
NEMOURS GAZETTE

A publication of the Nemours Wildlife Foundation

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EVERYTHING YOU ALWAYS WANTED TO KNOW ABOUT VULTURES!

We have all seen them and probably marveled at their ability to stay aloft with such little effort, but what do we really know about vultures? Black and Turkey Vultures are both common along the coast of South Carolina, and their populations are doing quite well. Since 1980, Black Vulture populations have increased at an annual average rate of 10% and Turkey vultures 12%. This would seem to be good, except as their populations climb, their greater abundance creates opportunities for more negative encounters with humans or human activities.

We know vultures are important in the ecosystem because they are the ultimate recyclers of dead critters. But, they are increasingly becoming the focus of interest not because of their ecological value but because collectively they rank 2nd only behind Canada geese for the number of aircraft strikes resulting in human injury. This makes understanding their ecology, especially their flight behavior, critically important to aviation in general and the Marine Corps Air Station-Beaufort (MCAS-Beaufort) in particular. Since 2006, 4 vulture-aircraft strikes have occurred involving planes from the MCAS-Beaufort. To learn more about the flight behavior and activity patterns of local vultures and better assess risks to pilots, the U.S. Department of Agriculture used GPS satellite telemetry transmitters to study flight patterns of vultures around the air station. Although the Nemours Wildlife Foundation was not directly involved, we thought the findings would be of interest because it sheds insight into the behavior of a very common bird in our skies.

The study ran from 2006 through 2008. Eleven Black Vultures and 11 Turkey Vultures were captured and outfitted with the GPS devices. Birds were captured on the MCAS-Beaufort using walk-in baited traps. Periodically, the data from the GPS transmitters were downloaded via satellite connections, and the data provided latitude and longitude locations, altitude above ground level, speed, and direction once per hour from dawn to dusk. A total of 106,554 data points were collected and analyzed for the 22 birds, an amazingly large sample size. Here are some of the key findings in bullet point format:



Black Vulture

photo courtesy of Eric Horan

- ❖ **For both species, they spend most of their daylight time not in flight but stationary, perhaps at feeding sites.**
 - Turkey vultures were in flight on average 19% of the daylight time, Black Vultures 8%.
- ❖ **By season, both species were most active (in flight) during winter and least active in the summer.**
- ❖ **Turkey Vultures left their nighttime roost sites earlier than Black Vultures**
 - About 10% of Turkey vultures were in flight by 3 hours post sunrise and activity peaked at mid-day.
 - About 10% of Black vultures were in flight 4 hours post sunrise and activity peaked at mid-day.
- ❖ **Both species spent most of their flight near ground level.**
 - 48% of Black Vulture flight locations were < 330 ft. above ground.
 - 60% of Turkey Vulture flight locations were < 330 ft. above ground.
- ❖ **But, the maximum flight altitude was greater for Black vultures.**
 - Maximum altitude for Black Vultures was 5,207 ft.
 - Maximum flight altitude for Turkey vultures was 4,547 ft.

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❖ Home range varied greatly by individual, season of the year, and differed between species.

- Black vulture home range size – Smallest: winter= 4 miles²; Largest: summer= 55 miles².
- Turkey vulture home range size – Smallest: winter= 26 miles²; Largest: fall= 466 miles².
- Two Turkey Vultures migrated to central Florida independently; leaving in February and returning in April and June.
- A third flew to Florida where it was shot.
- Causes of mortality: 1 killed by vehicle strike, 2 by shooting, 1 by electrocution, 6 unknown.



Turkey Vulture in flight

photo courtesy of Eric Horan

One explanation for the difference in flight altitude between the species is that black vultures use the higher altitudes to watch and follow Turkey Vultures and other birds as a method to locate food more efficiently. Further, Black Vultures tend to be more social than Turkey Vultures and will roost in social groups where information about food resources can be exchanged. This might help explain why Black Vultures can spend less time aloft during the day. Finally, studies have shown Turkey Vultures prefer to feed on small animal carcasses and the unpredictability and dispersal of these resources require greater search effort and time in flight by Turkey Vultures.

For airplane pilots, the data clearly show vultures spend most of their time aloft within 500 feet of the ground so the greatest risk of a vulture strike is during take-off or landing. Further, vultures are most likely to be aloft from 3 to 6 hours post sunrise, and least active 1-2 hours after sunrise or before sunset.

The full content of this article can be found in the Journal of Wildlife Management 75(7): 1581-1587, 2011; authors: Avery, M.L., et al.

OBSERVATIONS.....She does what??



Jen Fill introduces a Beaufort Academy 5th grader to a friendly corn snake.

If you saw her on the street, you'd think to yourself, "what an attractive young woman". And if you wondered what she does with her time, you'd absolutely never guess.

Jennifer Fill, a native of Massachusetts, spends her days tromping through woods and wetlands in South Carolina's ACE Basin, in search of snakes; her favorite is the

Eastern Diamondback Rattlesnake. She especially likes tracking a 5 year old diamondback named Eddie, in honor of Nemours Wildlife Foundation senior biologist Eddie Mills.

Jen, who has a smile that can light up a room, is a candidate for a PhD in Biology from USC-Columbia. A graduate of UMass-Amherst, Jen says initially she knew she liked field work but nothing at the time to do with animals, and she "certainly never knew about an interest in snakes". During the summer of 2008, she participated in an internship in Kansas tracking non-venomous snakes in a study of snake predation on grassland birds. In an experience she calls "pretty awesome", Jen says she tromped "in and out of a mosaic of burned and unburned areas, discovering the pronounced effect that fire had on the habitat". And her future began to unfold.

Having discovered Dr. Jayme Waldron's herpetology research in the South Carolina Lowcountry, Jen found her way to USC-Columbia where she encountered academicians who were so enthusiastic and "made it all really alive" as they took her in tow, by-passing the campus and going right into the field.

Now that she has settled herself in the SC Lowcountry, most often at Nemours Plantation, Jen uses radio-telemetry to monitor free-ranging Eastern Diamondback Rattlesnakes. The results of her study will serve to inform land managers on the burn regime that is most effective for restoration of the longleaf pine ecosystem and conservation of endemic species.

Jen's comment that "there's a real level of dedication required to work in these places - the plantations, the private lands and the wildlife management areas" mirrors my own admiration for the wildlife professionals and students I've met over the past several years. Our natural world seems to be in very good hands.

Jen is always eager to help in Nemours' educational programs, exhibiting and discussing snakes and turtles she's encountered. No matter where her career takes her, it's evident that Jennifer Fill will make important contributions to a field she clearly loves.

- Kay Merrill

FRESH AIR AND FUN



BA 5th graders test the waters for blue crabs.

They came, they saw....and they covered a lot of ground! Eighteen 5th graders from Beaufort Academy spent a couple of days and a night at Nemours Plantation in March. As soon as the students jumped off their bus, Nemours' fox squirrel population disappeared! And that was just the beginning. Nemours Plantation's bird and wildlife residents are not accustomed to the sounds of exuberant kids enjoying a field trip. But there was still plenty for the kids to see: a young eagle trying to make up his mind to leave the nest (with a watchful parent nearby); blue crabs searching for food as the kids searched for *them*; alligators keeping their distance with wary eyes on the visitors; migrating shorebirds enjoying a stopover in Nemours' managed wetlands; and salamanders, frogs, turtles and the occasional snake.

The students helped erect a wood duck nesting box, which at this writing contains a mama duck sitting on nine eggs. They toured the plantation both on foot and on a trailer to get the

most thorough look at the diversity of woods and wetlands found on Nemours Plantation. They took a night-time trailer tour, hoping to see some nocturnal critters but their joyful chatter alerted most resident wildlife to the kids' approach. A post-tour snack of S'mores helped make up for the disappointment of not seeing deer or raccoons or bobcats.

The second day of the Beaufort Academy visit included a trip to Botany Bay, near Edisto. DNR's Bess Kellett toured the area with the students, teachers and parent-chaperones. Botany Bay's beach is filled with an extraordinary array of shells (which may not be removed) and a tree "bone yard" which makes for an amazingly primitive setting.

A poem submitted by Beaufort Academy 5th grader Lawrence Lindsay captures his memory of an obviously enjoyable two days spent in the midst of nature's treasures:

*The lightning fast fox squirrels jump in a tree
They are like a race car with fur
Squirrels scurry so softly
They are faster than the speed of light
The mile jumping frogs leap to a lily pad
The birds chirp like a newborn eagle
Frogs flop from far fields
Birds can fly for thousands of miles
Delicate eggs touch soft human fingers
They are light as a feather
Rolling round rivers
Softer than a silk pillow
Sand more delicate than a feather
Like tiny living things
Soft sea sand sits
Whiter than a snowy blizzard*

MEMORIALS AND HONORS

A gift to Nemours Wildlife Foundation provides a lasting tribute to honor the memory of a loved one or friend. We encourage you to consider a tax deductible donation which we will acknowledge to you and the person of your choosing.

In addition, please consider a donation in honor of any occasion – a birthday or anniversary, for example – which merits special attention. We will happily acknowledge your thoughtful gift to your honoree(s).

We are honored to acknowledge these recent gifts:

IN HONOR OF
Dr. John R. Cope, Esq.
Hon. John H. Dalton

These gifts were received after our previous newsletter was printed and are added to the list of the many gifts honoring the eldest daughter of Eugene duPont III.

IN MEMORY OF
Irene duPont Waters
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IN MEMORY OF DR. JIM TEER

I know most of our readers will not recognize the name Jim Teer, but in my profession of wildlife biology his is a very recognizable name because he touched the careers of so many biologists, including mine. I have included a short excerpt from Dr. Teer's obituary adjacent to this article so you can better appreciate the scope of his accomplishments. But, this is not the sole reason I wanted to honor Dr. Teer in our newsletter. Rather, the history of the Nemours Wildlife Foundation cannot be written without acknowledging the contributions of Dr. Teer.



My first encounter with Dr. Teer was when I was nearing the end of my PhD program at Texas Tech University. One of the faculty in the Department asked me to assist with a project he was initiating at the Welder Wildlife Foundation, near Corpus Christi, TX. The Welder Foundation was directed by Dr. Teer, and the project required me to travel there several times during the year to observe the use of rangeland pastures by white-tailed deer. Each pasture was grazed by different stocking rates (density) of cattle and the objective of the study was to determine which stocking rate white-tailed deer tolerated the most or the least.

I got to know Dr. Teer during this time and was able to observe how he operated the Welder Foundation. One of the funny stories I remember about my time at Welder involved Dr. Teer's rule that dorm rooms on the property were single gender occupancy only. Remember, this occurred around 3 decades ago. I wanted my wife of 10 years at the time to visit me at Welder for a long weekend, but I dreaded asking Dr. Teer if my wife could stay in my dorm room. When I did finally ask, Dr. Teer quizzed me thoroughly on my marriage to make sure I was not pulling a fast one by him, and I thought I might have to produce a copy of our marriage certificate before he would consent. But he did, and my wife and I had a wonderful weekend together.

I left Texas in 1983, but little did I know fate would have me crossing paths with Dr. Teer again in a very important way. When Mr. Eugene duPont III was developing his idea of establishing a foundation which would oversee the stewardship of his much beloved Nemours Plantation, Mr. duPont was fortuitously introduced to Dr. Jim Teer. The two of them developed a close relationship, and Dr. Teer explained how the Welder Wildlife Foundation was established on a private ranch by its owner and how the ranch is now used to support the educational and scientific missions of their Foundation. After Mr. duPont's death in 1995, the Trustees of the Nemours Wildlife Foundation continued to lean on Dr. Teer for guidance, and when the Trustees narrowed their national search for a founding Director and interviewed the

top candidates, guess who was included on the interview panel—Dr. Teer. While I was thrilled to see a familiar face at the interview, I soon began to fret Dr. Teer may remember my efforts 15 years earlier to have my wife stay in my dorm room at his Foundation and this episode somehow now might work against me in my interview! Apparently it did not, and I arrived at Nemours in January 1999.

Clearly the story of the Nemours Wildlife Foundation could not be written without acknowledging the influence Dr. Teer had during the Foundation's infancy. His impact on Mr. duPont, the Trustees, and me at an early time in my career served us all well and we owe Dr. Teer a great deal of gratitude. Looking back, it is remarkable how seemingly random encounters with individuals actually impact future events in ways we may never imagine. I know I will always be grateful for my brief encounter with Dr. Teer! - *Ernie Wiggers.*

James G. Teer, Distinguished Professor Emeritus of Wildlife and Fisheries Sciences (WFSC) at Texas A&M University (TAMU), died on March, 19 2012, at his home near College Station, Texas. Jim obtained his bachelor's of science from Texas A&M in 1950, his masters of science from Iowa State University in 1951, and his Ph.D. from the University of Wisconsin in 1963. From March 1970 until November 1979, Jim served as Head of WFSC. In January 1979, Jim became the third director of the Rob and Bessie Welder Wildlife Foundation and remained in the position for 20 years until retirement.

Jim was very active in The Wildlife Society and the Boone and Crockett Club (Emeritus member since 2008, professional member since 1961). Jim was a founding member of the Texas Chapter of TWS and served as its first President for two terms and from 1988–1990, Jim served as President of TWS. Jim has been honored by his professional society with several awards including: Outstanding Service Award, Texas Chapter, TWS; Lifetime Achievement Award, the Southeastern Section, TWS; Honorary Member, Texas Chapter, TWS; and in 1994, he received the TWS's most prestigious award, the Aldo Leopold Memorial Award.

During his professional career, Jim published more than 130 scientific papers, 13 book chapters, two monographs, and a book entitled: "It's a long way from Llano: the journey of a wildlife biologist", TAMU Press, a must read for an understanding of Jim's professional life. His graduate students have done research in the United States, Canada, Botswana, Republic of South Africa, Kenya, Tanzania, Mexico, and France.

COMINGS AND GOINGS:

Nemours Plantation has played host to many visitors during the late winter and spring.

- In early January, we were pleased to welcome Dr. George Archibald, co-founder of the International Crane Foundation. While the Whooping Cranes which have visited the ACE Basin during the past several winters did not put in an appearance for Dr. Archibald, it was exciting to hear his stories of exotic travel on behalf of the world's crane populations, and to learn more about the role the ACE Basin might play in this success story.
- There was considerable public interest in a segment of *Expeditions with Patrick McMillan* on SCETV on January 7th. We had enjoyed hosting Dr. Patrick McMillan and his film crew in April 2011 as they prepared for this episode of their popular TV series. The resulting broadcast generated many comments about Nemours Wildlife Foundation and the ACE Basin.
- In February a group of South Carolina state legislators included a tour and lunch at Nemours Plantation in their two-day visit to the area to learn more about the coalition (ACE Basin Taskforce) which has successfully protected more than 200,000 acres of the world-class ecosystem known as the ACE Basin.
- Representatives from the U.S. Army Corps of Engineers' Charleston District office spent a day in February at Nemours Plantation looking at managed tidal wetlands and water control structures, gaining insight into how these vast wetlands are managed and learning of their importance to waterfowl and wildlife.
- SCDNR's Coastal Explorations and Spring Island Institute's Master Naturalist classes both spent a day this spring at Nemours Plantation as part of their field work.
- Students from AGAPE Academy, Robert Smalls Middle School, Beaufort Academy, and First Scots Presbyterian Kindergarten have all enjoyed outdoor classroom experiences at Nemours Plantation this spring. The educational program for each group differs depending on their age and current classroom curriculum.
- A group of children from the Child Abuse Prevention Association's shelter in Beaufort spent a day this spring at Nemours Plantation fishing and enjoying a fish fry.
- Nemours enjoyed hosting a group of 28 women from the Sea Island Georgia Garden Club for a tour and lunch at Nemours Plantation in April as part of their two-day visit to the Beaufort area.
- Lowcountry Open Land Trust board members spent a day at Nemours Plantation during their spring board retreat on March 31st.
- Mike and Gigi McShane hosted two groups of Charleston Country Day School parents for lunch and a tour of Nemours Plantation in late March and early April.



First Scots Presbyterian Kindergarten students, teachers and parents prepare for a wagon tour of the plantation.

Nemours Wildlife Foundation is delighted to announce that Dr. George Archibald, co-founder of the International Crane Foundation, and a widely recognized and highly respected ornithologist, will be the guest speaker at the annual Friends of Nemours event on October 20, 2012. Dr. Archibald travels extensively throughout the world to advance the mission of the International Crane Foundation. Sightings of endangered Whooping Cranes in the ACE Basin have thrilled conservationists both locally and across the U.S. Dr. Archibald will update our guests on the future of Whooping Cranes and other endangered species during his talk. Save the date: October 20, 2012. And watch for more details.

NEMOURS WILDLIFE FOUNDATION

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