



THE BOOMER

Quarterly Newsletter of the Friends of Attwater Prairie Chicken Refuge

Volume 2 issue 1

Message From The President

Recent research into the direct effect of the red-imported fire ant on prairie chicken brood survival was reported in the winter issue of the Boomer by Dr. Mike Morrow, refuge biologist. Dr. Morrow's summary, in this issue of the Boomer, reflects his optimism that the key to recovering a sustainable population of Attwater Prairie Chickens may be through fire ant suppression.

Suppression comes at a price – a recurring price of \$20.00 per acre, at a time when budgets are tight and private funding elusive. As Dr. Morrow noted in his summary, past efforts have been accomplished with grant funds from the National Fish and Wildlife Foundation. Those funds are exhausted.

Your "Friends Group" applied for and was awarded a grant from the Texas Coastal Program coordinated by the

U.S. Fish and Wildlife Service. These funds will provide one to two more years of suppression treatment, depending on the total acres treated. At no time has sufficient funding been available to treat the entire refuge.

It is essential to the chicken's recovery that we secure additional funding. The Friends of Attwater Prairie Chicken Refuge is willing and able to take the lead. Working closely and in harmony, with the U.S. Fish and Wildlife Service and other interested organizations and individuals, we have established the "Brood Fund," which is dedicated to funding fire ant suppression and those efforts considered essential for

Attwater's Prairie Chicken recovery.

Your help is essential to the survival of this species:

Please consider a donation to the fund, Help us identify potential donors, Get the word out that an answer to the chicken's "extinction spiral" may have been identified by empirical data based on extensive scientific research.

The Friends of Attwater Prairie Chicken Refuge has recently been classified as a 501 (c) 3 organization by the IRS, which makes donations tax deductible to the extent allowed by law and tax code. Donors should consult with their tax advisor.

Donations may be made electronically at attwater.org or may be mailed to: Friends of Attwater prairie Chicken Refuge. P.O. Box 212, Eagle Lake, Texas 77434. Checks should be made out to "Friends of Attwater Refuge." Please write, "Brood Fund" in the remarks section of the check.

Ron Jones Board President



Red Imported Fire Ant

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Did you know?

- Invasive species cost the U.S. \$137 billion per year.
- Texas harbors 60% of the Nation's feral hogs.
- Red Imported Fire Ant queens can lay up to 1500 eggs per day.
- Red imported fire ants have invaded 2/3 of the counties in Texas.

Another Successful Festival

Once again the Prairie Chicken festival was a booming success and no one who came to see the rarest bird in north America went away disappointed. Two hundred seventy one visitors viewed prairie chickens, toured the refuge, enjoyed birding walks and listened to speaker, Nop Paothong relate his experiences taking the remarkable photographs for his book, *Save the Last Dance*. Visitors were also able to view all 159 entries of our first annual Children's Art Contest, which were on display in the refuge visitors center.

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ART CONTEST WINNER ANNOUNCED

The entry of Diamond Flores, 4th grade student of Melinda Lantelme at Eagle Lake Intermediate School was chosen grand prize winner of the first annual Kid's Art Contest held in conjunction with this year's Booming-N-Blooming Festival. Her depiction of an Attwater's Prairie Chicken was chosen from 159 entries submitted from 5 local area schools.

Diamond's art work was used on tee shirts sold at this year's festival. She received a plaque and tee shirt presented by Refuge Manager Terry Rossignol and Friends Vice President Gary Woods at a school assembly. The contest was open to students in K-5th grade.

The goal of the art contest was to help young people feel more connected with nature. Ribbons were awarded for first, second third and honorable mention for each grade level. The contest was sponsored by your Friends group in partnership with Blisswood Bed-Breakfast and Spa.

Contest finalists included: Gregory Aquirre, Sarah Avila, Julissa Barboza, Matt Carey, Jesus Diaz-Marquez, Dontavion Fuller, Makenne Glass, Mya Gonzales, Kaitlin Harris, Elizabeth Jarvis, Julia Jurecka, Hunter Kohleffel, Conner Kreneck, Crystal Martinez, Justin Marsalia, Jessica Martinez, Marvin Milina, McKinzey Otradovsky, Jesus Pina, Marrisa Martinez, Brooks Reddon, Kate Resendez, Eduardo Reynoso, Heather Rodriguez, Jaime J. Sanchez, Kenia Tovar, Rocio Tovar, and Kammie Wilson.

We would like to thank the following individuals whose time and efforts contributed to making the art contest a success: Carol Davis, Rebecca Chester, Katherine Cullen, Karin Thomas, Alysen Bilson,

Leslie Lerner, Mary Lou Jones, Jane Meldahl, Sumita Prasad, Gary Woods and Ron Jones.

We would especially like to thank Assistant Refuge Manager, *John Magera* for his efforts working directly with the participating schools and educators.



At left: Art contest winner, Diamond Flores shows off her winning art work with Principal Mrs. Knight

“Those who think they can’t and those who think they can, are both right”

Henry Ford

ATTWATER'S PRAIRIE-CHICKEN BROOD SURVIVAL

THE INVERTEBRATE AND RED IMPORTED FIRE ANT CONNECTION

Dr. Mike Morrow, Wildlife Biologist

In the last issue of the Boomer, I mentioned that we suspected red imported fire ants (RIFA) have played a huge role in limiting insects available to APC broods. Recently completed research funded by the National Fish and Wildlife Foundation (NFWF) and conducted by refuge staff, personnel from Texas A&M University's Department of Entomology and AgriLife Extension, and the Society of Tympanuchus Cupido Pinnatus, Ltd., have confirmed those suspicions.

Fire ants were accidentally introduced to the U.S. in the 1930's from South America on board a ship at the Port of Mobile, Alabama. Eventually occupying the entire southeastern U.S., RIFA first showed up in APC habitats around 1970 (<http://www.extension.org/pages/14911/texas-quarantine-map>). While there are numerous studies that point to adverse impacts of RIFA on wildlife, the prevailing expert opinion until recently was that habitat loss and fragmentation in concert with adverse weather (extremes at both ends of the spectrum) and possibly genetic bottle-necking were the most important factors limiting APC populations. Others speculated that the captive stock, which has without question saved the APC from certain extinction, was incapable of survival and reproduction in the wild. Intensive observations on 8 APC broods at the APC National Wildlife Refuge in 2003 revealed that no chicks survived past 11 days post-hatch. Several dead or dying chicks were found with brood hens at night roosts, indicating that predation was not the sole cause of chick mortality. Necropsy of these chicks attributed cause of death to inanition (i.e., exhaustion, as from lack of nourishment) and dehydration.

Prairie-chickens, like most gallinaceous species (e.g., quail, pheasants, turkeys, grouse), are primarily insectivorous during their first few weeks of life. Therefore, based on the chick necropsy results and the fact that we were not seeing many invertebrates (insects, spiders, etc.) during the time that APC chicks were on the ground, we began what has become a long journey to determine if invertebrate abundance was indeed limiting APC chick survival, and if so, why? But first, we had to find out what level of invertebrate abundance was necessary to support a prairie-chicken brood. Since there were no viable populations of wild APC remaining, we did the next best thing and compared invertebrates available to APC broods with those available to healthy greater prairie-chicken (GPC) (*Tympanuchus cupido pinnatus*) broods in Minnesota. Dr. John Toepfer and his colleague, Aaron Pratt, collected invertebrate samples in Minnesota, and refuge staff collected samples in APC range. This comparison revealed that samples from APC brood habitat contained 70% fewer insects than GPC brood habitat. A review of the literature found that researchers at the Brackenridge Field Laboratory near Austin had observed a 75% reduction in non-ant arthropod numbers where RIFA were present compared to areas not yet invaded by RIFA. So we began our multi-year investigation of RIFA impacts on invertebrates available to APC broods. To make a long story short, the aforementioned study funded by NFWF represents the culmination of several years of study which has included partners like Central Life Sciences, Texas Parks and Wildlife Department, The Nature Conservancy of Texas, and private ranchers, in addition to those mentioned above.

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APC and RIFA, Cont. from p. 4

In the NFWF study, which was conducted during 2011–2012, we (1) continued the evaluation of whether invertebrates were more abundant at successful brood sites compared to broods that failed during the first two weeks post-hatch; (2) evaluated various hen characteristics like hen source (wild-hatched versus captive), hen age, previous nesting experience, and time since release to determine whether any of these had significant impacts on brood survival; and (3) expanded the evaluation of RIFA on invertebrate abundance during May–mid-June (i.e., the APC’s brooding period). To assess the impact of RIFA on APC brood habitat quality as indicated by invertebrate abundance, 5 areas ranging from 440–725 acres in Colorado (APCNWR), Galveston (Texas City Prairie Preserve), Goliad (2 private ranches), and Refugio (private ranch) counties received applications of Extinguish® Plus brand fire ant bait to reduce RIFA abundance. Extinguish® Plus was applied at the recommended label rate of 1.5 lbs./acre by helicopter during early November 2010 and again in late September 2011 during weather conditions appropriate for application. Invertebrate samples were collected from untreated and treated areas beginning the last week in April following treatment and continued for 3 consecutive bi-weekly periods through early-June each year. Brood survival data were collected from 44 broods from 2009–2012. Of these, 21 (48%) were successful (i.e., still had chicks at 2 weeks post-hatch). Overall, median invertebrate numbers were 2.1 times higher at successful brood sites compared to unsuccessful sites (128 versus 60, respectively). No other attributes of hens (age, released from captivity or wild-hatched, years since release for captive-reared hens, or previous nesting experience or success with fledging chicks) hypothesized to affect brood success were significant. Median total invertebrates/sample was 1.4 times higher for treated sites compared to untreated controls. Median dry weight of invertebrates/sample was 1.6 times higher for treated sites compared to untreated controls.

Data collected in this study clearly demonstrate that availability of invertebrates during the first 2 weeks post-hatch is a major factor limiting survival of young APCs. This study also clearly demonstrated that the invasive RIFA has significantly reduced invertebrate abundance within historic and extant APC habitats. APC populations consistently declined during the 25-year period following invasion of APC habitat by RIFA circa 1970 (Figure 1). Therefore, it is likely that the introduction of RIFA played a significant role in the APC’s plunge toward the precipice of extinction, and has frustrated recovery efforts in recent years.

The full report of this research is posted at www.attwater.org and at www.prairiegrouse.org.

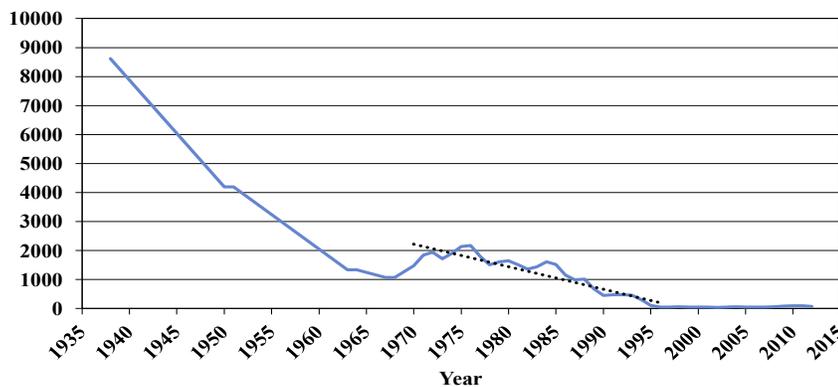


Figure above. Attwater’s prairie-chicken (APC) population trends 1937–2012. The dotted line indicates the 25-year average population trend following invasion of APC range by red imported fire ants circa 1970.



Above: Refuge visitors learn about radio tracking Attwater’s prairie chickens.

Photo by John Magera

A Fan in Bachory

Five-hundred and eighty-three miles north of the birthplace of naturalist Henry Attwater (1854-1931) lies the pastoral village of Bachory, Scotland. Located fifteen-miles west of Aberdeen, on the banks of the river Dee, Bachory, with a population of 8,001, is the home of ten-year old Tom Hall. You might recognize the name Henry Attwater -- a prairie chicken subspecies is named after him -- but you might not know the name Tom Hall. Tom may be the biggest fan in Scotland of the Attwater's Prairie Chicken.

A few months ago, Tom contacted the Friends group, through our Facebook page, requesting answers to some questions. Tom chose the prairie chicken as the topic for a school assignment. He also expressed an interest in the adopt-a-prairie chicken program. Since then, Tom and I have exchanged emails, and he has sent me a copy of his completed book.

Tom asked about the effect of fire ants on the birds and why they're called "chickens," when they are actually members of the grouse family. I provided Tom with answers to his well-thought-out questions, suggested relevant information sources and queried him about items for this article.

Here is a short synopsis of our long distance, electronic correspondence:

When asked why he chose this bird for his topic, he responded that he had learned about the chicken in a National Geographic article. While his classmates had chosen the exotic tiger and the cuddly panda, he chose the prairie chicken because it does a funny little dance, the way it taps it's feet up and down.

While Tom is interested in prairie chickens, he is most interested in fish and hopes to be a marine biologist one day. He has a theory about prehistoric creatures that he hopes to prove, but at this time, prefers not to share details. He enjoys exploring the banks of the River Dee and recently took a three-day course to learn more about the aquatic and terrestrial wildlife that utilize the riverine and riparian habitat.



Tom and his family, which includes two younger sisters, spend a lot of time outdoors and particularly enjoy gardening on their allotment -- a small plot of cultivated land that is set aside and rented specifically for the production of fruit, vegetables, herbs, etc. Tom's other interests include fencing, swimming, board games and painting miniatures, an interest he shares with his dad. He is also a Cub Scout.

We wish Tom success in his endeavors, and hope he continues to follow the recovery of the critically endangered Attwater's prairie chicken.

NOTE: Several grouse species are found in Scotland, including the red grouse, the black grouse and the rare capercaillie. A closely related ptarmigan species is also found in Scotland

Story by Ron Jones and Gary woods

At left, APC fan, Tom Hall enjoying the out of doors

Festival success cont. from page 1

Visitors from all across Texas as well as 13 other states and 2 foreign countries were in attendance this year enjoying the mild spring weather and boosting the local economy.

We want thank everyone attending that became a new member or renewed their membership as well as everyone that purchased friends merchandise or gave a donation. Your support is very much appreciated

Booming-N-Blooming attendees, at right ,enjoy their opportunity to view Attwater's prairie chickens on the lek.

Photo by John Magera



Membership

Interested in becoming a member or want to renew your annual membership ? It is now easy to do ,on-line at

www.attwater.org

We are happy to remind everyone that we are now a 501(c)3 nonprofit organization.

Any donations you may make are tax deductible to the extent allowed by law and tax code.

Donors should consult with their tax advisor.

Please consider Friends of Attwater Prairie Chicken Refuge in your charitable giving.



National Pollinator Week

The science of restoration began with prairies. Successful recreation of a prairie depends on establishing pollinators. June 18-24 is National Pollinator Week. Pollinating animals, including bees, birds, butterflies, bats, beetles and others, are vital to our delicate ecosystem, supporting terrestrial wildlife, providing healthy watershed, and more. Therefore, Pollinator Week is a week to get the importance of pollinators' message out to as many people as possible. Pollinators positively effect all our lives- let's SAVE them and CELEBRATE them!

To learn more about pollinators and to find out what you can do to help, visit:

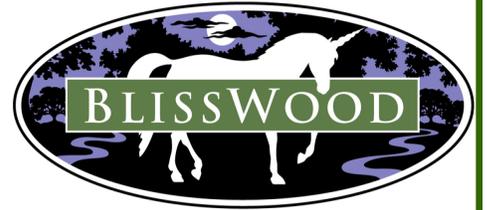
[www.pollinator.org/pollinator week 2013](http://www.pollinator.org/pollinator_week_2013) or www.fws.gov/pollinators



Friends of Attwater Prairie Chicken Refuge
would like to thank Carol Davis and

BLISSWOOD *Bed-Breakfast & Spa*

for generously supporting the Children's Art Contest.
Her partnership and participation was much appreciated.



Bed-Breakfast & Spa

Cat Spring Texas

www.blisswood.net

ALERT ! Volunteers Still Needed on the Refuge

Ever wanted to get revenge on Macartney rose? Or wanted instant gratification helping clean up precious prairie? Are you looking for projects to fulfill your Master Naturalist volunteer hours requirement?

The Invasive Species program at the refuge is seeking volunteers to help control and monitor invasive species such as Macartney rose, deep-rooted sedge, johnsongrass, and tallowtree. As part of the invasives treatment project, we offer plant identification and pesticide application training as well as ATV/UTV certification. Volunteers willing to spend at least a couple days per month are highly desirable, but we do have some projects where progress can be made in just one day. Come join the refuge staff as we work to improve the habitat, and enjoy the beautiful prairie and wildlife while you're at it. **If you would like to help please contact Rebecca Chester, Refuge Biologist, at : rebecca_chester@fws.gov, office:979-234-3021 x230 cell:979-472-0660**

To learn more about invasive species in Texas visit www.invasivespecies.org

Sunrise on the Prairie



Photo by John Magera