



PRONGHORN

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ARIZONA ANTELOPE FOUNDATION, INC.

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AAF Mission Statement:

The Arizona Antelope Foundation is an organization dedicated to the welfare of pronghorn antelope. The Foundation's Mission is to actively seek to increase pronghorn populations in Arizona through habitat improvements, habitat acquisition, the translocation of animals to historic range, and public comment on activities affecting pronghorn and their habitat.



ON OUR COVER

**THIS IS A 2018 AAF SURVEY BUCK,
PHOTO BY BETTY DICKENS. DID YOU
TAKE PART IN THE GROUND SURVEY?
TAKE A LOOK AT PAGES 4 - 6!**

Pronghorn is a quarterly newsletter for the members of AAF. Letters, comments, news items, articles, pictures and stories are all welcome and will be considered for publication. Address all such items to:

Lenée Landis, Pronghorn Editor, PO Box 12590, Glendale, AZ 85318, or by email at info@azantelope.org.

PRESIDENT'S MESSAGE

Welcome to the Fall 2018 Issue of the Pronghorn, the quarterly publication of the Arizona Antelope Foundation. Once again, we have another information packed Pronghorn for you and I think Glen Dickens, AAF Vice President and Project Chairman, has outdone himself on the number of Super Articles in this issue.

Some of you may have gone onto the web site recently and noticed that things are a bit different, we are in the process of completely revamping the web site. Current BOD member Kara Jensen has taken on the unenviable task of spearheading and supervising this rebuild. We will be looking for member input and suggestions as we go and the bulk of the web site should be completed by November or so, though we still encourage you to come to the web site and buy raffle tickets for some of the ongoing raffles that we will have this fall, we just recently completed two raffles once again for a Tikka Rifle and another for a Swarovski optics and both raffles more or less sold out in 48 hours!! You AAF members are definitely helping towards the cause of helping Pronghorn with these raffle purchases. Ideally, the goal is that web site besides giving you current information such as where or when the next project or fundraiser is held, is that eventually we will have a treasure trove of antelope data, that is the goal, getting there will be a never ending challenge.

This summer has been a busy one: since the last *Pronghorn* there were two more projects and two Pronghorn Surveys, one down on the Sonoita Plains and the other over in Unit 32 in the Allen Flat area. Neither survey gave us the results we were hoping for but with the severe drought conditions up through June of this year the results were not unexpected. We definitely intend to continue these surveys for a while since we have invested so much down in these areas the last few years and with the expected pronghorn transplant to Allen Flat this winter, it will be interesting to see the impact of some new genetics to herd.

Thank You Travis Adams, Proprietor of Bucks and Bulls, Guides and Outfitters

Another interesting and very important friendship began this summer with Travis Adams, the owner of "Bucks and Bulls, Guides and Outfitters." Travis manages a 95,000 acre ranch in northeast New Mexico for quality pronghorn. Earlier this summer, former Arizona Game & Fish Biologist and Arizona Antelope Foundation charter members, David Brown and



Ray Lee were consulting with Travis about Pronghorn management and suggested to Travis he had too many mature bucks past prime breeding age and that he should institute a program to start harvesting some of these management bucks. These bucks are mature bucks, 5, 6, 7, 8 years old, but are not Boone & Crockett bucks, though they are close, mostly in the scoring range of 77-81. Travis donated Two Fully Guided - Fully outfitted Hunts to the AAF, including State Pronghorn Tag Fee, Guide Fees, Landowner Fees, Vehicles, meals, etc., this was just an unbelievable donation and we are extremely Thankful to Travis!!

The donation occurred in late July with the hunt dates being just prior to Labor Day weekend, thus we did not have much time to really coordinate how to market this donation. With *No Experience* doing an online Auction, we chose to just do an email blast and to sell each hunt for \$2,500.00 to the first two folks that replied.

(continued on page 19)

SONOITA PLAINS JULY 14TH & ALLEN FLAT JULY 21ST PRONGHORN FAWN SATURATION SURVEYS

BY GLEN DICKENS VP/GRANTS/ PROJECTS MANAGER



On Saturday July 14, 2018 Arizona Game and Fish Department (AGFD) personnel led by Regional Game Specialist Rana Tucker and District Wildlife Manager Brittney Oleson with volunteers from the Arizona Antelope Foundation conducted our sixth annual Sonoita Plains pronghorn fawn “Saturation” survey. This entails stationing as many separate observers as possible across all the occupied pronghorn habitat in a game management unit from the crack of dawn until 10AM and observing and classifying all of pronghorn observed and their exact locations. This time of year is

when pronghorn does are at their peak of fawning/nursery herd activity. The usual AGFD aerial pronghorn survey is conducted in the month of August statewide so this ground survey is in addition to the normal pronghorn survey schedule.

This survey included both game management units 34A and B, east and west of Highway 83 and north of Highway 82 and 35A/B north south of Highway 82. We experienced heavy rains prior to and on the survey day which limited both our glassing abilities and access to large portions of the area know to have pronghorn. Nonetheless, we counted 167; 67 bucks, 88 does and just 12 fawns for a 14% fawning success rate. At least two factors likely account for the lower number of fawns: lower winter moisture January-March thus fawn weights are down at their April/May birth leading to early post-parturition death, and three full years now without coyote control. This zone is planned to have another three years of ground coyote control beginning in 2019.

Last year’s survey netted 243 observations and we hit 316 during the 2016 survey. We continue to document pronghorn dispersals with young pronghorn singles and small groups being observed three, five, and eight miles from all points of the compass from what was previously considered core habitat. This is very positive data. Most of the areas the youth are exploring are suitable pronghorn habitat that has not been occupied since the native and extirpated pronghorn occupied it in the 1920’s, not small stuff!

In addition to the above population numbers the AGFD August flight survey for 35A/B South the San Rafael Valley counted an additional 61 animals (with 9 fawns counted for a 24% fawn success in this sub-population). This herd area had just 9 pronghorn 1 buck, and 8 does in January of 2014 when the AGFD released 17 New Mexico transplant animals. Last year the survey found 44 animals - we are very pleased to see this continued recruitment in this sub-population.

Camp was located at the historic Rose Tree Ranch corrals and stone bunkhouse near Elgin; thanks to Bill Brake and Al Wilcox, the ranch owners, for hosting us yet again. Dinner was hamburgers from my 2017-unit 22 North Rocky Mt. Bighorn by yours truly and spouse and resident photographer Betty Dickens. Everyone considered it a real treat.

We had two hunters that drew tags to hunt pronghorn in the area assisting us as well as Mr. Robert Bueche and 14-year-old son Conner who made the winning bid of \$55K for the pronghorn tag that was auctioned at our June Banquet. After our survey we all gathered at a local Sonoita restaurant and Robert treated us all to lunch by picking up the tab. Thanks Robert!!

Thanks go to all the following AGFD partners and volunteers that contributed to the success of this survey;

- Representing the AAF Board: Al Sue, Dave Laird, Ken Meadors, Joe Bill Pickrell, Connie Taylor, Gary Boyer, John Millican and yours truly.
- Representing the AGFD: Brad Fulk, Brittney Oleson, Brian Aragon, Rana Tucker, Karen Kilma, Jered Ellingson and interns.
- Other volunteers included; Robert & Connor Bueche, Scott Johnson, Warren Adams, Fritz Sawyer, Tim Sasha, Ray Argenziand, Bruce & Karen Nunes, and Betty Dickens.

On Saturday July 21st, 2018 Arizona Game and Fish Department (AGFD) personnel led by Regional Game Specialist Rana Tucker and AAF Field Manager John Millican with volunteers from the Arizona Antelope Foundation conducted our first annual Allen Flat pronghorn fawn “Saturation” survey. Allen Flat is located about 15 miles northwest of Wilcox in unit GM Unit 32. Allen Flat had active coyote removal ongoing for the years of 2016-17 and 18.

While we netted just 26 pronghorn that morning the August AGFD survey found 42 animals and a 28% fawn success. This area had just 24 pronghorn 3 years ago and is slated for a supplementation of 20 additional animals in January of 2019.

Our “camp” was located at the Wilcox Day’s Inn and we all enjoyed dinner at the new steak house a short walk away.

Thanks go to all the following AGFD partners and volunteers that contributed to the success of this survey;

- Representing the AAF Board: Brian George, Joe Bill Pickrell, Al Sue, Joe Bill Pickrell, Gary Boyer, John Millican and yours truly.
- Representing the AGFD: Duane Aubuchon, Rana Tucker and Gilbert Gonzales.
- Other volunteers included; Warren Adams, Ron Day Gabe Paz and family

The crew under the roof below, as well as the rest of the article photos including those of our crew on page 6 are courtesy of Betty Dickens. Thanks Betty!



SATURATION SURVEY VOLUNTEER CREW



GOVERNMENT PRAIRIE FENCE MODIFICATION PROJECT –AUGUST 11TH

BY GLEN DICKENS, VP/GRANTS/ PROJECTS MANAGER

Over 70 volunteers and Arizona Game and Fish and US Forest Service staff were on hand the morning of August 11th in Game Management Unit 7 northeast of Flagstaff. They donated 570 hours and worked on and modified over 3 miles of pasture fences in four locations on the south side of Government Prairie southwest of Kendrick Mountain on the Kaibab National Forest.

We removed the 2 bottom strands of wire and replaced them with a smooth wire located 18 inches above the ground. This fence project improved an existing pronghorn movement corridor for pronghorn moving from their summer range on Government Prairie to winter habitat in the Ida and Babbitt grasslands to the north. Data from currently collared pronghorn was used to identify key areas for modification.

This effort is in support of the Arizona Game and Fish Departments Pronghorn Connectivity North of Interstate- 40 Project. This study/project was the topic of previous 2012, 2015, and 2017 articles in the Pronghorn. All volunteer work hours and mileage were used as in-kind match for an approved and funded 2018 AAF-AGFD North of I-40 Pronghorn Corridor Connectivity project. All activities and coordination were supervised by AGFD Project leader Jeff Gagnon and his able assistant Scott Sprague and Travis Largent of the Kaibab National Forest. Also, this is the last project to be completed north of I-40 as all the fences that needed to be modified have been accomplished. In upcoming years we'll be working on multiple fences south of I-40.

Success-Thanks to everyone for your contributions and efforts!

Meals were provided on Friday and Saturday nights and Saturday and Sunday mornings by Bill and Mary Keebler thanks for the wonderful food! Project photos were taken by Betty Dickens, thanks Betty! We also want to thank the 2 individuals and families who joined the AAF and paid their dues during the project. We hope to keep you coming back and well informed with our award-winning quarterly Pronghorn magazine!

- Representing the AAF Board: Joe-Bill Pickrell, Terry Schupp, Gary Boyers, Ken Meadors, and yours truly.
- Representing the AGFD, Jeff Gagnon, Scott Sprague, Troy Christensen, Chad Loberg, Katie Hansford, Steve Cassidy, Becky & Colin Beach, Emily Herring, Haley Nelson, Sarah Bearman, Patrick McCarthy, Katie Hansford and Hanna Grisom.
- Representing the USFS; Travis Largent and Roger Joos.
- Other AAF members and volunteers: Betty Dickens, Richard Ockenfels, Bill and Mary Keebler, Dave Laird, Ray Blanchard, Sherry Kapaldo, Johnny Johnson, Ken & Kathy Cook, Sue Moeller, Richard Roller, Franklin Armor, Eric & Sandra Friend, Larry Thowe, Brian Taylor, Jason Angell, Cal & Conner Carlson, Ethan Pacey, Mikaela Morris, Louis Horvath, Autumn Miller, Tania & Brad White, Aler Bonneville, AJ Wogans, Michael Flestar, Mile Brown, Ron & Brittany Barbieri, Kirstan & Kadence Ironside, Caleb & Bruce Lundquist, Donald Haven, Carol Harder, Tom Fancy, William McClendon, Charles Mackey, Keaton Davis, Jay Leadabrand, Paul Pavlich, Ron Bradford, Paul Dicerbo, Kumaran Klan, Shelby Esdorrah, Ken Morris, Crystal Routhe, Ryan Seuskey, Bruce Hendrix, and Brad & Tania Laintr.

Photo courtesy Hannah Grisocom, AGFD



AAF PARKS PROJECT GROUP



AAF NEW & IMPROVED TRAILER, THANKS GARY BOYER!



MORNING OVERVIEW-BRIEFING DATA

FAMILY FUN, HARD WORK!



**CAMARADERIE! AND
MOREFUN, AND HARD
WORK**



BRIEFING BY AZGFD



Photo courtesy of Arizona Antelope Foundation

WILLIAMS, Ariz. — Earlier this month, more than 60 volunteers joined forces with Forest Service and Arizona Game and Fish Department specialists to modify fences on Kaibab National Forest in order to promote healthy pronghorn populations.

The volunteers, largely brought together through the dedication and focus of the Arizona Antelope Foundation, modified more than four miles of fencing in an area on the Williams Ranger District about eight miles north of the community of Parks. The fence modification work included removing the bottom barbed wires and replacing them with smooth wire at a height of 18 inches from the ground. This height allows pronghorn to easily slip under the fences without the risk of injury. Pronghorn rarely jump fences, rather preferring to go underneath them.

“Multiple research studies in northern Arizona have shown that pronghorn populations are being fragmented by fences and roads to the point that populations are suffering genetic consequences,” said Jeff Gagnon, statewide research biologist with the Arizona Game and Fish Department. “While the fragmentation of habitat affects many wildlife species, pronghorn are particularly vulnerable in our state. It is important that we take steps to ensure pronghorn population persistence.”

To this end, AZGFD began working with the Kaibab and Coconino National Forests, National Park Service, Arizona Antelope Foundation, Arizona Department of Transportation and local ranchers in 2012 to begin addressing pronghorn habitat connectivity at a landscape scale.

The project uses GPS locations from collared pronghorn to identify barriers and potential corridors for improvements. On the Kaibab National Forest, the team of partners and volunteers has modified nearly 18 miles of fence since the effort began. Similar work has been accomplished on the Coconino National Forest and state and private lands.

“To help our current pronghorn populations persist, fences can be modified, grasslands can be restored, water can be made available, and the list goes on,” states an article entitled “A Data-Driven Approach to Reconnecting Pronghorn Populations North of I-40; Collaboration at its Best,” which was written by Gagnon and his colleagues Chad Loberger and Scott Sprague of the Arizona Game and Fish Department. “In all cases, the cooperation and collaboration of multiple stakeholders is required to help get today’s pronghorn to tomorrow.”

Not only is the GPS collar data collected from this project used to identify and correct barriers to pronghorn movement, but it is also made available to inform the planning and implementation of forest and grassland restoration work, such as that associated with the Four Forest Restoration Initiative.

“We are grateful to have partners and volunteers who care as deeply about the health of our forests and wildlife populations as we do,” said Roger Joos, wildlife biologist with the Kaibab National Forest. “We have been partnering on these efforts for many years and have had incredible successes not only in terms of the number of miles of fence modified but also in the acres of grasslands and savannas restored. We could not achieve these results without the continued commitment of our partners.”

The efforts earlier this month were just one example of ongoing work to promote healthy pronghorn populations in northern Arizona. The work will continue indefinitely, with upcoming volunteer and partner projects to shift south of Interstate 40 over the next several years.

More information or to become an Arizona Antelope Foundation volunteer or member is available at <https://azantelope.org/>. The Arizona Antelope Foundation’s mission is to actively seek to increase pronghorn populations in Arizona through habitat improvements, habitat acquisition, the translocation of animals to historic range, and public comment on activities affecting pronghorn and their habitat.

Information provided by Kaibab National Forest

<https://www.williamsnews.com/photos/2018/sep/04/36833/>



SONORAN PRONGHORN UPDATE



BY JILL BRIGHT AZ GAME & FISH
AUGUST 2018

Captive Breeding:

Cabeza Pen

All adult pronghorn have been seen this month but not always on a weekly basis. The cameras at the feeders and drinkers are being used as an extra set of eyes for pronghorn not seen during scoping. Not all the known fawns were seen this month; one fawn from each half of the pen was not seen, but we have no reason to suspect anything happened to them at this point. The pen is very green and it is difficult to identify all the individuals. The adult does from north pen that were thin in appearance last month have gained weight and are looking more healthy at this time.

During the first half of the month the pronghorn spent a significant amount of time grazing and less time feeding on alfalfa. As the pen is slowly drying out again, by the second half of the month the pronghorn began consuming more alfalfa but are still spending large amounts of time grazing throughout the pen. The pen received 2 small rains in August, totaling about 0.27 inches. Group size has slowly increased during August. Corid treatment, to help prevent and treat bovine coccidiosis, took place August 1-5; even with the recent rains, the pronghorn were still using the drinkers on a regular basis.

There have been 5 mortalities (4 adult, 1 fawn) in the pen in August. There was no signs of predation at any of them. The last of the original does caught in the wild and brought into the pen for breeding died around August 18. She was brought to the pen from Mexico in 2006 and was 13+ years old; her death was likely related to age. The second oldest animal in the pen and one of the first fawns born in the pen was found dead on August 29. She was born in 2005 and her death was likely related to age as well. A yearling doe was found dead August 8 - cause of her death is unknown, but there was no sign of predation. A buck who had been living in the pen with a badly broken leg from an injury during the December 2014 boma capture was found dead on August 14. He was seen in poor body condition a few days prior to his death. A 2018 doe fawn was found dead in south pen on August 15. Cause of death is unknown, but there was no sign of predation.

NORTH HALF		SOUTH HALF	
Adult Females	9	Adult Females	10
Yearling Females (<i>b</i> 2017)	8	Yearling Females (<i>b</i> 2017)	10
Adult Males	3	Adult Males	
Yearling Males (<i>b</i> 2017)	7	Yearling Males (<i>b</i> 2017)	5
Fawns (<i>6M, 6F, b</i> 2018)	12	Fawns (<i>6M, 4F, b</i> 2018)	
TOTAL	39	TOTAL	41
Total Pen	80		

Kofa Pen

Kofa pen got a trace of rain in August but the pen and surrounding areas are dry. Alfalfa use in the pen is still high. All 7 fawns have been seen and appear well.

We are continuing to feed alfalfa hay at the south release site due to the dry forage conditions around the pen and surrounding areas. Numerous wild pronghorn are consuming the hay and using the water on a regular basis.

Adult Females	11
Yearling Females (b 2017)	5
Adult Males	3
Yearling Males (b 2017)	4
Fawns (2M, 5F, b 2018)	7
TOTAL	30

Wild Pronghorn Cabeza/ORPI/BMGR Herd:

The wayward doe released from the Marine holding pen continues to use YPG; she continues to be seen with other pronghorn. Most of the other pronghorn continue to use the same general areas. Range conditions are good to excellent in most areas.

Wild Pronghorn Kofa Herd : The Kofa herd continues to use the same general areas.

There has been some additional sporadic rains throughout the range. Some areas continue to green up, but other areas are dry, particularly around the pen. Most of the pronghorn are either in the vicinity of the pen or near Clancy Tank utilizing the hay and water available at both these areas. The remaining animals are east of YPG near agricultural areas. The collared doe and her two fawns that were near Highway 95 have moved back to the vicinity of the pen.

Wild Pronghorn BMGR East of Highway 85 Herd: These pronghorn are typically in one or two groups south of the Saucedas Mountains, with another group north of the mountains. These animals continue to use the same general areas, and mix between groups frequently. These areas are in excellent forage condition. There were two mortalities found in his herd during the August 12 telemetry flight. A doe north of the Saucedas who had not been heard for several months was found dead. Cause is unknown, but could be related to poor forage conditions in this area prior to the rains. A buck was found dead south of the Saucedas; his cause of death is also unknown. It had rained since his death and there was very little sign left at the site.

Water Projects: Nothing new to report. Most of the waters on Cabeza/BMGR caught rain and have filled up.

Forage Enhancements: Charlie Bell received 0.25 inches in one rain event in August but it is still green from prior rains and irrigation has not been taking place. Most of the usage took place in the first few days of the month which included 3 bucks, 5 does 1 buck fawn and 1 doe fawn. Since August 6th presence here dropped off to 1-2 bucks per day and on occasion 1 doe.

Morgart has seen more activity than the other sites this month. A total of 10 different bucks have been seen and up to 5 does. Most days there are between 2-5 pronghorn using the feeders.

Knucklehead received another good rain totalling 0.83" which topped off the drinker once again. The forage conditions in this area are excellent. Activity at the feeders has slowed with only 4 bucks and 2 does occasionally being photographed. Activity at the water has almost completely come to a halt during August.

Pronghorn use of Devils Hills and Point of the Pintas has also decreased dramatically to almost nothing as it has rained in both these areas. At Kofa, hay is being still being provided at Clancy Tank and several animals are using it.

Other Projects: We have finally hired 2 new technicians for the Cabeza pen, and converted our temporary Kofa technician to permanent. The Cabeza technicians should be starting work in the next few weeks. Our annual bomas capture and release from the Cabeza pen has been scheduled for the week of December 17. A Kofa capture and release will follow in early January.

Written September 2, 2018

**28TH BIENNIAL WESTERN STATES & PROVINCES
PRONGHORN WORKSHOP
AUGUST 13-15, 2018
RENO, NEVADA**

Article by Glen Dickens:

The 28th Biennial Western States and Provinces Pronghorn Workshop was held from August 13-15, 2018 at Reno Nevada and included over 90 participants. Glen Dickens attended on behalf of the AAF and the Arizona Game and Fish Department was represented by Game Specialist's Rana Tucker of Tucson and Erin Butler of Kingman.

The workshop included 24 technical papers and posters on the status and management of pronghorn including reports from State, Provincial and other agencies and research findings, and approaches to habitat and population challenges and management. It also included a banquet and awards presentations. Suffice to say that if you are involved in pronghorn management throughout their entire distribution this is a "must attend" workshop every two years. This workshop is sponsored by the Western Association of Fish and Wildlife Agencies.

The plenary session entitled "*Pronghorn Management: Learning from the Past-Adapting for the Future*" was held on the opening morning of the workshop. Panel members included Edan Srekal and Jacquelyn Sundstrant speaking about the James Yoakum papers now located at the University of Nevada's Special Collections Department; Bryan Hockett speaking about Five thousand years of communal pronghorn trapping in the Great Basin by Native Americans; Mike Hess speaking about Evaluating the efficacy of early Nevada aerial pronghorn surveys; Kelly Singer speaking about the Colville Confederated Tribes pronghorn reintroduction projects, and Peregrine Wolff and Annette Roug speaking about developing best management practices for handling and translocation of pronghorn lessons learned.

The post panel discussions were very interesting. And I must share one bit of information that included a radio collared pronghorn buck that had been released on the Colville Indian Reservation on the north side of the Columbia River as well as some does swimming the Columbia river to the south shore and then returning to the release site!!

Kudos go out to Brian Wakeling and the Nevada Department of Wildlife for hosting the workshop Thank you!

To give all of you a flavor for some of the topics covered at the workshop I thought that this year rather than a summary I would include five key abstracts for your reading and review. Pay attention to the one from New Mexico on neonatal fawn survival and the effect predators coyotes and bobcats can have on young fawns. It supports the efficacy of our periodic coyote control efforts here in Arizona as a wildlife management tool.

PREDATOR MANAGEMENT IN NEVADA

**Pat Jackson, Nevada Department of Wildlife, 6980 Sierra Center Parkway, Suite 120, Reno, NV 89511, USA.
pjackson@ndow.org**

Abstract:

- ⇒ During the 2003 Nevada legislative session, a law was enacted requiring a fee of \$3 USD on every big game and turkey (*Meleagris gallopavo*) application for predator management. The original legislative intent of this fee was to invest in 1) predator management, 2) predator research), 3) protection of sensitive species, and 4) public outreach.
- ⇒ Additional requirements by Commission policy include an annual predator plan, an annual predator report, and the solicitation of input from the public, contractors, and other governmental jurisdictions.
- ⇒ During the 2015 legislative session, the list of eligible expenditures were reduced to 1) predator management, 2) research on predator control techniques, and 3) protection of sensitive species.
- ⇒ The revised statute also required that 80% of revenues be spent on lethal predator management. I will give a brief summary of the history of the \$3 predator fee, predator management in Nevada, the fiscal year 2019 predator plan, and the implications for pronghorn (*Antilocara americana*) management in Nevada.

PRONGHORN XING: IT'S ABOUT MORE THAN JUST TRYING TO GET TO THE OTHER SIDE!

Paul F. Jones, Alberta Conservation Association, 817 4th Avenue South #400, Lethbridge, AB T1J 0P3, Canada. (403) 382-4357; paul.jones@ab-conservation.com

Andrew F. Jakes, National Wildlife Federation, Northern Rockies, Prairies & Pacific Region, 240 North Higgins Avenue, Suite 2; Missoula, MT 59802, USA. (406) 541-6733; jakesa@nwf.org

Abstract:

- ⇒ In the Northern Great Plains, pronghorn (*Antilocapra americana*) undertake seasonal and long-distance movements to meet life requirements.
- ⇒ In southeastern Alberta, southwestern Saskatchewan, and northeastern Montana, highways fragment the landscape and cause direct mortality and disrupt movement patterns. In 2017, Pronghorn Xing was launched in Alberta and Saskatchewan as a citizen science program developed to ground truth seasonal movement pinch-points identified by connectivity modeling across highways and increase public engagement in pronghorn science and conservation.
- ⇒ In 2018, the program was expanded to include northeastern Montana, with a focus on engaging students in local high schools.
- ⇒ Pronghorn Xing includes the use of smartphone technology and associated on-line mapping tool to increase efficiency, accuracy, and ease of data collection. We demonstrate the utility of the data at highlighting potential hot spots of pronghorn–road interactions.
- ⇒ Ultimately, the dataset generated will be used to inform strategies to improve wildlife movement and improve both wildlife and human safety.

POTENTIAL HABITAT FEATURES INFLUENCING NEONATAL PRONGHORN SURVIVAL IN THE NORTHERN SACRAMENTO MOUNTAINS OF NEW MEXICO

Courtney L. Ramsey, Department of Natural Resource Management, Texas Tech University, Lubbock, TX 79410, USA. courtney.threadgill@ttu.edu

Abstract:

- ⇒ Juvenile recruitment is often cited as the limiting factor for population growth and persistence in pronghorn (*Antilocapra americana*) populations. Low recruitment near Capitan, NM from 2013–2015 prompted continued research into limiting factors for fawn survival during 2016–2017.
- ⇒ Between May 3 and June 1, 2016 and 2017, 101 fawns (≤ 5 days old) were captured, 25% of which were associated with translocated does. Naïve survival estimates for 2016 and 2017 were 23% and 20%, respectively. Overall Mayfield daily survival rate was 0.964, and Kaplan Meier survival estimates for 2016 and 2017 were 0.11 and 0.12, respectively.
- ⇒ Predation, mainly attributed to coyote (*Canis latrans*) and bobcat (*Lynx rufus*), accounted for 69% of mortalities; 76% of fawn mortalities occurred ≤ 18 days of age.
- ⇒ Habitat data were collected at 79 capture locations (56 in 2016, 45 in 2017) and 170 random locations (94 in 2016, 75 in 2017) at several spatial scales. Preliminary analyses indicate annual variation in most habitat features. Mean vegetation height, woody density, percent forb cover, and percent woody cover varied ($P < 0.05$) between fawn bed sites and random locations. Similarly, bed site habitat characteristics such as mean vegetation height, percent woody cover, and distance to nearest road ($P < 0.05$) varied between fawns that survived and those that did not within each year.
- ⇒ These preliminary analyses will be used to develop *a priori* MARK survival models and expand into GIS and local weather data to more precisely characterize features that might influence fawn survival in this portion of New Mexico.

BEYOND PROTECTED AREAS: PRIVATE LANDS AND PUBLIC POLICY ANCHOR INTACT PATHWAYS TO MULTISPECIES WILDLIFE MIGRATION

Andrew F. Jakes, National Wildlife Federation, 240 N Higgins Ave. Suite 2, Missoula, MT 59802, USA.

Abstract: Conserving and managing for wildlife migration can pose great challenges to land managers, as the scale of migration can eclipse the area encompassed by seasonal habitat requirements. The Northern Sagebrush Steppe (NSS) spans the prairies of Alberta, Saskatchewan, and Northern Montana.

Here, both pronghorn (*Antilocapra americana*) and greater sage-grouse (*Centrocercus urophasianus*) make the longest recorded migrations for both species as a strategy to negotiate both environmental gradients and anthropogenic factors.

- ⇒ We fit Brownian Bridge Movement Models to identify key migratory pathways for pronghorn and sage-grouse to assess migratory overlap spatiotemporally between these 2 species. We used pathways to identify conservation and management opportunities from a multispecies standpoint and assessed how well sage-grouse Priority Areas for Conservation conserved multispecies migration.
- ⇒ As cultivation poses the greatest threat to migration in this landscape, we developed a prioritization tool that identifies strategic areas for conservation easement consideration based on overlapping multispecies migratory pathways, relative risk of cultivation, and land tenure.
- ⇒ Currently, we found that Northern Montana continues to sustain migration by both species, though portions of these pathways face continued risk from cultivation. Given this increased risk and limited resources, this approach identifies opportunities to work with private landowners and work together towards conservation while maintaining working landscapes.

DO WE SEE AN INCREASE IN SUCCESSFUL FENCE CROSSINGS BY PRONGHORN WHEN A GATE IS LEFT OPEN?

Mike Verhage, Alberta Conservation Association, #400, 817 – 4th Ave. South, Lethbridge, Alberta, T1J 0P3, Canada. (403) 388-7682; mike.verhage@ab-conservation.com

Abstract: Between 2013 and 2016, we set up trail cameras on 4 fence gate posts in a known winter range and migration corridor for pronghorn (*Antilocapra americana*) within the National Wildlife Area of the Suffield Canadian Forces Base in southern Alberta, Canada.

- ⇒ We processed and analyzed camera trap images and video clips to determine the mean number of successful crossings/days of pronghorn from 1 pasture into another when the gate was open versus when the gate was closed. Preliminary results indicate that no significant difference ($P = 0.21$) exists in the mean number of successful animal crossings/day between open or closed gates.
- ⇒ We suggest more research is necessary comparing animal crossings/day at open and closed gates using a Before-After-Control-Impact study design with a larger sample size. Consideration for how environmental variability (e.g., snow depth) affects crossing rates when gates are left open and closed is also recommended.



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WELCOME TO NEW MEMBERS

- Autumn Miller,
Louis Horvath, Flagstaff

(continued from page 3, President's Message)

Unfortunately, poor Travis had more hard costs into each hunt than what we were going to sell them for, but he had no issue with that, he just wanted to get the ball rolling in that direction so with his permission we went ahead with the Online Sale and BOTH Hunts were sold within 20 minutes of the email blast going out to our members and sponsors. Think about that, 20 Minutes!! I can only say Thank You to our members for being so supportive!!

Each hunter harvested a wonderfully older age class buck with the first buck scoring 79+ and taken on the first day and the second in the 77-79 range and was taken on day two. Of the 1,000+ antelope on this ranch, only around 8-10 bucks are taken on the first hunt annually and the plan is to hopefully have a management hunt for a larger amount on a 2nd hunt basis each year in the future. As it is, most of these bucks are dying of old age on this ranch. If Travis is kind enough to donate again to the AAF in the future, we will try to have one of these hunts at our Banquet or possibly as a Raffle item!!

Glen Dickens attended the Biannual Antelope Symposium this year and is going to have some of the new research results in this issue as well as future issues of the Pronghorn, that alone will be a reason to read the Pronghorn!

The last project of the season will be the weekend of September 29th over at Bonita and this issue of the Pronghorn will not be out until shortly after that project, so hopefully many of you will have made it over to that project. There is 2.40 miles of fence to be modified that weekend and some of the terrain is brushy. If you didn't make it to that project there is some really neat countryside over there in Unit 32 and it is always a fun area to go do some hunting, scouting, and just messing around.

In closing, we have a new administrator – Kimberly Rush, many of you may know her from Western Hunter Magazine and she has taken over for Tracy Unmacht and is doing a fabulous job!

If anyone has any thoughts or comments regarding this issue of the Pronghorn, please write or email us at www.azantelope.org

Sincerely,

Brian R. George

President

***“LIBERTAS AD VAGOR”....
FREEDOM TO ROAM***

GREETINGS!



Reading the President's Letter, I was struck by the serendipitous moments that seem to visit all good causes. What a gift to donate two such hunts. Clearly, our members keep their eyes on the emails—it's hard to imagine these hunts sold out within 20 minutes of an email blast. That said, we also are thankful for a core of members who are truly dedicated to the welfare of the pronghorn..

Take a look on the azantelope.org website as well to keep up with immediate opportunities...if it has been awhile since you've been there, you'll notice a few new things.

Thank you for your support of the Arizona Antelope Foundation.

Best to you, Lenée