Volume 3 | Issue 3 | Spring 2016

AZGFD
Game Species
Conservation

GAME TRAILS

Raymond Bison Herd

By Carl Lutch, Terrestrial Wildlife Program Manager Region 2

Many of you may have heard rumblings of the replacement of the current Raymond bison herd with new animals. The rumblings are true, but why is the Department taking such an action?

In order to understand where the Department is going, we must first look at and understand the past. Under Commission direction the Department manages two bison herds, one at Raymond Wildlife Area (RWA) and the other at House Rock Wildlife Area. The original sources of Arizona's bison were from the last remaining wild herds roaming the TX/OK region and were brought to the North Kaibab in 1906 by Charles "Buffalo" Jones. Jones had crossed these bison with cattle in an attempt to make a hardier breed. That venture failed and in 1926 the state of Arizona bought the remaining animals and managed them ever since in House Rock Valley. In 1945, some of these bison were transferred to the newly acquired RWA.

Today, more than a century after that failed bison X cattle venture, the presence of relatively high levels of cattle DNA remain in both herds, but overall it is less than 2% of the nuclear DNA. No outward expression of cattle traits has been detected for decades and both herds look and act like genetically pure bison. As such, the mere presence of cattle DNA does not diminish the value of Arizona's current bison herds to the Commission, the Department, nor the public.

Nationally, the majority of both private and public bison herds contain cattle DNA, an ironic legacy left by those that saved them from near extinction. Currently, there is an emphasis to identify and conserve bison lineages that are considered to have the highest probability of genetic purity, genetic diversity, and the presence of valuable and rare bison genes. Management of these lineages (except Yellowstone) are threatened by small effective breeding populations and limited distribution. Bison at Wind Caves National Park (WICA) are one of only four public Plains bison herds known for which there is a very high probability of genetic purity. WICA bison possess a distinct lineage of bison known only to exist at WICA and four Nature Conservancy properties. They have been identified for special conservation priority because of genetic diversity and the absence of cattle DNA.

That's all fine and dandy, but why manage a large non-native ungulate in Arizona? New research has revealed Arizona to be at the southwest edge of historic North American bison range, and as such are native wildlife.

Inside this issue:

George Andrejko

Managing Arizona's bison herds as free ranging on public land provides for public hunting and viewing opportunities of bison available in only a couple other states.

Back to RWA. The purpose of the Raymond bison herd replacement is to establish a WICA Plains bison conservation herd at RWA. This allows the Department to join and contribute to the national bison restoration effort to conserve valuable bison lineages and manage a public bison herd as they were prior to forced crosses by man with cattle. Replacement of the Raymond herd is both logistically feasible and financially affordable. The herd numbered 61 bison in December 2015. With agreements secured between WICA and the Department, the replacement began with January 2016 hunts and will be complete by early October 2017. In late October 2017, 60 WICA bison will be translocated to RWA. These animals are free to the Department, except for shipping which will be minimal. The new herd will be allowed to grow out to approximately 100 animals and will be managed with other WICA bison in other states to form a meta-population with the goal of 1000 animals to retain genetic integrity within the WICA lineage of bison. This will entail the future periodic transfer of bison between RWA and WICA.

"Replacement of the Raymond herd is both logistically feasible and financially affordable."

Commission goals for the new Raymond bison herd are:
1) to maintain the herd at levels which provide maximum and diverse recreational opportunities while avoiding adverse impacts to the habitat;
2) to establish an ecologically restored "bison conservation herd" at RWA of WICA lineage; and
3) to support the long term conservation of genetically diverse WICA bison at RWA in support of the national bison conservation effort.

Black Mountains in Northwestern Arizona

During the summer of 2015 a handful of sheep were picked up along the Colorado River in the Black Mountains of Units 15B, 15C, and 15D. Although these sheep showed no obvious signs of disease, a ewe found along the river in August was tested and confirmed to have pneumonia. In October, sheep surveys showed a dramatic decrease in the population in Units 15B and 15C, and Department personnel detected at least 12 dead or sick sheep.

In November, Department personnel captured and translocated 40 bighorn sheep out of Unit 15D into Kanab Creek in Units 12A and 13A. The majority of bighorn captured for this translocation effort were taken out of the southern and central portions of Unit 15D. Capture crews saw no evidence of sick bighorn sheep during this effort. Due to the concerns in the northern portion of the range, the Department captured and sampled three ewes in Unit 15C from groups observed to be coughing; these samples confirmed pneumonia (*Mycoplasma ovipneumoniae* and *Pasteurella* spp.) was present in the population.

The spread of this disease into Unit 15D was a significant concern. Unit 15D currently has the largest and densest bighorn sheep population in the State and has been the transplant source for northern Arizona translocations. Regional personnel worked with ADOT to repair holes in the right-of-way fence along AZ Highway 68 (the dividing line between Units 15C and 15D) and were investigating the possibility of fencing the three underpasses to prevent bighorn sheep from moving south into Unit 15D. Unfortunately, in early December bighorn sheep hunters reported coughing rams near Thumb Butte just south of AZ Highway 68, indicating the disease may have already crossed. At the same time, the Department received a report of a coughing, ear-tagged bighorn sheep in Kanab Creek.

In mid-December Department personnel captured, culled and necropsied three ewes, each from a different band of coughing sheep in Unit 15D. The lungs of these ewes were consistent with pneumonia, providing solid evidence of pneumonia in this portion of the population. The survey crew then moved into the central and southern portions of Unit 15D where a few coughing bighorn were observed around Mount Nutt and Battleship, which are core areas of bighorn sheep in the unit. The survey crew did not locate any bighorn sheep carcasses during this attempt. All bighorn observed appeared in good body condition. It appeared we were seeing the beginning stage of this disease event in Unit 15D. Two rams taken from this spot had large accumulations of mucus in their nasal passages, a symptom typical of pneumonia.

Black Mountains in Northwestern Arizona (cont.)

Samples were collected from as many harvested rams as possible throughout the mountain range in December. Strain typing of all the samples was conducted to aid in determining the most likely source. The *Mycoplasma* strain was confirmed as the Mohave strain, which was the cause of recent die-offs in southern California and Nevada. This is the first time this strain has been documented in Arizona; identifying specific strains will help us track and determine the origin of these diseases and will help guide management actions. Personnel continue to track reports of sick or dead bighorn sheep.

In an effort to document the extent of the disease outbreak, the Department conducted additional sheep surveys in Units 15C and 15D in March 2016. Although the two surveys are not directly comparable, as bighorn distribution across the landscape differs with time of year and the percentage of area surveyed varied between units, the lack of Class III and IV rams observed is a concern. Research has shown that pneumonia outbreaks typically affect older-age rams first. The outbreak appears to have passed through Units 15B and 15C already and will likely continue to progress into Unit 15D in the coming year. Because of this concern, the Commission approved a conservative level of hunt permit for 2016. Surveys will be conducted in October 2016, allowing the Department to continue monitoring the disease progression.

By Erin Butler, Game Specialist, Region 3



Boma Capture by Jill Bright, Wildlife Specialist – Sonoran Pronghorn Program

Photos by George Andrejko

As part of the ongoing Sonoran pronghorn recovery project, we have a need to capture, sort, mark and release large numbers of animals from our two captive breeding pens on an annual basis. Sonoran pronghorn are extremely fragile and excitable so in an effort to do this with the least amount of injury or mortality, we constructed corral traps, or bomas as we call them, in each of our pens. These are a set of three 12-foot high, 50-foot diameter, reinforced and padded, circular enclosures with doors between each circle and on both ends. The pronghorn are baited with alfalfa and specially formulated pelleted feed into the boma complex for several weeks prior to the capture event. We close the outer doors after we have determined we have sufficient numbers of target Sonoran pronghorn inside.

During the capture/handling event, the pronghorn are moved between the bomas using the interior doors until two or three are sorted out of the main group into the outer boma. These pronghorn are hand-captured with the aid of a large net. Once captured, they are blindfolded and then processed, depending on if they are being released into the wild or returned to the pen.

Using this method, we have handled 478 Sonoran pronghorn in the two captive breeding pens. There have been only three mortalities using this method. In addition, two serious injuries (broken leg and broken foot) occurred but both these animals recovered and are living in the captive pens.

We have used various methods of transporting pronghorn including an open air transport trailer, helicopters in conjunction with anesthesia, and more recently, a new specially designed air conditioned game trailer. This Sonoran pronghorn trailer is our main mode of transport now, as we have had only one mortality and no serious injuries using this trailer.


Photo by John Kulberg


Photo by John Kulberg


Photo by George Andrejko

Arizona Game and Fish Department

5000 W. Carefree Hwy
Phoenix, AZ 85086

Phone: 602-942-3000

www.azgfd.gov

'Thank You' Habitat Partnership Committee for Seegmiller #2 Wildlife Catchment Redevelopment

The Arizona Strip is known as one of the premier areas to hunt trophy class mule deer in North America. Water availability on the Arizona Strip is limited and wildlife often has to travel long distances to find reliable water.

Seegmiller #2 wildlife catchment, located on Seegmiller Mountain in northern 13B, had a concrete vault that was failing and collapsing around its perimeter. The existing metal fence required continual maintenance and was in jeopardy of failing. On top of that, water storage capacity was limited and emergency water hauling had to be performed on numerous occasions in the past five years.

An HPC grant was submitted and approved to upgrade and redevelop the catchment. Upgrades included: a new large walk-in drinker; a 7,000 gallon holding tank; a new metal apron; new plumbing, and a 200′ X 200′ pipe rail fence. Because of the HPC, redevelopment on this catchment will benefit wildlife, particularly mule deer, in the surrounding 1.5 miles and will decrease the amount of time, effort, and diversion of resources from emergency water hauling. HPC process and funding provided an opportunity to improve water availability, benefitting wildlife on the Arizona Strip.

By Tim Shurtliff, Wildlife Manager Region 2

Seegmiller #2 - Before and After

For more information about any of these articles, visit www.azgfd.gov or email azgamebranch@azgfd.gov.

Arizona Game and Fish Department Mission

To conserve Arizona's diverse wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations.

The Arizona Game and Fish Department prohibits discrimination on the basis of race, color, sex, national origin, age, disability in its programs and activities. If anyone believes they have been discriminated against in any AGFD program or activity, including its employment practices, the individual may file a complaint alleging discrimination directly with the AGFD Director's Office, 5000 W. Carefree Highway, Phoenix, AZ 85086, (602) 942-3000 or U.S. Fish and Wildlife Service, 4040 N. Fairfax Dr., Ste. 130, Arlington, VA 22203. If you require this document in an alternative format, please contact the AGFD Director's Office as listed above or by calling TTY at 1-800-367-8939.