequate and the people involved simply can't cope with the size of the job yet.

A classic example might be the Bureau of Reclamation. Only last year they put out a statement in connection with the coal haul and transmission facilities at the Navajo and Mohave plant which was, environmentally speaking, worthless. It just didn't do the job and earned them a mess of lumps from the conservation community—including me.

I spoke recently in Washington with Woody Season who has been hired to head up environmental evaluation by Bureau of Reclamation Commissioner, Ellis Armstrong. He was very proud of the fact that he now has on board an environmental specialist for each of their 12 regions. That's a hell of a change—but it surely isn't adequate.

This financial bind has been a long term thing, and even a massive infusion of money won't solve the problem overnight. Fish and wildlife management is by no means an exact science and any professional can give you a lot longer list of the things he doesn't know than the things he does.

Research in the field is critically limited, and an excellent example is the fish and wildlife research budget of the US Forest Service. Budget requirements have been eliminated or cut drastically or years. This is true across the board and, as a result, when we need the body of data now, we don't have it.

Perhaps the most significant inadequacy of our fish and wildlife evaluations process—and this includes recreation, aesthetics, and general environmental quality—is our method of measurement. The historical precedent of the

cost-benefit ratio has resulted in a price on the head of every salmon, every visitor day, and practically every sunset. Senate document 97, our dollars and cents guideline, is, we admit, inadequate. We seem to be having a devil of a time agreeing on ways to update it. I suggest that it won't do the job, no matter how we update it. As long as we put a price on fish, wildlife or environmental values (assuming we can do so accurately), someone will probably be willing to pay to destroy them—and prove it is economically worthwhile. The trouble with this approach is that it can be applied to man as well as it can be to other species.

I have spent a lot of time discussing what is wrong. It might be a good idea to offer a positive recommendation. I have two. They are both broad statements which I don't have time to develop fully for you, but I feel (and I am not alone, for these are not original), that they are internal conceptual arrangements we must make if the evaluation process is to be ecologically sound. These are essential if we are to proceed down the road to true environmental quality goals for our nation.

The first is broad land-use planning on a regional basis. We just can't go on with the case by case defensive reaction system. True, individual projects will always have to be evaluated, but this should be done within the framework of established environmental goals and plans for the region involved. It was the lack of such an approach that led us into the mess we are in with power production in the southwest.

Second is a change in our approach to public resource development from economic determinism to environmental determinism. We should plan on the basis of environmental parameters, both for regions and projects, and assign costs after these environmental stipulations are built in. Then our decision will only involve who, between the resource users and society as a whole, will pay how much of the cost. That is, if we want to pay at all. This, in my opinion is the only way in which demand can be measured accurately if we truly want to reflect the intent of the people of this country to restore and maintain a quality environment for the future.

Enforceable regional land-use planning and environmental determinism in public resource development. I don't see how we can do this job without having these concepts established in law and policy.

And as my aircraft, my "cosmic perch" descends again toward this earth, these words of mine seem inconsequential in the force of what I see below.

Two hundred million people, we are each looking for a good life. The houses, field, farms, and factories are evidence that we have found it as no one has before or elsewhere on our planet.

And yet, the sudden scars on the land below me are a warning; what really is our "manifest destination"?

Camp Cook

By Ryna Rock



Huevos Tixieros

2 pkgs pre-cooked sausage links
Garlic salt
1 doz eggs
1/2 can chopped green chilies
1/2 bell pepper, chopped
1/4 c chopped onion
1/3 c milk
6 Waverly Wafers brand crackers
Salsa

Cut sausages into 1/4 inch rounds, brown in large cast-iron skillet over medium fire, drain excess grease, sprinkle with garlic salt. In small bowl mix eggs, green chiles, bell pepper, onion, milk, and crushed crackers.

Pour egg mixture in skillet and add pepper mix; let set up and then stir minimum amount until done. Serve with salsa, biscuits and honey.

Serves about 4 (hungry) or 6 (not very)

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

Want to help at BOW?

We are always looking for folks to help bring stuff to camp and drive the shooting class to the range.

Contact Kim at: 480-644-0077

Pan Fried Taters

Grease (your choice)
8-10 potatoes (sliced thick and long)
1 large onion
Salt and pepper

Place Dutch oven over open flame, heat grease until very hot. Drop in potatoes, onion, salt and pepper. Keep potatoes turned every so often. Fry until light brown.

Quick Scones

1 c vegetable oil for frying
4-6 English muffins, cut in half
2-3 c prepared pancake batter
Toppings of your choice

Heat a 12-inch Dutch oven over 12-15 hot coals. Heat oil until a drop of pancake batter dropped into the skillet sizzles. With a fork, dip muffins into the pancake batter and carefully add to the hot oil. Cook on both sides until golden brown. Remove and drain on paper towels. Serve hot with topping, as desired.

Serve plain or topped with sugar, powdered sugar, brown sugar, cinnamon sugar, honey, jam, jelly, or syrup.

Serves 4



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