



THE BOOMER

Quarterly Newsletter

Volume 7 Issue 4

Message From The President

Dear Friends

I would like to introduce and welcome two new members to our board of directors.

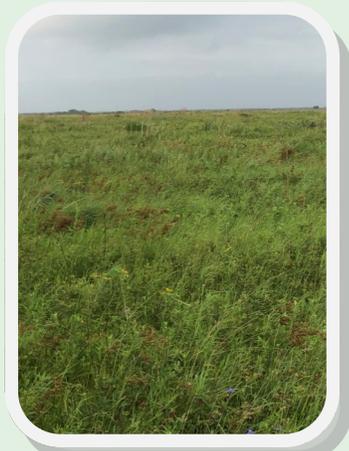
Kristina Myers is a Houston, Texas resident and a Litigation Associate with the Vinson and Elkins law firm. She has an interest in event planning and

fund raising and will contribute to the success of the annual festival and the Adopt-A-Prairie Chicken Program. Full of ideas, we look forward to her enthusiasm and input.

Scott Forbes is from the Katy, Texas area and is Director of Technology for Stallion Oilfield Services. Scott is experienced

in information technology with additional background in finance and management. His primary focus with the Friends, will be website management. Scott has hit the ground running and will be another valuable asset to our organization.

Gary Woods President



May's "sea of grass" on the refuge

Meeting Schedule

The next board meeting of the Friends of Attwater Prairie Chicken Refuge will be held at 5:30 pm, June 13, 2019. The next mem-

bership meeting will be held at noon, September 21, 2019. All members are welcome to attend any meeting of the board. All

meetings are held at the Attwater Prairie Chicken NWR, 1206 Apc Nwr Rd, Eagle Lake, Texas. We hope to see you there.

Our Mission:

The mission of the Friends of Attwater Prairie Chicken Refuge is to support the purpose and objectives of Attwater Prairie Chicken NWR and promote the recovery of the Attwater's prairie chicken and the Texas native coastal prairie ecosystem for this and future generations.

Friends of Attwater Prairie Chicken Refuge, P.O. Box 212 Eagle Lake, Texas 77434

<http://www.attwater.org/>

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Did you know?

- It is estimated that there was once more than 6.5 million acres of coastal prairie in Texas but less than 1% remains..
- Nearly 1000 plant species have been identified for the prairie and most are perennials.
- 75% of the prairie plants biomass can be underground.

APC UPDATE

Be Fruitful and Multiply

Michael E. Morrow, Wildlife Biologist, APCNWR

It's spring time on the prairie, and like most species, Attwater's prairie-chickens are working hard to produce the next generation. Although we don't know when hens select nest locations, nesting activities begin in earnest when the first egg is laid a few days after mating on booming grounds. This usually occurs in early- to mid-March. Lay intervals for domestic chickens range from 25–28.5 hours (https://www2.humboldt.edu/wildlife/faculty/colwell/pdf/Colwell_WSGB.2006.pdf), and is probably similar for prairie-chickens. Time of lay appears to get progressively later each day until eventually a day is skipped in egg production. As a result, it takes approximately 14 days to complete the average clutch of 12 eggs, give or take. So that all eggs will hatch at approximately the same time, incubation does not begin until the clutch is completed. Once incubation has started, the hen is fiercely dedicated to her clutch of eggs, usually leaving for only 45–60 minutes twice daily (morning and evening) to relieve themselves and find food. The hen's cryptic coloration and concealment of the nest site is her pri-

mary defense strategy against hungry predators like skunks, opossums, raccoons, coyotes, and snakes. She will typically remain motionless on her eggs in hopes of avoiding detection, even if potential predators are too close for comfort. However, if an intruder approaches within a foot or so of the nest at ground level, she puffs herself up, raises her short pinnae feathers on her neck, and hisses ominously at the threat, which may be many times her size. If an attempt is made to take eggs from the nest, the hen will pummel the intruder with her wings, and inflict blows with her beak with sufficient force to draw blood. Of course this fierce defense puts her own

life in extreme jeopardy from predators, and we typically see a spike in hen mortality during the nesting season. If all goes well, the newly hatched chicks will leave the nest with the hen approximately 26 days after the onset of incubation. However, research through the years has shown that on average, only approximately one-third of nests survive to hatch. If first nesting attempts are unsuccessful, hens usually will try again if there is enough time left in the season. June 17 is the latest we have observed a successful hatch, which means the hen has to start incubation by May 22. Males usually stop booming around this time as well. *Cont. on P.5*



Figure 1. Predator-deterrent fence surrounding an Attwater's prairie-chicken nest at the Attwater Prairie Chicken National Wildlife Refuge.

Student Art Contest Winners Announced

The winners of the 6th annual Student Festival Art Contest were announced at the Annual Prairie Chicken Festival in April. Entries covering grades K-12, were received from area school districts. Art committee chair, Sandy Venneman and judges Jane Meldahl, Gary Woods and Ron Jones awarded the grand prize to Sydney Delos Santos. Sydney is a 12th grade student at Brazos High School and a student of Mr. Michael Parthum. Sydney's depiction of a male prairie chicken standing on the prairie earned her a \$250.00 scholarship, a plaque and an annual festival tee shirt emblazoned with her artwork. The tee shirts were available to the public at this year's festival.

First, second and third place winners were also chosen in 3 categories, Logo (9-12th), Poster (6-8th) and Coloring (K-5th). Winners received a plaque or ribbon and a cash prize of \$50.00, \$25.00 or \$10.00. Honorable mention ribbons were also awarded. All winning artwork is on display in the refuge visitors center through March 2020.

We would like to give special thanks to Blisswood B & B, in Cat Spring, Texas, for once again cosponsoring the art contest.



Above: From left, art teacher Michael Parthum, Friends board president Gary Woods, artist Sydney Delos Santos and David Littmann, representing the refuge.



Cont. on P. 7





It's A New Record !

As a small nonprofit, we very much appreciate all the support we receive from our membership. We can proudly say that our members are located all across the country. Folks from Maine to Florida and Oregon to California and points in between are supporting our efforts. This year, however a new member's "distance from the refuge" record was set when Ignace Ledegen of Herentals, Belgium became a member while visiting the refuge for the annual prairie chicken festival and the opportunity to see the prairie chicken.

Mr. Ledegen's stop at the refuge was part of a 22 day visit to Texas to go birding with 3 friends, one of which had left Belgium to work towards an advanced degree at Texas A & M University while studying grasshoppers. As with the other visitors that day, his party was successful in viewing the prairie chickens. He shared these kind words about the festival, "*I was highly surprised about the organisation of the festival. We managed to see the greater prairie*

chickens very well. At the end we visited the exhibition. Unbelievable, there was free coffee, free food,... for everyone. I was so surprised about the organization that I decided to become a friend...."

Mr Ledegen works at the Grenspar-Kalmthoutse Heide which is a cross-border national park in Belgium and the Netherlands. He is the coordinator of the European

funded projects, seeking funding for park management projects and general conservation. His projects often include habitat restoration and enhancement, public access opportunities and invasive species control, all of which would sound really familiar to conservationists in this country.

He is also a master bird bander and in his "free" time on weekends, during migration, he and a group of volunteers band birds. Averaging about 6,000 birds a year. We wish him safe travels and hope to see him at the refuge.



Above: Mr Ledegen gives park visitors an introduction prior to a nightjar excursion.

You can make a difference ?

AmazonSmile donates to Friends of Attwater Prairie Chicken Refuge when you do your shopping at :

smile.amazon.com/ch/45-0720176



APC Update cont. from P. 2

Some of you may recall previous articles in *The Boomer* (e.g., May 2018) in which I discussed the difficulty in growing small populations to the point that they are able to withstand the inevitable slings and arrows of life in coastal Texas without imminent risk of extinction. And of course, successful reproduction is critical to population growth. Good nesting and chick survival mean the population will grow; complete reproductive failure in a given year generally means that the population will drop by half the next year since adult mortality is fairly constant at around 50%/year.

We have taken some fairly extraordinary measures to provide added protection to Attwater's nests in an attempt to increase nesting success. Of course good grassland habitat is essential. We have also worked with Texas Wildlife Services since 1997 to manage potential nest predators prior to and during the nesting season. But we wanted to do more. We knew that fences of various sizes and configurations had been used with promising results to protect nests of ground-nesting species across several avian orders including ducks, sharp-tailed grouse, shorebirds, and seaside sparrows. However, to our knowledge such fences had not been used on prairie-chickens, and certainly not for the endangered Attwater's prairie-chicken. The late Dr. John Toepfer first evaluated and refined the technique on non-endangered

greater prairie-chickens. We began using nest fences on Attwater's in 2000. While details have been fine-tuned through the years, the basic design has remained unchanged. The process begins when telemetry indicates a hen has likely initiated incubation. By that time the hen is fully invested in her clutch, and will usually hold tightly to her nest as described above. We approach the hen using radio telemetry in a tightening spiral pattern until we either see her on the nest, or we know exactly where she is setting; if she is not incubating, the hen will typically flush some distance from the observer. If a nest is located, we then carry a roll of 3 x 100-foot hardware cloth and approximately 20 pieces of 4–5-foot long metal rebar to the site, and the predator-deterrent fence (3-feet tall, 25-foot on a side) is erected. Initially, the fence is constructed with the sides inclining in toward the nest to help the hen learn to go over the fence on her return trip to the nest after her twice daily re-

cesses (typically she leaves the nest by taking immediate flight, but on the return trip she flies close and then walks the remaining short distance to the nest). The bottom of the fence is "pinned" down with stakes made of rigid wire or cut up grating to discourage snakes and other animals from going under the fence. All of this is usually accomplished with the hen still on her nest approximately 12.5 feet away. Approximately two days after construction, the fence sides are placed in a vertical position, and then two days later the top six inches of the fence is bent outward at approximately 45° to discourage snakes from climbing over the fence (Figures 1 and 2). These fences are in no way predator proof. A raccoon or coyote could easily go over the top. However, they have no way of knowing that a prairie-chicken nest is inside the fence, so usually the fence deflects predators away from the nest.

Cont. on Page 6.



Figure 2.
The top six inches of the fence is bent outward to discourage snakes from climbing over the fence.

“The most beautiful things in the world can not be seen or even touched. They must be felt with the heart”

Helen Keller

APC Update cont. from P.5

Critical to successful implementation of this technique is promptly detecting hatch so that the fence can be dismantled to allow the young chicks to exit (Figure 3). In order to minimize disturbance at the nest site by repeated monitoring, we obtain an estimate of hatch by measuring egg length, width, and weight (Figure 4). Formulas previously published for other species and refined for the Attwater's are then used to predict fresh egg weight. The current egg weight is then compared to the predicted fresh egg weight. The predicted hatch date is estimated assuming 15% total average weight loss during the incubation period. These estimates are surprisingly quite good, and usually fall within 2–3 days of the actual hatch date. This method is usually much more precise than other methods used to determine estimated hatch dates like telemetry, candling, or floating eggs. However, to make sure we are able to open the fence quickly after hatch, we start checking nests 5–7 days before the projected date in case hatch date estimates are off.

These predator-deterrent fences are a LOT of work, but they are remarkably effective. A comparison of 224 fenced and 24 unfenced Attwater's nests since 1997 at the refuge revealed a success rate of approximately 84% for fenced nests, and only 13% for unfenced nests. Use of these fences is not without risk though. Eleven (4.9%) hens abandoned fenced nests. Six (2.7%) of

these abandonments occurred immediately after the fence was built, while the remaining five (2.2%) occurred in mid-to late incubation after the hen had been successfully traversing the fence and incubating her eggs for some time. To place these abandonments in perspective, I conducted a review of five other studies from 1941–1986 on Attwater's prairie-chicken nesting which included a total of 127 unfenced nests. Abandonments reported for each study ranged from 0.0–15.8%, and averaged 6.2% (8 of 127) across studies. Therefore, even if all of the abandonments we observed were attributed to the fences, which I do not believe to be the case, the proportion we observed was still less than that reported for unfenced nests in the literature. Two other losses occurred, bringing the total possible fence losses to 8–13 (3.6–5.8%), still below the abandonment rate for historical studies of unfenced nests. Given the substantial difference in success of fenced nests, we estimated that fenced nests produced 6.3× more chicks than unfenced nests in our comparison. Using the higher average historical nest success of 32.2% (Peterson and Silvy 1996; Conservation Biology 12:1264-1276), fenced nests would still be expected to produce 2.6× more chicks. So from a risk:benefit perspective, the balance is substantially skewed toward bene-



Figure 3. Opening the fence after a successful hatch!

fits. Of course, the hope is that wild populations will increase to the point that all this intensive effort will no longer be necessary in the near future. But in the interim, these predator-deterrent fences will remain an important management tool in Attwater's prairie-chicken recovery efforts.



Figure 4. American Conservation Experience intern Meredith Stroud and Wildlife Biologist Brandon Melton assessing predicted hatch date of Attwater's prairie-chicken eggs.

Congratulations To All

LOGO CONTEST WINNERS

First Place

Taylor Pavlu

Columbus High School

Instructor: Jenna Leopold

Second Place

Nathalia Garcia

Brazos High School

Instructor: Michael Parthum

Third Place

Ashlynn Vojtek

Brazos High School

Instructor: Michael Parthum

POSTER CONTEST WINNERS

First Place

Jordyn Templeton

Columbus Jr. High School

Instructor: Joyce Templeton

Second Place

Nathan Cooksey

Sealy Jr. High School

Instructor: Rebecca Jones

Third Place

Jaime Alan Contreras

Sealy Jr. High School

Instructor: Rebecca Jones

COLORING CONTEST WINNERS

First Place

Nathan Lopez

Brazos Elementary School

Instructor: Harvey Fajkus

Second Place

Isaac Lankford

Eagle Lake Int. School

Instructor: Savannah Konvicka

Third Place

Jaime Rangel

Brazos Elementary School

Instructor: Harvey Fajkus

HONORABLE MENTION

Logo	Alexia Pailes	Brazos High School	Instructor: Michael Parthum
Logo	Melissa Gonzalez	Brazos High School	Instructor: Michael Parthum
Logo	Rory McCarthy	Brazos High School	Instructor: Michael Parthum
Poster	Lexi Ybarra	Columbus Jr. High School	Instructor: Joyce Templeton
Poster	Maddison Diezi	Brazos Middle School	Instructor: Michael Parthum
Poster	Juan Jimerez	Sealy Junior High School	Instructor: Rebecca Jones
Coloring	Stefani Arely Samanigo	Eagle Lake Int. School	Instructor: Savannah Konvicka
Coloring	David Leos III	Eagle Lake Int. School	Instructor: Savannah Konvicka
Coloring	Natalie Lopez-Samanigo	Eagle Lake Int. School	Instructor: Savannah Konvicka

Moving On and Moving Up

Wildlife Refuge Specialist, Jennifer Romero, has left Attwater Prairie Chicken Refuge for the position of Assistant Manager at Bitter Lake National Wildlife Refuge, north of Roswell, New Mexico. This promotion takes her back to her home state. We are sure she will miss the drive all the way across Texas to visit fam-

ily. A luncheon was held in her honor at the refuge on May 2, 2019. The Friends board presented her with a plaque of appreciation for her work recovering the Attwater's prairie chicken, as well as an honorarium to help her get established in her new home. We wish her all the best and feel sure she will have a long



and successful career with the Refuge System.

Membership Application

Yes, Please enroll me as a Friend of Attwater Prairie Chicken Refuge

New Membership -or- Renewal Date: _____

Name (s) _____

Address _____

City _____ State _____ Zip _____

Email _____ Phone _____

Annual: \$15 Student or Senior (62 or older), \$20 Individual, \$30 Family

Make checks payable to: Friends of Attwater Prairie Chicken Refuge and mail to:

Friends of Attwater Prairie Chicken Refuge

P. O. Box 212

Eagle Lake, Texas 77434

You can also join on-line at: <http://www.attwater.org/beafriend/>

Photos From The Festival

Another Successful Event, April 2019



Thanks to the hard work and planning of board festival committee chairperson, Diana Kies, the Friends participation in the annual prairie chicken festival was a great success. Enjoy these pictures taken at this year's event

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