



# SANDHILLS REFUGE NEWS

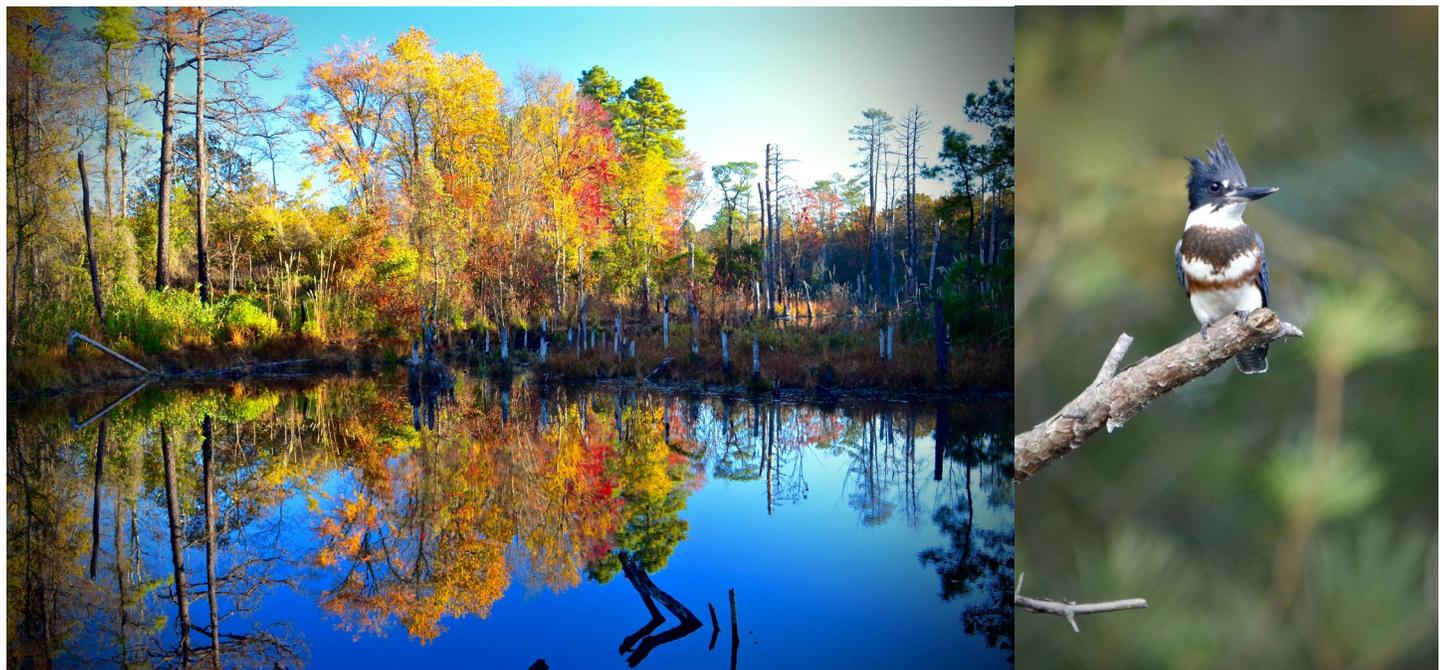


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**FRIENDS FOCUS** | Steve Rumpf, President, Friends of CSNWR

### PRESIDENT'S MESSAGE

Dear Members,

With the Covid-19 pandemic continuing to expand, The Friends Board hopes you are healthy and safe from its infirmities. Due to the seriousness of this contagion, all normal Friends activities (the annual meeting, regular youth fishing derby, and popular birding boot camp) have been cancelled through the end of the year. Hopefully, we can return to our regular schedule of events during 2021.

**YOUTH FISHING TO OCCUR VIRTUALLY IN 2020** - At the July Board meeting, all members present agreed to the Friends Group sponsoring a **VIRTUAL YOUTH FISHING DERBY** to be held October 3<sup>rd</sup> through October 11<sup>th</sup> of this year at the Oxpen Lake. Look for the participation rules included in this newsletter. The Board is sponsoring this event to continue introducing youth to fishing and promote use of the Sandhills Refuge by all.

Are you interested in participating in outdoor activities and promoting wildlife in general? Consider serving on the Friends Board! Officer terms run for three years beginning in January. Toward the end of 2020, the Board will be soliciting new Board members. Please, join this most important endeavor.

Check out the Facebook page for the Friends of Carolina Sandhill NWR to see what is happening on the Refuge with Friends members. Follow Kay McCutcheon via pictures of her daily hikes through the Refuge as she identifies plants, shares site history, and encounters various wildlife on her many treks. Kay's career spanned thirty-six years with the U. S. Fish and Wildlife Service at the Carolina Sandhills and Santee National Wildlife Refuges. She has so much to share!

**MEMBERSHIP REMINDER:** Consider inviting a friend to join the Friends Group. With the pandemic spreading, visitations on the Refuge are rapidly increasing especially biking, hiking, and birding. As visitors seek solace in nature, the Friends Group has the opportunity to help them appreciate their outdoor surroundings through educational programs and comradery.

See you on the trail.

Steve Rumpf, President



## VIRTUAL YOUTH FISHING WEEK: October 3-11, 2020



Dust off that tackle box and grab a rod and reel! Hosted “virtually” by the refuge Friends Group, the 12<sup>th</sup> Annual Youth Fishing event will take place at Oxpen Lake from **Saturday, October 3 through Sunday, October 11, 2020**. Due to Covid-19, the traditional, one-day derby and picnic is not possible. However, we still plan to stock the pond and host Facebook events throughout the week. On **Thursday, October 15**, we will host a Facebook Live event and draw for door prizes. Any youth that pre-registered for the event will be eligible to win a door prize!

### How to Participate:

Guardians must pre-register the participating youth(s) at <https://virtualyouthfishingweek.eventbrite.com>  
Registration will open September 10 and will close October 11.

Participants must provide their own bait, rod and reel, and bucket or stringer.

Parents may help their children bait hooks and cast, but are not permitted to fish.

Participants may fish during daylight hours between October 3-11, 2020.

When fishing, participants should only fish with their immediate family/group and spread out along the pond edge, practicing physical distancing consistent with health department guidelines.

Guardians should join our Facebook event page and post pictures of your family fishing or enjoying the refuge. (<https://www.facebook.com/groups/carolinasandhillsfriends>) There will be a photo background under the kiosk adjacent to the Oxpen Observation Tower.

If participants are not on social media, pictures may be submitted to [carolinasandhills@fws.gov](mailto:carolinasandhills@fws.gov) - we want to see your BIG fish and BIG smiles!

Throughout our Virtual Fishing Week Event, there will be special videos posted on our Facebook page about fishing, the refuge, fun fish-themed crafts, and even music! A celebrity or two may make a special appearance! A schedule of events will be announced through social and print media.

On Thursday, October 15 at 7:00pm, we will host a Facebook Live event and draw names for door prizes like fishing rods, tackle boxes, books, and other goodies. Anyone who registered for the event will be entered into the drawing.

For those drawn for door prizes, your prize will be available for pick up at the Refuge Office on Monday-Thursday, 7:00am until 4:30pm, Fridays 7:00am until 12:00pm, or by appointment.

For any questions, please contact Kay McCutcheon ([crosswordkay@aol.com](mailto:crosswordkay@aol.com)) or the refuge ([Carolinasandhills@fws.gov](mailto:Carolinasandhills@fws.gov)). You may also call the refuge office for general information requests (843/335-8350).



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Top photos: © Jim Tobalski, used with permission. Article photo: Berger, USFWS.



### A DAY IN THE LIFE OF PROGRAM SPECIALIST TONY FRASER | Lyne Askins, CSNWR

The Carolina Sandhills NWR is pleased to welcome Anthony “Tony” Fraser as the program support specialist for Business Team 5, which includes Pee Dee NWR in NC, Carolina Sandhills, Santee, Cape Romain, Waccamaw, and ACE Basin refuges in SC, and Piedmont and Bond Swamp refuges in GA. Tony will be stationed in McBee and providing administrative services for the other refuges remotely.

Tony comes to the U.S. Fish and Wildlife Service with more than 20 years of experience in administrative support duties in the US Navy (USN). Beginning in 1990, Mr. Fraser served as an Administrative Assistant for the Commanding Officer and crew on the USS Casimiar Pulaski, a James Madison-class submarine. Between 1993 and through 1996, he served as the Administrative Assistant and Travel Clerk for the Commodore and staff for Submarine Squadron 8. In 1996, he began service as the Command Travel Program Coordinator for the Submarine Force US Atlantic Fleet. In 1999, he became the Personnel and Administrative Officer for the USS Louisville, a Northampton-class cruiser. In 2002, Mr. Fraser moved to Washington, DC where he worked in the Pentagon and served several commands, including Military Personnel Officer, Flag Secretary for the Chief of Naval Operations for the N4 Directorate, and Administrative Officer for the Chief of Naval Operations. Tony retired from the USN in McBee, SC in 2008.

In 2018, Tony was hired as a part-time, temporary Administrative Support Specialist at the Carolina Sandhills NWR. Initially hired to work 20 hours a week to pay bills and manage payroll submission, Tony was a quick study. Soon, his responsibilities expanded to travel, budget reallocation, collections, credit card management, fleet utilization, energy reporting, Youth Conservation Corps administration, and personnel support for both Carolina Sandhills and Pee Dee NWR, all of which prepared him for an even larger role: serving eight refuges.



A 1987 graduate of Hartsville High School, Tony is a knowledgeable and welcoming “face of the refuge,” enthusiastically greeting visitors (prior to COVID-19!). As an avid angler, he understands the refuge ponds and enjoys chatting with prospective anglers! He has eagerly learned about other refuge, wildlife, and recreational programs so that he can better inform visitors.

Tony has demonstrated the experience and aptitude to withstand the high-pressure atmosphere in the FWS around administrative professionals, who often wear many hats – public relations, customer service, auditor, budget technician, travel arranger, personnel specialist, and administrative officer. He is eager to learn and has automated many of the functions that we previously completed manually. For example, our credit card logs, Special Use Permits, and utilities are available on the cloud server, where the information is available with the click of the mouse. This upgrade has been particularly helpful during these days of teleworking caused by COVID-19. Tony has more ideas for increasing efficiencies in all of the offices that he will serve. I have no doubt that Tony is up to these tasks and will achieve an organized and accountable system of administration for the Area 5 Business Team. As the office is closed to public visitation at this time, please feel free to call and welcome Tony, or drop him an e-mail. He is a welcome addition to the Carolina Sandhills NWR family. (Tony Fraser, hours 6:30a.m. until 3:00pm Mon-Fri, [Anthony\\_fraser@fws.gov](mailto:Anthony_fraser@fws.gov))

# SANDHILLS REFUGE NEWS



## IN CASE YOU WONDERED | Lyne Askins, CSNWR

### Compatibility and Public Uses of National Wildlife Refuges

This year, the Carolina Sandhills National Wildlife Refuge (NWR, Refuge) conducted two public comment periods related to an evaluation process known as Compatibility. What is Compatibility and why do refuges use this process? Compatibility is rooted both in history and in regulation.

By establishing legislation, National Wildlife Refuges are closed to the public and public uses until they are deliberately opened to a specific human activity. This is different from other types of public lands established for the benefit of the public rather than wildlife. The process for opening refuge lands for public use is called a "Finding of Appropriateness and Compatibility Determination." In the Refuge System's 117-year history, many uses were allowed on some refuges that were detrimental to wildlife and contrary to the refuges' established purpose. Some of these activities included water skiing, power boating, model airplane events, and off-road vehicle rallies. In 1992, there were 5,200 uses on 500 units of the Refuge System. Many of these uses were wildlife-dependent, such as hunting, fishing, and wildlife observation. However, many were not. Several environmental organizations sued the U.S. Fish and Wildlife Service to address the inconsistency of the compatibility process.

As a result of this law suit, Congress passed The National Wildlife Refuge System Improvement Act of 1997. This was the first legislation to consider refuges as a system rather than individual units. It is considered our "organic" act. The law sets the mission of the National Wildlife Refuge System and requires that public use of a refuge may be allowed only where that use is compatible with both the System's mission and the express purpose of that specific refuge. It defines compatibility, the compatibility process, and wildlife-dependent recreation. Finally, it also requires each refuge to prepare a comprehensive conservation plan to guide management.

The Carolina Sandhills NWR completed its Comprehensive Conservation Plan (CCP) in 2010 after a two-year planning process that included partners, neighbors, and public stakeholders. The CCP process evaluated and found compatible these wildlife-dependent recreational uses: hunting, fishing, wildlife observation and photography, and environmental education and interpretation. Companion recreational uses typically facilitate a priority public use. Companion recreational uses found to be compatible include boating, horseback riding, off road vehicle use by mobility-impaired visitors, youth camping, picnicking, and exercising (bicycling, hiking, jogging, and walking). The following commercial or third party uses were also found compatible: commercial harvest of timber products, cooperative farming, inventory of natural resources, wildlife research and monitoring, natural resource collection for personal use, and public safety training. The wildlife-dependent uses must be evaluated every 15 years, while all other uses must be re-evaluated every ten years. Further, any new use, such as adding a new species to our hunting program, must be evaluated prior to allowing that use.

In 2020, the Refuge completed compatibility determinations, adding coyote harvest as incidental to white-tailed deer hunting and re-evaluating refuge uses with a ten-year expiration date. In addition to the compatibility process, the National Environmental Policy Act requires federal agencies to assess the environmental effects of proposed actions prior to making decisions and to provide opportunities for public review and comment during the evaluation process. I know! This procedure seems convoluted and laborious just to permit picnicking on the Refuge. However, such a deliberate and prescriptive method protects the refuge, its wildlife, and habitats from detrimental uses, particularly over the long-term. It ensures that the refuge will be healthy and enduring for generations.

Thank you for your support of Carolina Sandhills NWR! Please, let me know if you have any questions about uses that are permitted on the refuge.



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All photos: USFWS



## A MOMENT WITH THE MANAGER | Lyne Askins, CSNWR

### Summer Interns at Carolina Sandhills NWR

Despite the global pandemic, the Carolina Sandhills NWR moved forward with our summer internship programs. Originally scheduled to have five interns, we made one of the overlapping biological positions a back-to-back position and used the same intern for both. This was a bonus for the intern and for us, because he got experience on two (actually four, more on that later!) projects, and the Refuge benefited from an intern who adapted very quickly and spent six months completing field work for us! Let's meet our 2020 Summer Crew!

**Daniel Knox** (top left photo) is a [Student Conservation Association](#) Intern hired to work on the targeted playback survey and Red-cockaded Woodpecker monitoring projects. As the summer evolved, we put him in charge of dove trapping and banding and also introduced him to the LIDAR field process. Daniel is from Thousand Oaks, CA and earned a degree in Ecology and Evolutionary Biology from UCLA. He will be with us through August 28.

[Forest Stewards Guild](#) Intern **Lauren DeWitt** (top middle photo) is a rising senior at Coker University studying Biology under the direction of Dr. Jen Borga Raia, who hosted undergraduate students from 2010 through 2014 for a study of "Coyote Diet Patterns at Carolina Sandhills NWR." Lauren is from Green Pond, SC and grew up on the Cheeha Combahee Plantation, where her father managed the habitat and guided hunting for the owners and their guests. This is Lauren's second field internship, having worked for the SC Department of Natural Resources at the Webb Wildlife Center last summer. Lauren is a scholar-athlete playing in her third season for Cobra Softball.



[Forest Stewards Guild](#) Intern **Amy Sofferin** (top right photo) is a rising senior in Forest Resources at NC State University. Originally from Graham, NC, this is Amy's second field season. She worked last summer for nine weeks collecting forest inventory data to complete a forest management plan. In addition to being a Dean's List student, Amy serves as the Vice Chair for the NCSU Chapter of the Society of American Foresters. She is also involved in the NCSU Forestry Club and is an undergraduate research student for Dr. Jodi Forrester. After graduation, Amy plans to work in land management for wildlife resources.

[Cooperative Education Studies Units](#) Intern **Dylan DesRochers** (photo at left) completed a Bachelor's of Science in Forestry with a focus in Environmental Conservation from Mississippi State University in May, 2020. Dylan is from Madison, AL. (Continued next page)

## SUMMER INTERNS | Continued

His previous fieldwork includes an internship with the AL Forestry Commission and the MSU Summer field program. After completing his refuge internship, Dylan plans to seek employment in forestry in the northern U.S. In his free time, Dylan enjoys spending time with his family.

Lauren, Amy, and Dylan have been collecting field data for the terrestrial based Light Detection and Ranging technology (LIDAR) project described in the companion article, "Utilization of new and emerging technologies to improve landscape inventory and monitoring capabilities." Additionally, these interns were able to spend a few days at Pee Dee NWR and participate in dove banding. As the biological monitoring season wrapped up, Daniel joined the LIDAR team to help assist with that project.

These four amazing interns represent the next generation entering our broad profession, the care and study of America's natural resources. We were very fortunate to host them this summer and benefited from their work ethic, experience with technology, and positive attitudes.



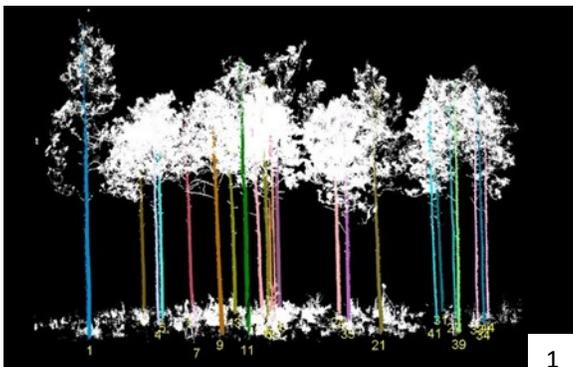
# SANDHILLS REFUGE NEWS

## CONSERVATION COOPERATION | Utilization of new and emerging technologies to improve landscape inventory and monitoring by Lyne Askins, CSNWR

The U.S Fish and Wildlife Service (FWS) South Atlantic – Gulf and Mississippi Basin fire program has developed monitoring protocols using new and emerging technologies. These innovations reduce labor requirements for field employees, and people across programs can use their products to manage FWS lands. One system applies terrestrial based Light Detection and Ranging technology (LIDAR) to measure specific changes to the vegetation structure, specifically fuel loads. Pre- and post-treatment LIDAR data are entered into the Quickfire fire spread model. The model depicts changes in rates of spread and fire intensity on the landscape and predicts the subsequent reduction in risk to adjacent people and infrastructure. Utilization of this equipment would not only exceed requirements for fire monitoring, but it would also produce additional products with no extra field time which may directly assist other USFWS programs such as Forestry, Cultural Resources, and Visitor Services.

To test the efficacy and evaluate additional applications, the FWS completed field testing of the LIDAR monitoring protocol at the Carolina Sandhills NWR (CSNWR) from May through July 2020. In addition to fuels data, technicians collected forestry data and field tested the protocol, developing best management practices. Data was uploaded and processed/analyzed by research fellows who provided feedback concerning plot density and other parameters. Using adaptive management, the field technicians and research interns established the field protocol for widespread duplication across FWS and partners' land in subsequent years.

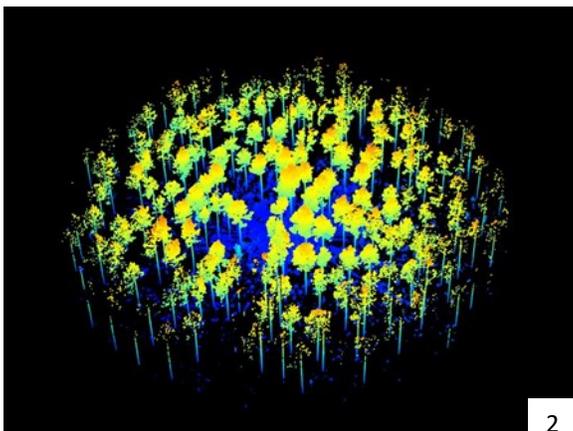
To conduct the field portion of this project, the refuge hosted interns from Forest Stewards Guild and the Cooperative Education Studies Unit at Mississippi State University (please, see companion article about summer internships at CSNWR). Amy, Lauren, and Dylan used the Leica BLK360 LIDAR unit to complete scans. Scans were then uploaded into CloudCompare using an iPad and converted to a format for geospatial applications and statistical programs. While some of the data have been processed, there is still much to be gleaned. During the next year, researchers from the FWS and Tall Timbers Research Station will continue to analyze the data and determine its best application(s) for fire, forestry, and wildlife habitat management.



1

The following sample photos depict various outputs from the LIDAR scans. USFWS Directors Fellows Emily Link and Emily Hall worked remotely on data processing and analysis and provided the following descriptions of the LIDAR outputs.

Photo 1: Pictured here is a visual output from R Studio after processing the terrestrial LiDAR data. Collected point cloud data is displayed in white, and the stems that were identified via a written R-code are assigned unique colors and numbers.



2

Photo 2: This is how the point cloud file is first displayed once loaded into R Studio, from an oblique aerial perspective. Lowest height values are in dark blue, and the colors progress into orange as the point height increases. Most of the yellow points displayed are the leaves in the upper canopy layer.

# SANDHILLS REFUGE NEWS

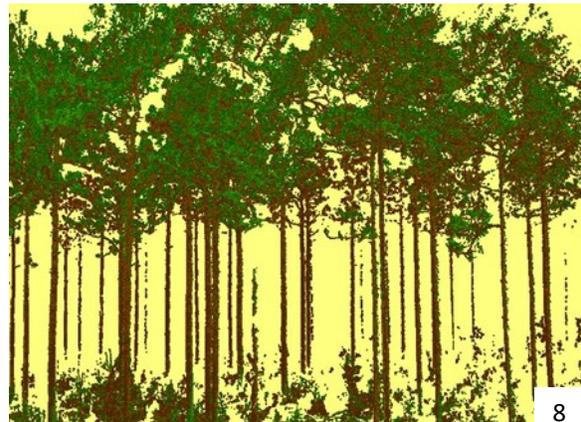
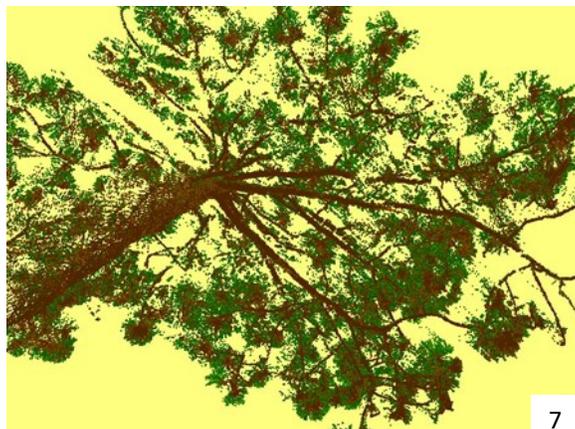
## CONSERVATION COOPERATION | continued



Photo 3: A zoomed in perspective of Photo 2, with the ground vegetation displayed in the darkest blues.



Photos 4/5/6: Pictured here are various perspectives of a forest within a single scan, using a software called CloudCompare. The colors being displayed are the original colors that were detected by the scanner. Some of these colors are misattributed, such as the canopy leaves being displayed as blue due to the blue sky background, but most of the understory vegetation coloring is accurate. The black areas are beyond the range of data collection from the laser scanner. Photos 4 and 6 are both from a first-person ground perspective, and photo 5 is from a zoomed in, oblique aerial perspective



Photos 7/8: Rather than displaying the point cloud with true colors, each point has been artificially assigned a color based on the return value's intensity.

Generally, stems are displayed in brown tones, and leaves are displayed in green tones, as these have different intensity values upon collection. Photo 7 is looking vertically up a trunk, into a single tree's canopy, with branching details clearly visible. Photo 8 is a view from the side of the scan, and is a good demonstration of canopy density.



# SANDHILLS REFUGE NEWS



Photos: USFWS



## ON THE HUNT... | NEWS & UPDATES ABOUT THE REFUGE'S HUNTING PROGRAM

This is a listing of dates for hunting opportunities in 2020-2021. Please visit the Refuge's website for the hunting regulations, permit and supplemental insert for complete information about hunting at CSNWR.

### Mourning Dove

September 10 – Field A

September 17 – Field B

September 24 – Fields A & B

Fridays during the second and third state seasons

### Woodcock & Quail

Fridays during the state season.  
The daily bag limit is two quail.

### Youth Deer

Open to all youth age 17 and under.

October 17, 2020

### White-tailed Deer

#### Archery

October 19-24, 2020

December 1-31, 2020 (excluding Sundays)

#### Primitive Weapons

October 26-31, 2020

### Modern Gun

November 5-7, 2020

November 19-21, 2020

### Rabbit

Tuesdays, Thursdays, and Saturdays during January 2021

### Raccoon/Opossum

December 7, 2020 (sunset) until 4am  
December 12, 2020

January 4, 2021 (sunset) until 4am  
January 9, 2021

February 1, 2021 (sunset) until 4am  
February 6, 2021

### Youth Turkey

Open to all youth age 17 and under.  
A Quota Permit is not required.

April 3, 2021

### General Turkey Hunt Dates

Hunt 1 – April 8-10, 2021 (Quota)

Hunt 2 – April 15-17, 2021 (Quota)

### NEW this year:

**Simplified regulations.** Many of the regulations mirror WMA regulations. However, the refuge is not a Wildlife Management Area (WMA); therefore, hunters do not need a WMA permit.

**Coyote:** Coyotes may be harvested incidental to white-tailed deer. Coyotes do not need to be physically checked at the deer check station; however, any coyotes harvested must be reported at the check station.

**Self-check-in:** Due to Covid-19, the deer check station will be self check-in for all hunts. *If you would like to send us a picture of your trophy deer for the "Wall of Fame," please e-mail your photo(s) with date of harvest, weight, # of points, and inside spread to*

[carolinasandhills@fws.gov](mailto:carolinasandhills@fws.gov).

**Map App:** visit the link below, download the PDF file on your device, and open/import into the compatible program (like Avenza). When you are on the refuge, your location will be a blue dot!

**Georeferenced Map link:** [https://www.fws.gov/uploadedFiles/CSNWR\\_GeneralHuntMap\\_Opt.pdf](https://www.fws.gov/uploadedFiles/CSNWR_GeneralHuntMap_Opt.pdf)

*Do you have a question about hunting or fishing on the refuge? Send your question(s) to [Carolinasandhills@fws.gov](mailto:Carolinasandhills@fws.gov).*

# SANDHILLS REFUGE NEWS



## OUR PLACE IN HISTORY | Naval Stores by Kay McCutcheon, FOCSNWR

Have you ever heard of the term “naval stores”? Could it be a place to buy sailors’ suits or Navy paraphernalia? Actually, the term refers to a number of products derived from the resin of coniferous (cone bearing) trees. The production of naval stores played a big part in the history of the Sandhills Region prior to the establishment of Carolina Sandhills National Wildlife Refuge.

The primary products harvested and rendered in our area included tar, pitch, turpentine, tall oil or pine oil, and terpenes. Tar and pitch were used to seal the hulls on wooden ships and sailing vessels. Tar and turpentine were applied as a weather-proofing and strengthening treatment to the rigging and sails.

Terpenes were a new term for me. Turns out: they are a diverse group of compounds with many uses, including flavoring agents particularly revered for their aromatic qualities. Terpenes are often added to food and beverage products, and occur naturally in many fruits and herbs. The pleasant, pungent odor from lemon grass, rosemary, and the skin of citrus fruits is a terpene called limonene.

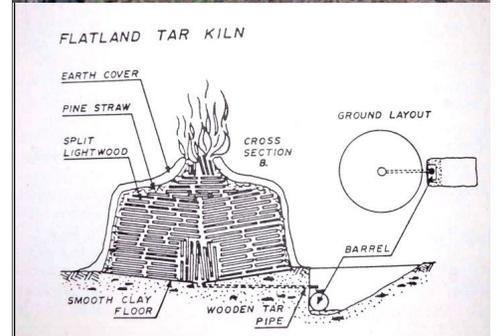
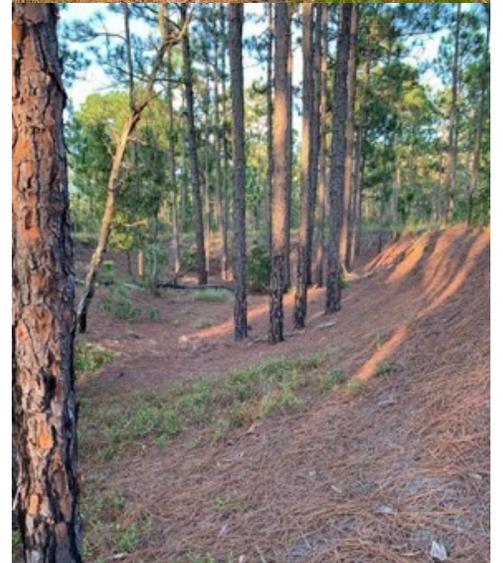
The pine tar industry in this country began in the late 1600’s or the early 1700’s. The English Crown encouraged its North American colonies to produce pine tar and pitch and to collect pine gum for shipment to England. Most of the pine tar and pitch used in England by 1725 came from the American colonies. By 1850, most of the tar and pitch produced in the United States came from the Carolinas.

A popular method for extracting pine tar or pitch was to cut directly into a living tree. These slashes were reminiscent of a “cat’s face.” Thus, the term cat face became the name for these cuts. In the Sandhills, the pitch was collected in rectangular metal cups. The forester’s office has a nice collection of these cups, called “McKoy Cups”. The slashes would continue up the tree from the base as the pitch production decreased. Many “cat face” trees can still be found on the refuge (photo, top right).

Making tar and pitch required burning “lightwood” in an earthen tar kiln or tarkel. Longleaf pines that became unproductive for making crude turpentine were often used for tar production. Locals burned the tar rich pine cores or “lightwood” – we call it fat lighter nowadays- in their homes. Workers built tar kilns to remove the tar from the lightwood. A round dirt platform was made in the forest floor and a drain was cut from the center of the kiln to the edge of the dirt platform. A pit was dug and a barrel or other container was placed to catch the tar that would collect on the platform and flow down the drain. Lightwood was cut in 3 ft. lengths and placed on the platform. It was set on fire and covered with pine straw and earth. Heat released the tar. Care had to be taken to control the intensity of the fire so that the kiln would not explode from the gases produced. Today, the remains of many tar kilns can be found in Carolina forests, including the remnants of a tar kiln on a fire break between Middle Triple Lake and S.C. Hwy. 145 (middle right photo).

The pits typically burned for over a week on one load and yielded 20 to 30 barrels of pine tar which was hauled by wagon or rail cars to the nearest distillery where it was converted into turpentine. The earthen kilns were cleaned out after each use and re-used as long as there was enough lighter wood in the area for another load. The illustration (below right) depicts a typical tar kiln.

It is truly fascinating to learn about the history of the Sandhills region and the many ways that the inhabitants of this area were able to eke out a living in an area that was not very attractive for farming or other endeavors. It is also amazing to realize just how important the longleaf pine was to their survival both in the naval stores industry and the production and harvesting of timber products. I once had a friend tell me that the Sandhills weren’t good for anything but pine trees and peach orchards. I’ll take those two any day.



Photos courtesy Kay McCutcheon, used with permission.

# SANDHILLS REFUGE NEWS



All photos courtesy Kay McCutcheon, used with permission.



**WILDLIFE WORKERS** | Volunteer Kay McCutcheon by Lyne Askins

Many of you know Kay McCutcheon from church, community activities, the peach farm, volunteer work with the Friends group, or maybe even from her days as a Park Ranger with the U.S. Fish and Wildlife Service. I've known Kay for 26 years now and count her among one of my dearest friends. I first met Kay when I came to Carolina Sandhills NWR in 1994 as a volunteer! She mentored me and helped me navigate those early years as a new manager. She visited me in Florida and cared for my three month old son (Zach) for two weeks when I had to return to work after maternity leave. Always willing to help out, she has volunteered for public outreach events and projects throughout the southeast. She truly has been a "ride or die" friend and I am honored to feature her in this edition of **Sandhills Refuge News**.

I know you retired from the FWS after an amazing career. Tell our readers about it. *I began my career with USFWS in March, 1972 as an eighteen-year-old part time clerk typist while attending Chesterfield Marlboro TEC (now Northeastern TEC). I worked part time for 5 years before finally landing a full time gig. For the first 20 years of my career, I served as an office administrator/manager and handled all admin, payroll, finance, & budgeting duties as well as typist/compiler for most administrative & management reports. Because of my interest in all aspects of refuge operations, I constantly asked questions and begged to tag along on field operations. Eventually, I took on all environmental education and many public use management duties in addition to my admin responsibilities. In the mid 90's my diligence was rewarded when I was able to successfully convince regional managers that a public use position at Carolina Sandhills NWR was warranted and I applied for and was selected for the position. I served as a park ranger at CSNWR until my transfer to Santee NWR in 2000 in the same position. While at Santee NWR, I served on numerous region wide public use task forces and special initiatives. This included one of the highlights of my career when I was tasked with managing over 190 exhibits at Pelican Island NWR from all over the United States at the March, 2003 Refuge System Centennial celebration. Also throughout my FWS career, I worked with the SC Wildlife Federation to provide volunteer partnerships with S.C. Refuges via numerous SCWF volunteer workdays. Carolina Sandhills Refuge and SCWF have jointly hosted a volunteer workday on our refuge for over 20 years.*

You've had several careers since FWS – what are they and how did your career with FWS prepare you for these opportunities? *Well – I absolutely love to work so I don't anticipate ever being truly "retired". My post retirement jobs include: census enumerator for 2010 census in Clarendon County, leading field trips to strawberry and pumpkin patch at McLeod Farms, library assistant at Coker University (two different occasions), and every job imaginable at McLeod Farms (marketing, sales, gift pack manager, gopher, real estate title researcher, shipping clerk, packhouse sales, and working in the packhouse). Throughout my career with USFWS, I was tasked to fill in many different capacities including a period when our refuge manager was very ill so I think my FWS work taught me to trust my instincts and not be afraid to tackle challenging situations.*

How did you get involved with the Friends of CSNWR? *I joined the CSNWR friends organization before I retired in 2008 and have been a volunteer for the refuge since well before I retired.*

Continued on next page

To follow Kay and her interpretations and explorations of the Carolina Sandhills NWR, join our Facebook page at <https://www.facebook.com/groups/carolinasandhillsfriends>



## SANDHILLS REFUGE NEWS



All photos courtesy Kay McCutcheon, used with permission.



**WILDLIFE WORKERS** | CONTINUED FROM PREVIOUS PAGE

What is your favorite Friends activity or event? *Although I dearly love working on prep for the annual Youth Fishing Day and seeing the joy on those kids' faces when they catch their first fish, I really think my favorite Friends activity is the volunteer workday with SCWF. I will always love getting dirty and just doing something physical to help the refuge staff with management and maintenance projects.*

How many miles have you logged and what is your favorite walk and why? *I didn't start using my Runkeeper until around May 10<sup>th</sup> so I can only guesstimate for the period between March 20<sup>th</sup> and early May, but through Thursday, July 23<sup>rd</sup>, I've logged just a little over 700 miles.*

*My favorite walk originates from the upper side of Oxpen Loop Road via RT 2E, RT 2A, RT 2C, RT 8, back onto RT 2A and looping back to the beginning (usually with a walk around the Oxpen Loop at the beginning or end of the walk). Because: it's a nice long walk (6+ miles, mostly sand dirt roads, some challenging hills, with gorgeous sunrise views, nice natural springs, and really nice overall landscape views. I also have seen several deer, turkey, and rabbits on this route along with seeing and hearing a variety of songbirds. The entire Oxpen Area is special to me and my favorite view of the refuge's rolling landscapes are found on RT 8 near RT 2.*

What is your favorite place on the refuge? *As crazy as it sounds – all of RT 11 because it just seems so far removed from civilization and it is an area that I really feel "one with nature". Not to mention, the fact that as a 67 year old I have been able to climb all of those incredibly long, challenging hills at least twice is a tremendous source of pride for me.*

You've been a part of the refuge for many years. How has the refuge changed over the years? *Refuge facilities, especially public use facilities are both well-built and well maintained and do a wonderful job of conveying the "Refuge Story" to the visiting public. I also find that locals seem to have a closer connection to the refuge and appreciate its value more than was evidenced 20-30 years ago.*

If someone had only 2-3 hours to spend on the refuge, where would you send them? *If they planned to mostly drive, I'd say the wildlife drive including a loop around the Oxpen Area (or wildlife drive and Mays Lake Loop). For those who want to take the time to walk on the refuge, I'd also recommend RT 5 from the Wildlife Drive, crossing Hwy. 145 and continuing on to the intersection with RT 8.*

What is the best kept secret about Carolina Sandhills NWR? *From someone who loves every inch of the refuge, my first thought is "all of it". But based on my recent obsession to walk all of the refuge roads and trails, the most overlooked element of the refuge is without a doubt, the beautiful landscapes created by the combination of rolling sandy hills and the towering longleaf pines. Until you walk the refuge a bit, you can't imagine how much habitat variation there is because of the changes in the topography and elevations.*

Now, tell me a little bit about yourself: *I was born and raised in the Lake Robinson area of Chesterfield County near the Darlington County line. I graduated from McBee High School and Chesterfield Marlboro TEC. Unfortunately, John, my husband of 30 years, passed away in 2008 just before I was eligible to retire. My daughter Kati Cook is an RN at McLeod Hospital in Dillon, SC and she gave me the glorious gift of two grandsons (Nicholas 16 and Sawyer 11). I love to read, to cook and share with friends and family, to share my love of the outdoors with my young relatives and friends, and I really love to travel. I had just returned from a 10- day trip to Ireland in late January when the pandemic hit and I can't wait until I'm safely able to begin new explorations.*

# WILL'S WILDFLOWER SPOTLIGHT

by Will Stuart

By early August signs of summer's end are widespread in the Carolina Sandhills NWR. Brightly colored goldenrods emerge in fields and beneath the longleaf pines, often accompanied by "bonesets" or thoroughworts (*Eupatorium* species), tall, branching members of the aster family with numerous small white flowers usually in flat-topped clusters. Goldenrods and bonesets are followed by "blazing stars" (*Liatris* species) with tall, slender spires of pale purple blossoms that attract butterflies and metallic-colored bees. My favorite species of *Liatris*, common along Wire Road, has pure white flowers, most arranged on one side of a tall stem (photo 1). Late-blossoming Ironweeds (*Vernonia* sp.) often persist into August. In combination they transform the longleaf landscape into a watercolor of gold, white, and purple. And the autumn wildflower show has only begun.

Autumn wildflowers peak in September and October. Purple false foxglove, (*Agalinis fasciculata*), a species that grows in fields and along field margins, produces masses of flowers more pink than purple (photo 2). By mid-September thousands of deep pink blooms line roads and fill fields above Oxpen Lake. I enjoy watching as bumblebees crawl in and out of tube-shaped flowers (which also attract butterflies) but I am sure to arrive by mid-morning as most blossoms wilt by mid-day.

September is peak bloom for a variety of sandhills fall asters that crop up through the pine straw and along forest roads. Asters, like daisies and sunflowers, are composite flowers. Each blossom is an assemblage of ray flowers with a single colorful petal surrounding a central compact disc of tiny flowers without petals. Ray flowers attract pollinators while little disc flowers blossom in succession, a few each day, ultimately producing seeds. Several "golden-asters", the color of sunflowers but smaller, are common on the refuge (photo 3). Maryland Golden-asters are slender and erect while Cottonleaf Golden-asters are low and spreading with leaves covered in "cottony" fine hairs. Several blue aster species blossom from early to late autumn (photo 4). Eastern silvery-asters pack blossoms into showy, dense spires and at a distance look like light blue blazing stars. Walter's asters are easily identified by hundreds of tiny triangular leaves along slender stems that tend to spread and sprawl, the stems and leaves staying green well into winter. A third common blue aster is the spruce or stiff aster with slender, bristly, "bottle-brush" leaves. Flowers of each of these blue asters have pale to deep purple rays surrounding bright yellow centers. A sandhills outing to find and examine fall asters with a 10x hand lens or magnifying glass can be an entertaining family activity.

Bees and butterflies love sandhills chaffhead (*Carphephorus bellifolius*, photo 5). When I see this wildflower in blossom I stop and watch, knowing pollinators will flock to the masses of fluffy purple flowers. Sandhills chaffhead is one of many sandhills species more frequently found in compartments burned earlier in the year. Last October a two-lane west of Lake Bee was lined with *Carphephorus* attracting Gulf Fritillaries, Monarchs, and Silver-spotted Skipper butterflies. (Continued on next page)

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1



2



3



4



5



Did you know that the Friends of Carolina Sandhills NWR has a Facebook page? Follow this link to keep up with the latest refuge and Friends' group happenings. <https://www.facebook.com/groups/carolinasandhillsfriends>



## WILL'S WILDFLOWER SPOTLIGHT | continued

A late-blooming wildflower, the pine barrens gentian (*Gentiana autumnalis*), is the crown jewel of sandhills wildflowers (photo 6). Blossoms are an unmistakable deep blue with five fused petals unfurling from a spiral bud at the tip of a short, slender stem. Leaves are grass-like, curved, and few-in-number and the 12-18-inch tall plant tends to recline or lean on neighboring vegetation. As with other gentians, this gentian is sun-loving. Pine barrens gentians will not open on cool, cloudy days. Flowers gradually close for the night as early as 4 pm each afternoon and re-open the following morning if the sun is shining.



6

While the fall wildflowers are the “stars of the show”, I take time to admire the supporting cast, the grasses, ferns, shrubs, and trees that add immeasurably to sandhills fall color. Tall plume grasses and drooping purple-tops (*Tridens flavus*) decorate pool margins. Cinnamon ferns in seepages and streamheads develop a rich, golden color. Leaves of sourwood trees turn bright red as do the masses of titi shrubs that border most of the pools. Mitten-shaped leaves of sassafras trees turn shades of orange. Fruits on dogwood trees ripen to a bright red, attracting thrushes, pine warblers, and other birds that will enthusiastically strip fruits from the trees. Red maples decorate canebrakes and pool margins where deep blue fruits of black gum trees and inkberry hollies contrast with bright red fruits of coral greenbriers and red chokeberries (photos 7, 8, and 9).



7

All plants share a common and not-so-hidden agenda, to produce as many seeds as possible and to distribute those seeds across the landscape. For many plant species, bright fall colors are part of that plan. Bees, butterflies and birds are part of the plan. Fox squirrels and northern bobwhite give seeds legs. You and I are part of the plan when we return from a hunt or a fall hike covered with beggar’s lice.



8

If you want to learn more about these special sandhills plants, Bruce Sorrie’s book on [Wildflowers of the Sandhills Region](#), available on Amazon, is an excellent source.

To see more of Will’s photography, the following books are also available on Amazon: [The Southeastern Native Plant Primer: 225 Plants for an Earth-friendly Garden](#) by Larry Mellichamp and Paula Gross with photography by Will Stuart and [Native Plants of the Southeast: A Comprehensive Guide to the Best 460 Species for the Garden](#) by Larry Mellichamp with photography by Will Stuart.



9

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### PLEASE TAKE TIME TO RENEW YOUR MEMBERSHIP

Name: \_\_\_\_\_  
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Individual - \$15    Family - \$25    Lifetime - \$250    Corporate - \$500

**Tear off & mail (with your payment) to: Friends of Carolina Sandhills NWR,  
23734 US Hwy 1, McBee, SC 29101**





## BIRDS EYE VIEW | Dr. Shawn Smolen-Morton, FOCSNWR

### Fall Migration Through the Sandhills: the Palm Warbler (*Setophaga palmarum*)

Managing the Carolina Sandhills National Wildlife Refuge for critical species like the Red-cockaded Woodpecker and Northern Bobwhite benefits many creatures, including a diverse group dubbed “through” or “passage” migrants. Waterfowl, seabirds, and many songbirds breed north of our region, some as far as the arctic tundra and travel through the sandhills to southern wintering grounds. Among all of the avian families, songbirds are our most frequent visitors: flycatchers, thrushes, warblers, blackbirds, and sparrows.

The Refuge’s longleaf pine forest, grasslands, seepages, ponds, and scrubby habitats provide food (seeds, fruit, and insects) and shelter for these birds, and a few of them linger for days or weeks to rest and gain weight.

For most passage migrants, fall migration begins in late August and extends into early January, varying by species and peaking between late September and the end of October. Their destinations include the coastal United States just south of the sandhills, the Caribbean, and South America.

In general, migrating songbirds are difficult to spot because they do not want to be spotted! In the fall, they tend to be quiet and drab, cloaked in browns and greys. Hawks, falcons, and shrikes prey on passage migrants. The Merlin (a small, brown falcon) and the Sharp-shinned Hawk (small, blue-grey above and rusty-orange below) follow passage migrants as a food source.

#### The Palm Warbler: the Migrant You Can See

The Palm Warbler’s official names poorly describe this tiny, nimble creature. They have no affinity for palms and are not closely related to the old world warblers, for which they were named. Long placed in the genus *Dendroica* (meaning “tree dweller”) and recently moved to the genus *Setophaga* (“moth eater”), the Palm Warbler spends most of its time on the ground, including nesting, and does not hunt moths. A forgotten but popular name from New England is the most apt: Tip-up Warbler, describing how these birds constantly pump or wag their tails.

In the fall, the Palm Warbler is the most abundant and conspicuous passage migrant on the Refuge. They breed in the Canadian boreal forest and winter regularly from the southern Carolina coast throughout the Caribbean and along Central America’s eastern coast. In warm winters, a few Palm Warblers may remain in the sandhills or the upper coastal plain. Observers on the Refuge can expect to find small numbers of Palm Warblers from mid-October through November with a peak usually in late October. They may be alone or in a flock of songbirds. A high count of 18 Palm Warblers was reported on 10 October 2010 for the Refuge. By the third week of December, the Christmas Bird Count records low numbers and only for 14 of the last 39 years. Their diverse diet includes many small insects and berries, allowing them to winter farther north than their congeners, with the exception of the Yellow-rumped Warbler.

A slender songbird, the Palm Warbler looks something like a skinny sparrow with a small, sharp bill. It is fairly easy to spot with the naked eye because Palm Warblers favor open habitats, forage in flocks, and allow close approach. Habitually wagging its tail, it hops energetically over the ground and inspects small objects with curiosity.

In the fall, almost all Palm Warblers in South Carolina will appear light grey overall. A nearly white eyebrow makes the head looked capped and a darker, vague bar runs from the bill through the eye, setting off a dirty grey face. The breast is marked more or less with indistinct, grey streaks. Some Palm Warblers will have a light yellow wash, often uneven, over the underparts, but some yellow always brightens the undertail.



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