

South Carolina Department of Natural Resources

Board Meeting Agenda and Materials and Monthly Division Reports



DNR

**Board Meeting Scheduled
for**

Rembert C. Dennis Building, RM 335
1000 Assembly Street
Columbia, SC 29201
September 16, 2021 10:00 AM

Agenda

AGENDA
SC DEPARTMENT OF NATURAL RESOURCES BOARD

Rembert C. Dennis Building, RM 335
1000 Assembly Street
Columbia, SC

September 16, 2021 10:00 AM

Members of the public may only participate virtually

<https://scdnr2.webex.com/scdnr2/j.php?MTID=mff96749470948314b361ecea5e7c7bd5>

Telephone: 1-844-992-4726
Access Code: 2634 112 3628##

- I. Call to Order..... Mike Hutchins, Vice Chairman, SC DNR Board
- II. Videoconference Guidelines..... Valerie Shannon, Facilitator
- III. Invocation
- IV. Pledge of Allegiance..... Mike Hutchins, Vice Chairman, SC DNR Board
- V. Chairman's Comments
- VI. Introduction of GuestsKen Rentiers, Deputy Director for Land, Water and Conservation
- VII. Constituent Comments (Comments are limited to 5 minutes) Ken Rentiers
- VIII. Introduction of Staff
- IX. Approval of Minutes from August 19, 2021 meeting
- X. Presentations/Commendations
- XI. Advisory Committee Reports
 - A. Wildlife and Freshwater Fisheries Mike Hutchins, Chairman
 - B. Governor's Cup Billfishing SeriesJ. Carlisle Oxner, III, DNR Board Representative
- XII. Item(s) for Board Information
 - A. Climate Update..... Hope Mizzell, Land, Water and Conservation Division
- XIII. Director's Briefings
 - A. Executive OfficeRobert H. Boyles, Jr., Director
 - 1. Legislative Report..... Kevin R. Ryan, Director, Government Affairs
 - 2. Environmental Report..... Lorianne Riggin, Director, Office of Environmental Programs
 - B. Deputy Directors' Reports
 - 1. Marine Resources.....Phil Maier
 - 2. Administration.....Angie Cassella
 - 3. Land, Water and Conservation Ken Rentiers
 - 4. Wildlife and Freshwater Fisheries Emily Cope
 - 5. Law Enforcement..... COL Chisolm Frampton

XIV. Item(s) for Board Action

- A. Proposed Changes to Regulation Sections 123-204
Additional Regulations Applicable to Specific Properties Emily Cope
Deputy Director for Wildlife and Freshwater Fisheries
- B. Proposed Additions to DNR Regulations Related to Marine Resources..... Kevin Ryan
- C. Approval of State Lakes Regulations Ross Self
Wildlife and Freshwater Fisheries Division
- D. Regulation 123-40 Wildlife Management Area Regulations Billy Dukes
Wildlife and Freshwater Fisheries Division
- E. Regulation 123-96 – Field Trial Regulations Billy Dukes
- F. Conservation District Commissioner Appointments/Reappointments..... Ken Rentiers
Deputy Director for Land, Water and Conservation
- G. Land, Water and Conservation Advisory Committee Appointments Ken Rentiers
- H. Property Acquisition in Greenville County Ken Prosser
Assistant Deputy Director, Wildlife and Freshwater Fisheries
- I. Property Acquisition in Horry County Ken Prosser

XV. Executive Session (if necessary)

XVI. Comments..... Board Members

XVII. Time and Location of Next Board Meeting..... Board Members

XVIII. Adjournment

Minutes

Minutes
Board of the South Carolina Department of Natural Resources
Rembert C. Dennis Building, RM 335
1000 Assembly Street
Columbia, SC
August 19, 2021 10:00 AM

The regular meeting of the Board of the South Carolina Department of Natural Resources was held at 10:00 a.m., August 19, 2021. Notice of the date, time and place of the meeting was posted and mailed to the news media. Chairman Norman Pulliam presided at the meeting. Board members present included Dr. Mark Hartley, Mike Hutchins, Jerry Lee, Carlisle Oxner, Jake Rasor, Jr. and Duane Swygert. Director Boyles and staff members of the Department of Natural Resources were present at the meeting.

- I. **Call to Order**
Chairman Norman Pulliam called the meeting to order and welcomed everyone to the meeting.
- II. **Invocation**
Chaplain Eric Skidmore, SC Law Enforcement Assistance Program (SC LEAP), offered the invocation.
- III. **Pledge of Allegiance**
Mr. Hutchins led the group in the Pledge of Allegiance.
- IV. **Chairman's Comments**
Chairman Pulliam welcomed and thanked Board members and staff for their work on the upcoming budget request.
- V. **Introduction of Guests**
Angie Cassella, Deputy Director for Administration, introduced Riley Egger, SC Coastal Conservation League.
- VI. **Constituent Comments**
Mrs. Cassella informed the Board that Ms. Egger has requested to make comments to the Board. Ms. Egger's comments were regarding shorebird protection.
- VII. **Introduction of Staff**
Mary Lucas, Chief Information Security Officer, introduced Elise Nickoli. Ms. Nickoli has been recently hired as a compliance officer and will be in the Legal Office.
- VIII. **Approval of Minutes**
Chairman Pulliam asked if there were any additions, deletions or corrections to the June 17, 2021 meeting minutes or July 15, 2021 workshop minutes. *Mr. Lee made a motion that the Board approve the minutes of the June 17, 2021 meeting and July 15, 2021 workshop as presented. Mr. Swygert seconded the motion and the motion carried unanimously.*
- IX. **Presentations/Commendations**
Director Boyles commended DNR staff for their efforts in coordination of the acquisition of the May Forest property adjacent to the Marine Center. He shared with the Board a

letter from Sister Mary Joseph Ritter, OLM, of the Sisters of Charity of Our Lady of Mercy expressing their gratitude for making the sale of their property so successful.

Director Boyles commended Chris McDonough of Marine Resources for his efforts in preparation and coordination of the SCDNR CARES Round 2 Fisheries Assistance Program (2021) Funding Proposal which involved a lot of hard work in submitting SCDNR's spending plan to ASMFC for distribution of the second round of COVID relief funding for SC commercial fisheries.

Director Boyles commended Amy Dukes, Eric Hiltz, Julie Dingle and Elizabeth Gooding, and all the staff of the Fisheries Statistics Section of Marine Resources for their years of hard work on electronic reporting and their diligence in implementing this program in a way that has garnered the trust of the fishermen themselves. Their efforts will be a huge help in eventually allowing us to bring all such reporting into the 21st century with better timeliness, accuracy and compliance for these essential data components for fisheries management.

Director Boyles commended Brooke Myres and Deanne Myrick of Land, Water and Conservation for their work in coordinating the South Carolina Envirothon competition. Director Boyles met with the State-winning Envirothon team from Spartanburg High School and spoke to the group and wished them well as they participated in the virtual National Conservation Foundation Envirothon competition. The State Envirothon Team representing Spartanburg High School placed third in the nation during the National Competition.

Director Boyles commended Joe Lemeris of Wildlife and Freshwater Fisheries and Tanner Arrington of Administration for their hard work that led to our Natural Heritage Program being recognized by Esri at their user conference with a Special Achievement in GIS award for the environment and natural resources industry.

Director Boyles commended Captain Michael Paul Thomas and the Region 4 Law Enforcement Officers for their efforts during the 4th of July holiday weekend and snapper season. Their efforts were recognized in an email from LT Nikki Corbett, Chief, Enforcement Division, USCG Section Charleston, who expressed the US Coast Guard's thanks and appreciation and included a note "many thanks to Captain Thomas, LT Godowns and all the DNR officers for their phenomenal work."

Director Boyles commended SSGT Scott Stephens, LT Dennetta Dawson, Paula Mills and Mary Anna Mayson of Law Enforcement Hunter Education for their work in coordinating the SCDNR Ladies Shotgun Clinic event and other outreach opportunities.

Director Boyles commended Valerie Shannon of the Executive Office, Joey Frazier of South Carolina Wildlife magazine and the Law Enforcement Region 3 Officers for their efforts in the Sportsman's Warehouse sponsored "Maintain the Terrain" clean-up on the Congaree River and surrounding areas in part of the Riverfront Parks in downtown Columbia. Sportsman's Warehouse sponsored the event for its employees as a "thank you" and show of support to the SCDNR Law Enforcement Division and a tribute to the men and women in green for their efforts in preserving the beauty of SC's natural resources.

Director Boyles commended Kevin Ryan of the Executive Office and LT Andrew Godowns, LCPL Ben Whaley and LCPL Willie Ladue of Law Enforcement for arranging and supporting a field briefing for Congresswoman Nancy Mace and her Washington and District staff to discuss the Crab Bank Shorebird project and other conservation issues in the 1st Congressional District.

Director Boyles commended Julie Jarrett and her staff in the Boat Titling and Registration Office who were recognized in an email from Will Grimsley, MG, US Army (Ret), Secretary of Veterans' Affairs, who visited the State Farmers Market to update his address and noted that "the customer service was exceptional-not just with me but the few people in line ahead of me with each of the representatives was so efficient, personable, and professional."

Director Boyles commended the Law Enforcement Dive Team for their commitment and dedication in recent search and recovery operations including a successful search and recovery operation on Lake Monticello in Fairfield County, a recovery operation in Georgetown County and in Horry County along with their other daily activities.

X. Advisory Committee Reports

A. Wildlife and Freshwater Fisheries

Mr. Hutchins reported that the Wildlife and Freshwater Fisheries Advisory Committee met on June 24, 2021 in Columbia. Mr. Hutchins announced the appointment of Mr. William (Sam) L. Hiott, Jr., and the reappointment of Mr. Q. Stanford Halliday III, as well as the reappointment of Mr. Cleveland T. Smith, D.M.D., to the Committee. The Advisory Committee received presentations on the new interactive digital fish-stocking dashboard and the findings on WMA hunters in South Carolina. The Advisory Committee received updates on the Barnwell Hatchery renovation, coyote harvest trends and electronic harvest reporting (tele-check) and legislation.

B. Marine

Mr. Swygert reported that the Marine Advisory Committee met June 25, 2021 in Charleston. The Advisory Committee received reports on SC DNR Oyster Management, Black Gill in White Shrimp and MRD Volunteer Programs.

C. Heritage Trust

Mr. Rasor reported that the Heritage Trust Advisory Board met August 12, 2021 in Columbia. The Advisory Board welcomed new members Norris Thigpen, SC Department of Commerce and Rob Keck, Gubernatorial Appointee for District 3. The Advisory Board approved several potential property acquisitions and donations. The Advisory Board approved the FY 2023 budgets, as presented. The Advisory Board received an update on the Cultural Preserve Management Program.

D. Land, Water and Conservation

Ken Rentiers, Deputy Director for Land, Water and Conservation, reported that the Land, Water and Conservation Advisory Committee met August 17, 2021 at Wampee Plantation. The Advisory Committee received updates on division activities, environmental programs, Berkeley Blueways and Envirothon. The Advisory Committee approved Conservation District Commissioner

Appointments/Reappointments that will be brought to the Board at a future meeting.

IX. Items for Board Information

A. Climate Update

Hope Mizzell, Land, Water and Conservation Division, reported on recent temperatures and rainfall due to Tropical Depression Fred. Dr. Mizzell provided rainfall totals, precipitation percentiles, streamflow, lake levels, groundwater monitoring wells around the state, the status of the 2021 hurricane season, precipitation forecast and temperature forecast.

B. Coyote Harvest Updates and Trends

Jay Butfiloski, Wildlife and Freshwater Fisheries Division, presented updates on coyote harvest trends and provided insight on harvesting methods, requirements, and reporting. Coyote harvest numbers for the previous year are trending downward but are expected to stabilize.

C. SC DNR Coastal Beaches Survey

Blaik Keppler, Marine Resources Division, presented the results of the recent SCDNR Coastal Beaches Survey. The survey captured the following information: which SCDNR Beach is visited most often, number of people in the group, what time of year, reason for visiting, bring a dog, the number of people seen on the beach, what is liked most about visiting that beach, dislikes, perceived threats, interest in protecting sea turtles and shorebirds and support of management for the protection of wildlife. Emily Cope, Deputy Director for Wildlife and Freshwater Fisheries, distributed draft recommendations for changes to Regulation Sections 123-204 to protect wildlife at beaches owned and managed by SCDNR for the Board to review prior to next month's meeting.

D. Legal Update

This item was deferred until executive session.

X. Director's Briefings

Director Boyles participated in the Environmental Awareness Award Ceremony honoring Jane Hill, the 2020 recipient and other nominees.

Director Boyles, Kevin Ryan and Law Enforcement staff participated in a boat tour of Crab Bank with Congresswoman Nancy Mace and her staff.

Director attended the annual American Sportfishing Association ICAST Trade Show in Orlando, FL.

XI. Legislative Report

Kevin Ryan, Director of Government Affairs, distributed and reviewed the draft bill for the Conservation and Antiquities Act. Mr. Ryan also discussed the possibility of non-recurring funding for the budget through the Savannah River Site Settlement and the American Rescue Plan.

XII. Environmental Report

No further report.

XIII. Deputy Directors' Reports

A. Administration

No further report.

B. Land, Water and Conservation

Ken Rentiers, Deputy Director for Land, Water and Conservation gave the Board a brief update on water planning efforts.

C. Wildlife and Freshwater Fisheries

No further report.

D. Law Enforcement

COL Frampton gave a brief update on the current class of officers and where they are in the interview process for a new class.

E. Marine

Ms. Keppler reported on the recent retirement of Mike Denson and Wally Jenkins.

XIV. Item(s) for Board Action

A. Approval of FY 2023 Heritage Trust Budget

Mr. Rentiers briefly reviewed the FY 2023 Heritage Trust Budget, as included in the meeting packet. *Mr. Hutchins made a motion that the Board approve the FY 2023 Heritage Trust Budget as approved and recommended by the Heritage Trust Advisory Board. Mr. Oxner seconded the motion and the motion carried unanimously.*

B. Approval of FY 2023 Budget Request

Director Boyles reviewed, by priority, the FY 2023 Budget Request, as provided to Board members on August 13, 2021. At priority number 8 and 12, Law Enforcement Class, the Board discussed increasing the number of officers requested to 25. *Mr. Oxner made a motion that the agency increase the request for the number of officers from 15 to 25. Mr. Hutchins seconded the motion. The motion failed with Dr. Hartley, Mr. Lee, Mr. Rasor and Mr. Swygert voting against the motion and Mr. Hutchins and Mr. Oxner voting in favor of the motion. The Board held further discussion of the request. Dr. Hartley made a motion that the Board affirm the priority order as appropriate and approve the FY 2023 DNR Budget Request as presented and recommended by staff. Mr. Swygert seconded the motion and the motion carried unanimously.*

C. Approval of Deletion of Policy #200.01 (Duck Stamp Distribution)

Angie Cassella, Deputy Director for Administration, reminded the Board that the General Assembly passed legislation to sunset the Duck Stamp Program, therefore Policy #200.01 is no longer necessary. *Dr. Hartley made a motion that the DNR Board approve the deletion of SCDNR Policy #200.01 regarding Duck Stamp Distribution. This policy is no longer necessary as legislation to sunset the program was passed by the General Assembly in 2020 in Act No. 152. Mr. Rasor seconded the motion and the motion carried unanimously.*

D. Approval of Update of Policy #400.01 (Request to Use or Acquire Real Property Under the Jurisdiction of SCDNR)

Ken Prosser, Assistant Deputy Director for Wildlife and Freshwater Fisheries, reviewed the proposed updates to Policy #400.01 (Request to Use or Acquire Real Property Under the Jurisdiction of SCDNR), as included in the meeting packet. *Mr. Oxner made a motion that the DNR Board approve the update to Policy #400.01 (Request to Use or Acquire Real Property Under the Jurisdiction of SCDNR) as presented by staff. Mr. Hutchins seconded the motion and the motion carried unanimously.*

E. Approval of Expenditure of Funds from Twelvemile Creek Mitigation Trust Fund

Ross Self, Wildlife and Freshwater Fisheries Division, reviewed the request for approval of expenditure of funds from Twelvemile Creek Mitigation Trust Fund, as included in the meeting packet. *Mr. Lee made a motion that the DNR Board approve the expenditure of \$799,817.49 from the Mitigation Trust Fund of South Carolina, South Carolina Recreational Fishing Compensation Plan Funds, Lake Hartwell PCB Settlement, to implement Twelvemile Creek stream restoration projects through Naturaland Trust, as recommended by staff. Mr. Rasor seconded the motion and the motion carried unanimously.*

F. Approval of 2021-22 Duck Stamp Budget

Mrs. Cope reviewed the proposed 2021-22 Migratory Waterfowl Budget, as included in the meeting packet. *Dr. Hartley made a motion that the DNR Board approve the FY 2022 Migratory Waterfowl Budget as requested by staff. Mr. Oxner seconded the motion and the motion carried unanimously.*

G. Deer Hunting with Dogs

COL Frampton referred to the information included in the meeting packet regarding the Law Enforcement Advisory Committee Deer Hunting with Dogs Assessment and Georgia's Deer Dog Hunting Law. The Board then discussed some possible recommendations. *Mr. Hutchins made a motion that the DNR Board direct staff to work with legislators on crafting legislation to address the deer hunting with dogs issue. Mr. Oxner seconded the motion. The motion carried with Dr. Hartley, Mr. Hutchins, Mr. Oxner, Mr. Rasor and Mr. Swygert voting in favor of the and Mr. Lee voting against the motion.*

XV. Executive Session

Dr. Hartley made a motion that the DNR Board go into executive session pursuant to SC Code Section 30-4-70(A)(2) to receive a legal update related to Item(s) for Board Information (D) and to discuss contractual matters related to Item(s) for Board Action (H, I and J). Mr. Rasor seconded the motion and the motion carried unanimously.

XVI. Open Session

Dr. Hartley made a motion that the DNR Board return to open session, noting that no action was taken during executive session. Mr. Rasor seconded the motion and the motion carried unanimously.

XVII. Items for Board Action

H. Approval of Potential Property Donation in Charleston County

Mr. Rasor made a motion that the DNR Board accept the recommendation, as approved by the Heritage Trust Advisory Board, to investigate a potential property donation of approximately 7.62 acres adjoining Fort Lamar Heritage Preserve that would be dedicated as a heritage preserve and placed into the corpus of the SC Heritage Trust and the expenditure of up to \$20,000 of Heritage Trust funds for associated due diligence activities. Mr. Oxner seconded the motion and the motion carried unanimously.

I. Approval of Potential Property Acquisition in Horry County

Mr. Lee made a motion that the DNR Board accept the recommendation, as approved by the Heritage Trust Advisory Board, and grant preliminary approval to evaluate the potential purchase of approximately 418 acres adjoining Cartwheel Bay Heritage Preserve/WMA in Horry County that would be dedicated as a heritage preserve and placed into the corpus of the SC Heritage Trust, and the expenditure of up to \$20,000 in Heritage Trust funds to conduct due diligence activities. Dr. Hartley seconded the motion and the motion carried unanimously.

J. Approval of Potential Property Acquisition in Horry County

Mr. Hutchins made a motion that the DNR Board accept the recommendation, as approved by the Heritage Trust Advisory Board, and grant preliminary approval to evaluate the potential purchase of approximately 1,660 acres adjoining the Waccamaw River Heritage Preserve/WMA in Horry County that would be dedicated as a heritage preserve and placed into the corpus of the SC Heritage Trust, and the expenditure of up to \$20,000 in Heritage Trust funds to conduct due diligence activities. Mr. Rasor seconded the motion and the motion carried unanimously.

XVIII. Time and Location of Next Board Meeting

The Board's next meeting is scheduled for September 16, 2021 in Columbia.

XIX. Adjournment

Mr. Hutchins made a motion that the meeting be adjourned. Mr. Oxner seconded the motion and the motion carried unanimously.

Item(s) for
Information



SC GOVERNOR'S CUP BILLFISHING SERIES 2022 SCHEDULE

- | | |
|--------------|---|
| May 11 – 14 | Bohicket Marina Invitational Billfish Tournament
Contact: Beau Anderson
1880 Andell Bluff Blvd
Johns Island, SC 29455
(843) 768-1280
marinamanager@bohicket.com |
| May 25 – 28 | 54 th Annual Georgetown Blue Marlin Tournament
Contact: Ed Keelin
P. O. Box 1704
Georgetown, SC 29442
(843) 546-1776, FAX (843) 546-7832
ed@georgetownlandingmarina.com |
| June 22 - 25 | Carolina Billfish Classic
Contact: Loyd Weston
24 Patriots Point Road
Mt. Pleasant, SC 29464
(843) 568-5230
td@fishcbc.com |
| July 20 – 23 | Edisto Invitational Billfish Tournament
Contact: Brian Bell
3702 Docksite Road
Edisto Beach, SC, 29438
(843) 631-5055, FAX (843) 631-5065
bkbell2009@gmail.com |

Item(s) for Action

Changes to Regulation Sections 123-204

Executive Summary

The following regulation changes and updates are made to protect wildlife at beaches owned and managed by SCDNR and to prescribe uses of bicycles and other non-motorized conveyances at the Jim Timmerman Natural Resources Area at Jocassee Gorges to prevent trail damage and erosion and protect sensitive plant species. The proposed beach regulations prohibit dogs, allow designated camping areas, where appropriate, and standardized the camping period. The beaches addressed here provide critical nesting, feeding, and stopover sites for multiple imperiled seabird and shorebird species, sea turtles, and other wildlife. Loss of required habitat coupled with constant disturbance places these species at risk. Disturbance in these areas by humans and dogs is known to cause nest and colony failure, which contributes to declines in populations of these species. These regulations minimize disturbance and help to ensure that conservation efforts for these species are successful. SCDNR recognizes the popularity of these beaches and will continue to allow public use at times and locations that are not detrimental to the wildlife species that rely on these areas for survival. Recent surveys of SCDNR Beach users show overwhelming support for the appropriate management and protection of these species and special places. The proposed regulations also specify where bicycles and other non-motorized conveyances can be used on portions of the Jim Timmerman Natural Resources Area at Jocassee Gorges. On the Sassafras Overlook Site bicycles may only be used in parking areas and roads open to vehicular traffic, and the regulation clarifies that bicycles and other non-motorized conveyances may not be used on the Abner Creek Falls Trail.

123-204 Additional Regulations Applicable to Specific Properties

- F. Caper's Island Heritage Preserve – adds provision prohibiting dogs.
- N. 4. Sassafras Overlook Site – specifies bicycles can be ridden only in the parking are and roads open to vehicle traffic.
- N.5. Abner Creek Falls Trail - clarifies restriction on use of bicycles and other non-motorized conveyances. Subsequent sections renumbered to reflect change
- T. St. Helena Sound Heritage Preserve (Otter Island) – provides for camping at designated areas between October 16 and March 14.
- V. Santee Coastal Reserve – Specifies that beaches are open during daylight hours and that no one may enter any area designated as critical for wildlife. Provides for camping on Cedar and Murphy islands at designated areas between October 16 and March 14. Prohibits dogs on Cedar and Murphy Islands except during scheduled hunts.
- Z. Tom Yawkey Wildlife Center - provides for camping at designated areas between October 16 and March 14, and prohibits dogs on beaches.
- NN. Turtle Island WMA - Prohibits dogs except during scheduled hunts, and provides for camping at designated areas between October 16 and March 14.
- OO. Pine Island - adds provision prohibiting dogs.

Red Text=Any Change

Strikethrough=Text to be deleted

Underline=Text to be inserted

Changes to Chapter 123: Section 204

123–204. Additional Regulations Applicable to Specific Properties.

F. Caper's Island Heritage Preserve.

(1) Overnight Camping on Capers Island is by permit only. Permit may be obtained from the DNR Charleston office. No more than 80 people will be allowed to camp per night. These 80 people may be divided into no more than 20 different groups.

(2) Permits will be issued on a first come first served basis.

(3) Campsites will be occupied on a first come first served basis.

(4) Permits are not required for day use.

(5) Persons without permits must be off the island by one hour after sunset.

(6) No trash is to be placed in any fire or buried.

(7) Department maintenance facilities on the island are not open to the public.

(8) No crab or fish pots or traps are allowed in impoundments.

(9) No motorized vehicles, non-motorized vehicles, off road vehicles, or all-terrain vehicles are allowed on Capers Island.

(10) No fishing is allowed from the impoundment tide gate.

(11) No dogs are allowed.

N. Jim Timmerman Natural Resources Area at Jocassee Gorges.

This subsection shall apply to all Department owned and leased land within the boundaries of the Jim Timmerman Natural Resources Area at Jocassee Gorges (hereinafter referred to as Jocassee Gorges).

(1) Camping.

(a) Backcountry camping by permit will be allowed at any time during the year that the main roads allowing access to the Jocassee Gorges are not opened in connection with big game hunting. Backcountry camping is allowed by permit only at any location within the Jocassee Gorges, except for any area closed for camping by the Department. Backcountry camping is defined as minimal impact camping. No fires are allowed and each permitted camper is responsible for camping in a manner that results in no trace of the camping activity being left after breaking camp. Backcountry campers must apply for camping permits over the Department internet site. No camping is permitted within twenty-five (25) feet of a stream, lake, or as posted by the Department.

(b) The Foothills Trail and the Palmetto Trail pass through portions of the Jocassee Gorges. Use of the Foothills Trail and the Palmetto Trail shall be limited to hiking and primitive camping. Camping is allowed at any point along the trails and within one hundred feet of either side of the trails. Camping along the Foothills Trail and the Palmetto Trail is restricted to hikers while engaged in backpacking.

(2) Operation of motorized, non-motorized vehicles, all-terrain vehicles, and off-road vehicles. Motorized and non-motorized vehicle access to the Jocassee Gorges is limited. Highway 178 and Cleo Chapman Road (county road 143) are the only paved roads that access the property. Access by the general public to the Jocassee Gorges by motorized vehicles will follow a seasonal schedule with the exception of portions of Horsepasture and Camp Adger Roads. Road opening and closing schedules written below are given as general information. The Department may open and close any road at any time and for such duration as deemed necessary by the Department to manage the property.

(a) The operation of a motorized vehicle behind any closed gate is prohibited. Motorized, self-propelled, unmanned electric cargo carriers ("deer carts") may be used for the purposes of hauling cargo and harvested game only.

(b) Roads open to year-round public access include a section of Horsepasture Road to Jumping Off Rock (from Highway 178 only) and a section of Camp Adger Road.

(c) All roads with Green gates are seasonally open. All roads with red gates are closed to vehicular traffic. This information will be posted at all major entrances.

(d) Motorized vehicles, all terrain vehicles, and off road vehicles may be operated only on open maintained roads and parking areas except as otherwise established by posted notice or as approved by the Department.

(e) Motorized vehicles, all terrain vehicles, and off road vehicles shall not exceed speed limits posted on Department signs. On any land where no speed limit signs are posted the speed limit shall be 15 miles per hour.

(f) Subject to the authority in subsection (d) above, the operation of all terrain vehicles is restricted as follows: Operation of all terrain vehicles is restricted to one hour before sunrise to one hour after sunset each day beginning on Monday and continuing through the following Friday. A person may use an all terrain vehicle while actually engaged in hunting at any time hunting is allowed; provided, however, the operation of an all terrain vehicle is restricted to one hour before sunrise to one hour after sunset with the exception of game retrieval, and an all terrain vehicle may be used only on open roads. All terrain vehicles and off-road vehicles may not be operated on Horsepasture Road or Camp Adger Road during the periods January 16 – March 19 and May 11 – September 14 when the main roads are closed.

(g) All terrain vehicles having three (3) wheels and motorcycles constructed or intended primarily for off road use, such as dirt bikes and motocross bikes, are prohibited within the Jim Timmerman Natural Resources Area at all times.

(h) Bicycles may be ridden on any road or area that is not posted as closed to bicycles except that the Foothills Trail and Palmetto Trail are closed to bicycles.

(3) The use of hang gliders, parachutes, or similar devices is not allowed and may be deemed abuse of Department land.

(4) Sassafras Overlook Site. These regulations apply to the portion of Jocassee Gorges designated as the overlook site by the Department.

(a) No camping is allowed on the site.

(b) No fires are allowed on the site.

(c) The hours of operation are one hour before official sunrise to one hour after official sunset, except as permitted by the Department.

(d) No alcohol is allowed on the site.

(e) No motor vehicles are allowed except on public roads and in the designated parking area. Motorized scooters or similar vehicles designed specifically for use by

disabled persons may only be used by disabled persons on the site. No ATVs, UTVs or similar vehicles are allowed on the site.

(f) No skateboards, hoverboards or similar devices are allowed on the site.

(g) No exclusive use of the site will be allowed by any party.

(h) No drones may be allowed on the site.

(i) No horses, mules, donkeys or other animals may be allowed on the site except pets as defined below.

(j) No pets will be allowed on the site except for dogs and cats. All pets must be restrained by a leash at all times and may not cause any disruption to other visitors, wildlife or the site. All pet waste must be picked up and removed from the site.

(k) Commercial vending is prohibited on the site.

(l) No bicycles may be ridden on the site except on roads open to vehicular traffic and in designated parking areas.

(m) Special permits may be issued by the Department to allow activities prohibited herein.

(n) All other laws, regulations, and ordinances that apply to the site are also in effect.

(5) Abner Creek Falls Trail

(a) Human foot traffic only is permitted.

(b) No horses, ~~mountain bikes~~ bicycles, non-motorized conveyances or motor conveyance is permitted, except for motorized scooters or similar vehicles designed specifically for use by disabled persons that may only be used by disabled persons on the site.

(c) No access is allowed from the trail or platform to adjacent areas within 300 feet of the platform.

T. St. Helena Sound Heritage Preserve (Otter Island).

(1) No dogs are allowed.

(2) Primitive camping only is allowed by permit issued by the Department.

Primitive camping is restricted to designated areas and will be allowed only between ~~November 1 and March 31.~~ October 16 and March 14.

V. Santee Coastal Reserve.

(1) The Santee Coastal Reserve is open during daylight hours (1/2 hour before sunrise to 1/2 hour after sunset) for limited public use year round except as listed below.

(2) Managed wetlands will be open for wildlife observation, bird watching, photography, or nature study during daylight hours (1/2 hour before sunrise to 1/2 hour after sunset) from February 9 through October 31 each year except during special hunts and events regulated by the Department.

(3) The dikes around the waterfowl impoundments will be closed, except by prior arrangement, during the period of November 1 through February 8 of the next year.

(4) Prior arrangements must be made with the Reserve Manager to use observation blinds for waterfowl.

(5) Upland trails will be available during open periods stated above.

(6) The beaches on Cedar and Murphy Islands will be open year round, during daylight hours. No person may enter any area designated as a critical area for wildlife. seven days a week.

(7) Bicycles may be ridden on upland trails year round and on dikes from February 9 - October 31.

(8) Fishing is permitted from the Santee River dock and the Hog Pen impoundment except during scheduled waterfowl hunts. Fishing will be allowed during daylight hours (1/2 hour before sunrise to 1/2 hour after sunset). Fishing is permitted on Murphy and Cedar Island beaches at any time on a year round basis.

(9) ~~Primitive camping is allowed year round with no registration on the beaches of Murphy and Cedar Islands.~~ Primitive camping on Cedar and Murphy Islands is restricted to designated areas and will be allowed only between October 16 and March 14. Camping on the mainland portion is restricted to the designated campground. Mainland camping registration is required at the campground self-serve kiosk. Advance registration is required for groups greater than 15 people.

(10) No dogs are allowed on Cedar and Murphy Islands except for scheduled hunts.

Z. Tom Yawkey Wildlife Center.

The Center is a wildlife sanctuary. Boating, fishing and wildlife viewing from navigable waters is allowed.

(1) Public visitation is by pre-scheduled educational field trips only. The scheduling of educational field trips is at the discretion of SCDNR.

(2) Primitive camping is allowed by permit only. Requests for permits should be no less than 2 weeks prior to their effective date. Primitive camping is allowed only at Department designated locations along the beach front from ~~September 16 – May 14.~~ October 16 and March 14. Only one permit will be issued for each location at a time. Camping is allowed for a period of not more than 4 consecutive nights per individual permit holder.

(3) No dogs are allowed on beaches.

NN. Turtle Island WMA

(1) No dogs allowed except for scheduled hunts.

(2) Primitive camping is restricted to designated areas and will be allowed only between October 16 and March 14.

OO. Pine Island

(1) No dogs allowed.

1. **Gill Nets (Little River)** – Designation of gill nets within inshore waters. Currently we only depict this area in the Summary of Laws for Gill Nets and would like to add coordinates for the depicted area (has been designated for at least 20 years) to the Code of Regulations.

Statutory Authority: Section 50-5-500. Use of nets; penalties. (10) gill nets not more than one hundred yards in length with a mesh size no smaller than three inches stretched mesh and up to five and one-half inches stretched mesh in those areas of the inlets, sounds, and bays having direct connection to the ocean and **designated by the department.**



Proposed Language to Include:

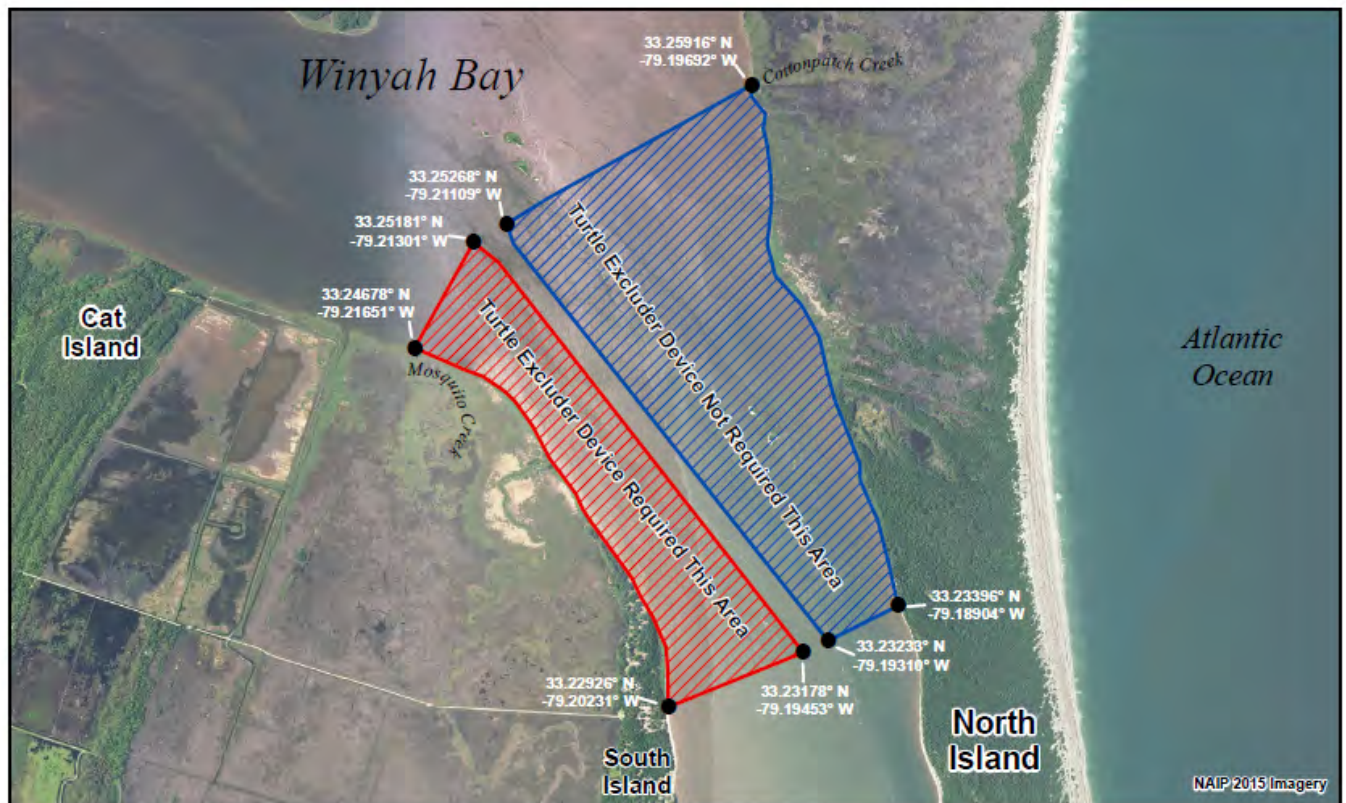
The following zone is established within an enclosed polygon with a linear boundary defined as follows, and with all named features referencing NOAA Navigational Chart 11534 (Myrtle Grove Sound and Cape Fear River to Casino Creek), 40th Edition., September 2019; and also referencing USGS Little River, South Carolina – North Carolina 7.5-minute series Quadrangle, 1:24,000 scale, 2020.

Starting from a point on the western shoreline of Bird Island facing Little River, with latitude 33.85366° N, longitude 078.54396° W; thence following a straight line northwesterly to a point on Goat Island with latitude 33.85971° N, longitude 078.55082° W; thence following the shoreline (“shoreline” herein defined as the line of Mean High Water excluding the shorelines of un-named tributaries) west and southwesterly to a point at the mouth of Horse Ford Creek with latitude 33.85834° N, longitude 078.56444° W; thence following a straight line across the mouth Horse Ford Creek to a point on Mink Island with latitude 33.85846° N, longitude 078.56541° W; thence following the shoreline west then northwesterly to a point with latitude 33.86017° N, longitude 078.56966° W; thence following a straight line to a point with latitude 33.86034° N, longitude 078.56989° W; thence following the shoreline in a northerly direction to a point at the northern tip of Mink Island on the Intracoastal Waterway with latitude 33.86765° N, longitude 078.57158° W; thence following a straight line across Little River to a point on the eastern tip of Little River Neck with latitude 33.86999° N, longitude 078.57405° W; thence following the shoreline in a south-southwesterly direction to point with latitude 33.86498° N, longitude 078.57583° W; thence following the shoreline in a south-southeasterly direction to a

point with latitude 33.86186° N, longitude 078.57464° W; thence following a straight line to a point on the northern tip of The Battery Island with latitude 33.86140° N, longitude 078.57469° W; thence following the shoreline to a point on the southeastern tip of The Battery Island with latitude 33.85757° N, longitude 078.57225° W; thence following a straight line across the mouth of Dunn Sound Creek to a point with latitude 33.85634° N, longitude 078.57031° W; thence following the shoreline in a southeasterly direction to a point on the mouth of Sheephead Creek with latitude 33.85522° N, longitude 078.56852° W; thence following a straight line across the mouth of Sheephead Creek to a point with latitude 33.85492° N, longitude 078.56809° W; thence following the shoreline in a westerly direction to point with latitude 33.85484° N, longitude 078.55635° W; thence following the shoreline in a southeasterly direction to a point with latitude 33.85142° N, longitude 078.55311° W; thence following a straight line across Little River to the starting point on Bird Island with latitude 33.85366° N, longitude 078.54396° W.

2. **Channel Nets (Winyah Bay)** – Designation of channel nets within inshore waters. Currently we only depict this area in the Summary of Laws for Channel Nets and would like to add coordinates for the depicted area (has been designated for at least 20 years) to the Code of Regulations.

Statutory Authority: Section 50-5-515. Channel nets to be used only in designated areas; Turtle Excluder Device requirements; penalties. (A) It is unlawful to use channel nets in the salt waters of this State, **except in areas designated by the department.**



Proposed Language to Include:

Winyah Bay Channel Net Area: TED Required

The following zone is established within an enclosed polygon with a linear boundary defined as follows, and with all named features referencing NOAA Navigational Chart 11532 (Winyah Bay); 23rd Edition., September 2019: Starting from a point on the shoreline of Cat Island on the western shore of Winyah Bay, with latitude 33.22926° N, longitude 079.20231° W; thence following a straight line northeasterly to the No. 15 green channel marking buoy located at latitude 33.23178° N, longitude 079.19453° W; thence following a straight line northwesterly along the western border of the federally maintained shipping channel to a point with latitude 33.25181° N, longitude 079.21301° W; thence following a straight line southwesterly to a point on the mouth of Mosquito Creek at latitude 33.24678° N, longitude 079.21651° W; thence following the shoreline (“shoreline” herein defined as the line of Mean High Water excluding the shorelines of un-named tributaries) of Cat Island in a southeasterly to the starting point at latitude 33.22926° N, longitude 079.20231° W.

Winyah Bay Channel Net Area: TED Not Required

The following zone is established within an enclosed polygon with a linear boundary defined as follows, and with all named features referencing NOAA Navigational Chart 11532 (Winyah Bay); 23rd Edition., September 2019: Starting from a point on the shoreline of North Island on the eastern shore of Winyah Bay, with latitude 33.23396° N, longitude 079.18904° W; thence following the shoreline (“shoreline” herein defined as the line of Mean High Water excluding the shorelines of un-named tributaries) of North Island in a northerly direction to a point at the mouth of Cottonpatch Creek with latitude 33.25916° N, longitude 079.19692° W; thence following a straight line southwesterly to the No. 18 red channel marking buoy located at latitude 33.25268° N, longitude 079.21109° W; thence following a straight line southeasterly along the eastern boundary of the federally maintained shipping channel to the No. 16 red channel marking buoy located at latitude 33.23233° N, longitude 079.19310° W; thence following a straight line northeasterly to the starting point at latitude 33.23396° N, longitude 079.18904° W.

North Santee Channel Net Area

The following zone is established within an enclosed polygon with a linear boundary defined as follows, and with all named features referencing NOAA Navigational Chart 11532 (Winyah Bay); 23rd Edition., September 2019: Starting from a point near the southeastern tip of Crow Island on North Santee Bay, with latitude 33.16705° N, longitude 079.25538° W; thence following a straight line northeasterly across North Santee Bay to a point at the mouth of Beach Creek on South Island with latitude 33.17396° N, longitude 079.24563° W; thence following the shoreline (“shoreline” herein defined as the line of Mean High Water excluding the shorelines of un-named tributaries) of South Island in a northwesterly direction to a point on the mouth of Mosquito Creek with latitude 33.18270° N, longitude 079.25924° W; thence following a straight line across Mosquito Creek to a point with latitude 33.18363° N, longitude 079.26006° W; thence following the shoreline in a northwesterly direction to a point with latitude 33.18680° N, longitude 079.26923° W; thence following a straight line to a point with latitude 33.18617° N, longitude 079.27241° W; thence following the shoreline in a westerly direction to a point on the shoreline of the Intracoastal Waterway with latitude 33.18516° N, longitude

079.27888° W; thence following a straight line in a southwesterly direction to a point on the shoreline of Little Crow Island with latitude 33.18362° N, longitude 079.27959° W; thence following the shoreline of Little Crow Island in an easterly direction to a point with latitude 33.18404° N, longitude 079.27087° W; thence following the shoreline of Little Crow Island in a southwesterly direction to a point on the shoreline of the Intracoastal Waterway with latitude 33.17678° N, longitude 079.28433° W; thence following a straight line across Big Duck Creek to a point on the shoreline of Crow Island with latitude 33.17503° N, longitude 079.28553° W; thence following the shoreline of Crow Island in a northeasterly direction to a point with latitude 33.18393° N, longitude 079.26945° W; thence following the shoreline of Crow Island in a southeasterly direction to the starting point at the southeastern tip of Crow Island with latitude 33.16705° N, longitude 079.25538° W.

3. **Define 5 Year Term for Culture/Mariculture permits** – We have been issuing shellfish permits this way for over 20 years. Need to specify in regulation that the permits do not exceed 5 years and the first year of issuance, regardless of month issued, serves as the first-year term of the permit. (Example: Permit issued January 2021 will expire December 2025; if a permit is issued November 2021 that permit will expire December 2025).

Statutory Authority: Section 50-5-900. Commercial shellfish culture or mariculture permits; term. (A) The department may grant permits to any state resident for the exclusive use of portions of the intertidal or subtidal state-bottoms or waters for commercial shellfish culture or mariculture not to exceed an aggregate of five hundred acres of bottoms or an aggregate of one hundred surface acres of waters to any entity. In exercising its discretion the department may consider applicants' previous performance and compliance with natural resources laws. (B) **Each permit is valid for five years and may be renewed for additional terms.**

Proposed Language to Include:

“Shellfish culture and mariculture permits issued by law for a 5-year term will expire on December 31 prior to exceeding 5 calendar years wherein the first year of issuance serves as the first full year of the 5-year term, regardless of month issued.”

State Lake Regulations Proposed Changes for Internal Review
Revised 8-31-2021

123-209. Term and Conditions for the Public's Use of State Lakes and Ponds Owned by the Department of Natural Resources.

A. Pursuant to the conditions provided in 1976 Code Section 50-11-2200 prohibiting certain acts and conduct on state lakes owned or leased by the department, regulations defining the terms and conditions for public use of state lakes owned by the Department are as follows:

a. Draper WMA State Lakes in York County

i. The lakes are open for fishing from one-half hour before official sunrise to one-half hour after official sunset, every day except Tuesday. The ponds are closed to fishing on Tuesdays.

ii. Fishing is allowed with only rod and reels or poles. The statewide limit on the number of these devices applies.

iii. No minnows allowed for bait.

iv. Combined daily fish limits from all ponds are 3 largemouth bass, 15 bream to include redbreast sunfish, and 3 catfish. Statewide limits apply for all other fish species, except no size limit for crappie.

v. Trails are for walking or fishing access only; no ATVs, motorized vehicles, or horses allowed on these trails.

vi. Pets must be on leashes or under the control of their owner at all times.

vii. No boats are allowed in ponds.

viii. The possession or consumption of alcoholic beverages is prohibited on department lake properties, except as by special permit from the department.

b. Lake Cherokee in Cherokee County

i. The lake is open to fishing 24 hours a day. The lake is open for other allowed purposes from one-half hour before official sunrise until one-half hour after official sunset.

ii. Fishing is allowed with only rod and reels or poles. The statewide limit on the number of these devices applies.

iii. Daily fish limits are ~~3~~ 5 largemouth bass, ~~20~~ 10 bream to include redbreast sunfish, and 3 catfish. Statewide limits apply for all other fish species, except no size limit on crappie.

iv. Vehicles are restricted to roads and designated access areas only.

v. Trails are for walking or fishing access only; no ATVs, motorized vehicles, or horses allowed on these trails.

vi. Pets must be on leashes or under the control of their owner at all times.
vii. Boats are allowed, but may only be propelled by paddle or electric trolling motors.

viii. The possession or consumption of alcoholic beverages is prohibited on department lake properties, except as by special permit from the department.

c. Lake Edgar Brown in Barnwell County

i. The lake is open to fishing 24 hours a day. The lake is open for other allowed purposes from one-half hour before official sunrise until one-half hour after official sunset.

ii. Fishing is allowed with only rod and reels or poles. The statewide limit on the number of these devices applies.

iii. Daily fish limits are 3 largemouth bass 16 inches or longer, 20 bream to include redbreast sunfish, and 3 catfish. Statewide limits apply for all other fish species, except no size limit on crappie.

iv. Vehicles are restricted to roads and designated access areas only. No motorized vehicles of any type allowed on dikes.

v. Trails are for walking or fishing access only; no ATVs, motorized vehicles, or horses allowed on these trails.

vi. Pets must be on leashes or under the control of their owner at all times.

vii. Motor powered boats are allowed. North of Wellington Road only outboard motors rated at 10 horsepower or less are allowed. ~~north of Wellington Road.~~

viii. The possession or consumption of alcoholic beverages is prohibited on department lake properties, except as by special permit from the department.

d. Lake George Warren in Hampton County

i. The lake is open to fishing 24 hours a day. The lake is open for other allowed purposes from one-half hour before official sunrise until one-half hour after official sunset.

ii. Fishing is allowed with only rod and reels or poles. The statewide limit on the number of these devices applies.

iii. Daily fish limits are 3 largemouth bass, 20 bream to include redbreast sunfish, and 3 catfish. Statewide limits apply for all other fish species, except no size limit on crappie.

iv. Vehicles are restricted to roads and designated access areas only.

v. Trails are for walking or fishing access only; no ATVs, motorized vehicles, or horses allowed on these trails.

vi. Pets must be on leashes or under the control of their owner at all times.

vii. Boats are allowed, but may only be propelled by paddle, electric trolling motors or outboard motors rated at 10 horsepower or less.

viii. The possession or consumption of alcoholic beverages is prohibited on department lake properties, except as by special permit from the department.

e. Lake John D. Long in Union County

i. The lake is open from one-half hour before official sunrise until one-half hour after official sunset.

ii. Fishing is allowed with only rod and reels or poles. The statewide limit on the number of these devices applies.

iii. Daily fish limits are ~~3~~ 5 largemouth bass, 10 bream to include redbreast sunfish, and ~~3~~ 5 catfish. Statewide limits apply for all other fish species, except no size limit on crappie.

iv. Vehicles are restricted to roads and designated access areas only.

v. Trails are for walking or fishing access only; no ATVs, motorized vehicles, or horses allowed on these trails.

vi. Pets must be on leashes or under the control of their owner at all times.

vii. No minnows allowed for bait.

viii. Boats are allowed, but may only be propelled by paddle or electric trolling motors.

ix. The possession or consumption of alcoholic beverages is prohibited on department lake properties, except as by special permit from the department.

f. Mountain Lakes in Chester County

i. ~~The Mountain Lakes 1 (large lake, 42 acres) lakes are~~ is open on Tuesday, Thursday, ~~Saturday~~, and Sunday from one-half hour before official sunrise to one-half hour after official sunset. Mountain Lakes 2 (small lake, 7 acres) is open on Tuesday, Thursday and Sunday from one-half hour before official sunrise to one-half hour after official sunset.

ii. Fishing is allowed with only rod and reels or poles. The statewide limit on the number of these devices applies.

iii. Daily fish limits for Mountain Lakes 1 ~~and 2~~ are ~~1~~ 3 largemouth bass, 10 bream to include redbreast sunfish, and 3 catfish. Daily fish limits for Mountain Lakes 2 are 2 largemouth bass, 10 bream to include redbreast sunfish, and 3 catfish. In Mountain Lakes 1 and 2 statewide limits s apply for all other fish species, except no size limit for crappie.

iv. Vehicles are restricted to roads and designated access areas only.

v. Trails are for walking or fishing access only; no ATVs, motorized vehicles, or horses allowed on these trails.

- vi. Pets must be on leashes or under the control of their owner at all times.
- vii. No minnows allowed for bait.
- viii. Boats are allowed, but may only be propelled by paddle or electric trolling motors.
- ix. The possession or consumption of alcoholic beverages is prohibited on department lake properties, except as by special permit from the department.
- g. Lake Paul Wallace in Marlboro County
 - i. The fishing side of the lake is open to fishing 7 days a week, 24 hours a day- ~~The lake is~~ and open for other allowed purposes from one-half hour before official sunrise until one-half hour after official sunset. The boating side of the lake is open for fishing and other allowed purposes from one-half hour before official sunrise until one-half hour after official sunset.
 - ii. Fishing is allowed with only rod and reels or poles. The statewide limit on the number of these devices applies.
 - iii. Daily limits are 3 largemouth bass no minimum size, 20 bream to include redbreast sunfish and 3 5 catfish. ~~No harvesting of largemouth bass (catch and release only).~~ Statewide limits apply for all other fish species, except no size limit for crappie.
 - iv. No minnows allowed for bait.
 - v. Vehicles are restricted to roads and designated access areas only.
 - vi. Trails are for walking or fishing access only; no ATVs, motorized vehicles, or horses allowed on these trails.
 - vii. Pets must be on leashes or under the control of their owner at all times.
 - viii. The possession or consumption of alcoholic beverages is prohibited on department lake properties, except as by special permit from the department.
 - ix. Lake may be closed for special use activities by special permit of the department.
 - x. The department may issue to the Lake Paul Wallace Authority (the Authority) permits with conditions whereby the Authority may provide for fireworks shows and/or designate a public swimming area on the Lake Paul Wallace property provided that the Authority ensures that such actions comply with all local and state laws, regulations and ordinances applicable to fireworks displays and/or public swimming areas.
 - xi. Lake Wallace Fishing Side (East of the earthen dike that separates the two lake portions)
 - 1. Boats are allowed, but may only be propelled by paddle, electric trolling motors, or outboard motors rated at 10 horsepower or less.

xii. Lake Wallace Boating Side (West of the earthen dike which separates the two lake portions)

1. Boats and water skiing are allowed and must follow a counter-clockwise route of travel.

2. Jet Ski or personal watercraft are allowed but not within 200 feet of boats.

3. All other South Carolina watercraft rules and regulations apply.

h. Lake Thicketty in Cherokee County

i. The lake is open to fishing 7 days a week 24 hours a day. The lake is open for other allowed purposes from one-half hour before official sunrise until one-half hour after official sunset.

ii. Fishing is allowed with only rod and reels or poles. The statewide limit on the number of these devices applies.

iii. Daily fish limits are 3 5 largemouth bass, 20 bream to include redbreast sunfish, and 3 5 catfish. Statewide limits apply for all other fish species, except no size limit on crappie.

iv. Vehicles are restricted to roads and designated access areas only.

v. Trails are for walking or fishing access only; no ATVs, motorized vehicles, or horses allowed on these trails.

vi. Pets must be on leashes or under the control of their owner at all times.

vii. Boats are allowed, but may only be propelled by paddle, electric trolling motors or outboard motors rated at 10 horsepower or less.

viii. The possession or consumption of alcoholic beverages is prohibited on department lake properties, except as by special permit from the department.

i. ~~Webb Center Lakes~~ Dunn's Pond on Hamilton Ridge in Hampton County

i. The lakes are open for fishing Monday through Saturday from one-half hour before official sunrise until one-half hour after official sunset except for Monday afternoons, Tuesday mornings, Friday afternoon, and Saturday morning during scheduled deer hunts (October 1 - January 1).

ii. Fishing is allowed with only rod and reels or poles. The statewide limit on the number of these devices applies.

iii. Daily fish limits are ~~10~~ 5 largemouth bass, and ~~30~~ 5 bream to include redbreast sunfish. Statewide limits apply for all other fish species, except no size limit on crappie.

iv. Vehicles are restricted to roads and designated access areas only.

v. Trails are for walking or fishing access only; no ATVs, motorized vehicles, or horses allowed on these trails.

- vi. Pets must be on leashes or under the control of their owner at all times.
- vii. No minnows allowed for bait.
- viii. Boats are allowed, but may only be propelled by paddle or electric trolling motors.
- ix. The possession or consumption of alcoholic beverages is prohibited on department lake properties, except as by special permit from the department.

HISTORY: Added by State Register Volume 37, Issue No. 6, eff June 28, 2013. Amended by Register Volume 39, Issue No. 7, Doc. No. 4547, eff July 24, 2015; State Register Volume 41, Issue No. 6, Doc. No. 4727, eff June 23, 2017.

123-210. Term and Conditions for the Public's Use of State Lakes and Ponds Leased by the Department of Natural Resources.

A. Pursuant to the conditions provided in 1976 Code Section 50-11-2200 prohibiting certain acts and conduct on state lakes owned or leased by the department, regulations defining the terms and conditions for public use of state lakes leased by the Department are as follows:

a. Lake Ashwood in Lee County

i. The lake is open for fishing from one-half hour before official sunrise to one-half hour after official sunset, every day except Tuesday. The ~~ponds are~~ lake is closed to fishing on Tuesdays.

ii. Fishing is allowed with only rod and reels or poles. The statewide limit on the number of these devices applies.

iii. No minnows allowed for bait.

iv. Daily fish limits are 3 largemouth bass, 15 bream to include redbreast sunfish and 3 5 catfish. Statewide limits apply for all other fish species, except no size limit for crappie.

v. Trails are for walking or fishing access only; no ATVs, motorized vehicles, or horses allowed on these trails.

vi. Pets must be on leashes or under the control of their owner at all times.

vii. Boats are allowed, but may only be propelled by paddle, electric trolling motors, or outboard motors rated 10 horsepower or less.

viii. The possession or consumption of alcoholic beverages is prohibited on department lake properties, except as by special permit from the department.

~~ix. Lake Ashwood is closed to fishing until July 1, 2021. The Department may reopen Lake Ashwood prior to July 1, 2019 if conditions allow.~~

b. Dargan's Pond in Darlington County

~~i. The lake is open on Wednesday and Saturday only from March 1 through September 30 from one half hour before official sunrise to one half hour after official sunset.~~

~~ii. Fishing is allowed with only rod and reels or poles. The statewide limit on the number of these devices applies.~~

~~iii. Daily fish limits are 3 largemouth bass with only one being 16 inches or longer, 20 bream, and 3 catfish. Statewide limits apply for all other fish species.~~

~~iv. Trails are for walking or fishing access only; no ATVs, motorized vehicles, or horses allowed on these trails.~~

~~v. Pets must be on leashes or under the control of their owner at all times.~~

~~vi. Boats are allowed, but may only be propelled by paddle or electric trolling motors.~~

~~vii. The possession or consumption of alcoholic beverages is prohibited on department lake properties, except as by special permit from the department.~~

~~i. viii. Dargan's Pond is closed until repaired. for repairs. Dargan's Pond will reopen for public use July 1, 2019. The Department may reopen Dargan's Pond prior to July 1, 2019 if conditions allow.~~

c. Lake Edwin Johnson in Spartanburg County

i. Lake is open for fishing from one-half hour before official sunrise to one-half hour after official sunset seven days a week.

ii. Fishing is allowed with only rod and reels or poles. The statewide limit on the number of these devices applies.

iii. No minnows allowed for bait.

iv. Daily fish limits are ~~3~~ 5 largemouth bass, 10 bream to include redbreast sunfish and ~~3-5~~ catfish. Statewide limits apply for all other fish species except no size limit on crappie.

v. Trails are for walking or fishing access only; no ATVs, motorized vehicles, or horses allowed on these trails.

vi. Pets must be on leashes or under the control of their owner at all times.

vii. Boats are allowed, but may only be propelled by paddle or electric trolling motors.

viii. The possession or consumption of alcoholic beverages is prohibited on department lake properties, except as by special permit from the department.

d. Jonesville Reservoir in Union County

i. Lake is open on Monday, Wednesday and Saturday only, from one-half hour before official sunrise to one-half hour after official sunset.

ii. Fishing is allowed with only rod and reels or poles. The statewide limit on the number of these devices applies.

iii. No minnows allowed for bait.

iv. Daily fish limits are 3 5 largemouth bass, 10 bream to include redbreast sunfish, and 3 5 catfish. Statewide limits apply for all other fish species, except no size limit on crappie.

v. Trails are for walking or fishing access only; no ATVs, motorized vehicles, or horses allowed on these trails.

vi. Pets must be on leashes or under the control of their owner at all times.

vii. Boats are allowed, but may only be propelled by paddle or electric trolling motors.

viii. The possession or consumption of alcoholic beverages is prohibited on department lake properties, except as by special permit from the department.

e. Lancaster Reservoir in Lancaster County

i. Lake is open on Thursday and Saturday from one-half hour before official sunrise to one-half hour after official sunset.

ii. Fishing is allowed with only rod and reels or poles. The statewide limit on the number of these devices applies.

iii. No minnows allowed for bait.

iv. Daily fish limits are 2 largemouth bass 16 inches or longer, 20 bream to include redbreast sunfish, and 3 catfish. Statewide limits apply for all other fish species, except no size limit on crappie.

v. Trails are for walking or fishing access only; no ATVs, motorized vehicles, or horses allowed on these trails.

vi. Pets must be on leashes or under the control of their owner at all times.

vii. Boats are allowed, but may only be propelled by paddle or electric trolling motors.

viii. The possession or consumption of alcoholic beverages is prohibited on department lake properties, except as by special permit from the department.

f. Lake Oliphant in Chester County

i. Lake is open Monday, Wednesday and Saturday from one-half hour before official sunrise to one-half hour after official sunset.

ii. Fishing is allowed with only rod and reels or poles. The statewide limit on the number of these devices applies.

iii. No minnows allowed for bait.

iv. Daily fish limits are 3 5 largemouth bass, 10 bream to include redbreast sunfish, and 3 catfish. Statewide limits apply for all other fish species, except no size limit on crappie.

v. Trails are for walking or fishing access only; no ATVs, motorized vehicles, or horses allowed on these trails.

vi. Pets must be on leashes or under the control of their owner at all times.

vii. Boats are allowed, but may only be propelled by paddle or electric trolling motors.

viii. The possession or consumption of alcoholic beverages is prohibited on department lake properties, except as by special permit from the department.

~~ix. Lake Oliphant will be closed at all times for renovation and restocking from July 1, 2015 through June 30, 2017. Lake Oliphant will reopen July 1 2017.~~

g. Star Fort Pond in Greenwood County

i. Lake is open for fishing on Wednesday, Friday and Saturday between April 1 and November 1, from one-half hour before official sunrise to one-half hour after official sunset.

ii. Fishing is allowed with only rod and reels or poles. The statewide limit on the number of these devices applies.

iii. No minnows allowed for bait.

iv. Daily fish limits are 3 5 largemouth bass, 10 bream to include redbreast sunfish, and 3 5 catfish. Statewide limits apply for all other fish species, except no size limit on crappie.

v. Trails are for walking or fishing access only; no ATVs, motorized vehicles, or horses allowed on these trails.

vi. Pets must be on leashes or under the control of their owner at all times.

vii. Boats are allowed, but may only be propelled by paddle or electric trolling motors.

viii. The possession or consumption of alcoholic beverages is prohibited on department lake properties, except as by special permit from the department.

h. Sunrise Lake in Lancaster County

i. Lake is open for fishing on ~~Monday~~, Wednesday and Saturday from one-half hour before official sunrise to one-half hour after official sunset.

ii. Fishing is allowed with only rod and reels or poles. The statewide limit on the number of these devices applies.

iii. No minnows allowed for bait.

iv. Daily fish limits are 2 largemouth bass, 10 bream to include redbreast sunfish, and 3 catfish. Statewide limits apply for all other fish species, except no size limit on crappie.

v. Trails are for walking or fishing access only; no ATVs, motorized vehicles, or horses allowed on these trails.

vi. Pets must be on leashes or under the control of their owner at all times.

vii. Boats are allowed, but may only be propelled by paddle or electric trolling motors.

viii. The possession or consumption of alcoholic beverages is prohibited on department lake properties, except as by special permit from the department.

~~ix. Sunrise Lake will be closed at all times for renovation and restocking from July 1, 2015 through June 30, 2018. Sunrise Lake will reopen July 1, 2018. The Department may reopen Sunrise Lake prior to July 1, 2018 if conditions allow.~~

HISTORY: Added by State Register Volume 37, Issue No. 6, eff June 28, 2013. Amended by State Register Volume 39, Issue No. 7, Doc. No. 4547, eff July 24, 2015; State Register Volume 41, Issue No. 6, Doc. No. 4727, eff June 23, 2017.

Environmental Report



Office of Environmental Programs

DNR Board Briefing Document – September 16, 2021

Office of Environmental Programs

DNR Board Briefing Document – September 16, 2021

The following document lists ongoing major environmental permitting issues under review by staff of the South Carolina Department of Natural Resources (DNR). These projects have the potential for significant natural resource impacts. Comments submitted to the regulatory agencies since the last DNR Board meetings are attached. **New information is presented below in red.**

Inland Project Proposals

Atlanta to Charlotte Passenger Rail. Anderson, Cherokee, Greenville, Laurens, Oconee, Pickens, Spartanburg, Union and York Counties. See <http://www.dot.ga.gov/IS/Rail/AtlantatoCharlotte>.

The United States Department of Transportation - Federal Railroad Administration (USDOT-FRA) in cooperation with the Georgia Department of Transportation (GDOT) is preparing a Draft Tier 1 Environmental Impact Statement (DEIS) for the Atlanta to Charlotte Passenger Rail Corridor Investment Plan. The purpose of the project is to improve intercity passenger travel between Atlanta and Charlotte by expanding the region's transportation system capacity and improving trip time and reliability through highspeed passenger rail services. GDOT has selected three build alternatives and a no-build alternative for further evaluation in the Tier 1 EIS process. The Southern Crescent Alternative primarily follows the existing Norfolk Southern right-of-way (ROW) across South Carolina. The Interstate 85 Alternative is located primarily within the Interstate 85 ROW. The Greenfield Corridor Alternative is a 274-mile route primarily located on a new alignment across the state. DNR received the project on September 20, 2019 and provided comments on November 4, 2019. The USDOT - FRA and the GDOT reviewed comments received during the Tier 1 DEIS public comment period and selected the Greenfield Corridor Alternative as the Preferred Corridor Alternative. The Greenfield Corridor Alternative is a 274-mile route primarily on a new "greenfield" dedicated high-speed passenger rail alignment between CLT airport and Athens, GA, then following shared railroad ROW in the approaches to the Charlotte and Atlanta termini. This route serves three stations in North Carolina at Charlotte Gateway, CLT airport, and South Gastonia; two stations in South Carolina at GSP airport and Anderson; and five stations in Georgia in Athens, Suwanee, Doraville, downtown Atlanta (Georgia Multi-modal Passenger Terminal), and Hartsfield-Jackson Atlanta International Airport. In South Carolina, this corridor continues along a greenfield alignment for 65 miles passing east of Kings Mountain State Park to a route paralleling I-85, approximately 10 miles to the southeast, then diverging westward to a station near the GSP airport. From the GSP airport, this corridor returns eastward to a route paralleling I-85, approximately 15 miles to the east, for 50 miles to the state line at the Savannah River with a station in Anderson, SC. In addition to general concerns related to species and habitat fragmentation, DNR is particularly concerned that the proposed Greenfield alternative will cross both an existing mitigation bank, a proposed mitigation bank and a scenic river corridor. Portions of the existing Big Generostee Creek Mitigation Bank are located in the project corridor near SC Highway 187 in Anderson County and the project corridor crosses the proposed Minkum Creek Mitigation Bank including the main stem and several tributaries of Minkum Creek in Cherokee County. The Greenfield alternative will cross the Broad Scenic River Corridor approximately one-half mile downstream of the 99 Islands Dam on the Broad River. The FRA and GDOT issued a combined Tier 1 Final Environmental Impact Statement and Record of Decision (FEIS/ROD) identified and selected the Greenfield Corridor Alternative as the preferred route. DNR submitted comments on the FEIS/ROD on July 23, 2021 for consideration in the development of a Tier 2 EIS. DNR project manager: Greg Mixon

Haile Gold Mine Expansion – OceanaGold, LLC <http://www.hailegoldmineseis.com/>

Haile Gold Mine, Inc., a subsidiary of OceanaGold Corporation, submitted a proposal to the U.S. Army Corps of Engineers to expand operations at the existing Haile Gold Mine facilities near Kershaw, South Carolina. The proposed project would include expansion of surface mining and associated mine pits and overburden storage facilities, initiation of underground mining at the Horseshoe deposit, and increased ore processing through optimization of the mill and related infrastructure including expansion of the water management system and existing tailings storage facility. Proposed mining activities in the expanded

proposed project would focus on areas affected by past mining activities and additional land purchased by Haile to support proposed mining expansion activities.

A Notice of Intent to prepare the DSEIS was published in the Federal Register on December 4, 2018. DNR staff attended an Agency Scoping Meeting on April 8, 2019, in Kershaw, SC. During the scoping meeting, OceanaGold staff described potential environmental impacts and suggested that Permittee Responsible Mitigation would likely be proposed to mitigate for impacts associated with the proposed expansion. A joint public notice for the Mine Modification and Draft Supplemental Environmental Impact Statement (SEIS) was issued on March 3, 2021. The proposed modification consists of increasing the mine plan area by approximately 832 acres to expand surface mining pits and associated facilities, initiate underground mining at the Horseshoe deposit, optimize mill operations and increase ore processing rates, and improve water treatment and storage capabilities. Impacts to Water of the United States (WOTUS) include directly filling 86.22 acres of wetlands and open water and will directly affect 13,124.08 linear feet of streams. The applicant has proposed to mitigate for impacts to wetlands and/or waters of the United States by a permittee-responsible mitigation plan that identifies three separate sites along Flat Creek in the Lynches River watershed for preservation and enhancement/restoration of aquatic resources. The project purpose is to expand gold producing operations from mineralized gold-bearing zones on the Haile property. The USACE and SCDHEC hosted a joint virtual public hearing on April 01, 2021 at 6:30PM on the draft SEIS and the application to modify Haile Gold Mine, Inc.'s Mine Operating Permit. DNR provided comments in response to the noticed mine modification on April 23, 2021. DNR project manager: Tom Daniel

Haile Gold Mine Modification – Oceana Gold, LLC. I-000601

Oceana Gold, the parent company of the Haile Gold Mine, has requested that the USACE authorize a modification to their current permit (SAC-1992-24122) originally authorized in 2014. Five operational adjustments have been identified and one of these (East PAG-Phase 2) will impact 4.75 acres of jurisdictional freshwater wetlands and open water reservoirs/impoundments. Considering the original permit authorizing approximately 120 acres of wetland fill, the additional 4.75 acres of wetland impact within the existing mine boundary is viewed as a minor modification by the USACE. The proposed mitigation for these impacts is through the perpetual protection of approximately 512 acres of land known as the Blackwell Tract. The referenced mitigation site is located approximately 9 miles northeast of Kershaw, SC adjacent to Old Jefferson Highway. Positioned in the Flat Creek Basin, the tract is a part of larger conservation efforts in the area associated with the protection and enhancement of habitat for the Carolina Heelsplitter. The site contains approximately 29,525 linear feet of stream and 3.4 acres of wetlands as identified by field delineations. Preservation of the site will be accomplished through the fee simple transfer of the land to the Katawba Valley Land Trust. Katawba Valley Land Trust will additionally serve as the Long-term Steward of the property. DNR received the minor modification to the existing Haile Gold Mine permit July 1, 2020 and provided comments to the USACE and DHEC on July 8, 2020 asking that the permit be held in abeyance until additional information regarding the mitigation plan and additional geology data could be provided. DNR received a response to comments on August 4, 2020 and provided follow up comments on August 7, 2020. DNR project manager: Lorianne Riggan

SCDOT, Interstate 73. P/N SAC-2008-1333-DIS. See

<http://www.sac.usace.army.mil/?action=publicnotices.pn2011>.

The proposed Interstate-73 (I-73) was public noticed on January 28, 2011 and February 18, 2011 for a high-speed, fully controlled-access roadway with interchanges, frontage roads and overpasses to provide access and maintain existing traffic patterns that begins at the North Carolina state line near Bennettsville and ends at SC Highway 22 near Conway. The project corridor would be approximately 80 mi long and would cross through Marlboro, Dillon, Marion and Horry counties. The roadway would include 4 travel lanes with a grassed median. The right-of-way would be 300 ft wide for most of the project corridor and 400 ft wide where frontage roads are needed. The project would involve 212 separate crossings of streams, wetlands and open water bodies impacting a total of 4,643 linear ft of streams and 342.3 acres of wetlands and open waters. DNR staff served on the Agency Coordination Team (ACT) for I-73 from June 2004 through December 2009. The ACT determined that I-73 should be evaluated in separate

Environmental Impact Statement (EIS) documents covering the southern segment (I-95 to SC Highway 22) and the northern segment (NC state line to I-95). DNR staff provided comments and input throughout the EIS process and consistently stated the primary natural resource concerns associated with the proposed roadway are habitat fragmentation, the crossing of the Little Pee Dee River and adjacent wetlands, and the need for landscape scale mitigation that adequately compensates for all project impacts. On December 3, 2015 the DOT Commission unanimously approved the purchase and use of Gunter's Island for mitigation of the environmental impacts associated with the construction of I-73. A revised mitigation plan focusing on acquisition of Gunter's Island was submitted by DOT to USACE on May 23, 2016 and USACE issued a revised public notice on July 8, 2016 that included Gunter's Island as the proposed PRM plan for the wetland and stream impacts associated with I-73. On August 8, 2016, DNR submitted comments in response to the revised mitigation plan. An interagency site visit took place to evaluate the Gunter's Island Revised Mitigation Plan on November 10, 2016. DNR staff conducted two follow-up site visits along with DOT staff on December 2 and 15, 2016. On March 2, 2017 DNR received the I-73 NEPA Re-evaluation documents for review and comments were submitted April 3, 2017. DHEC issued the 401 Water Quality Certification on April 26, 2017 and the USACE issued the final 404 permit on June 19, 2017. SCDOT closed on the Gunter's Island Property on August 7, 2017. DNR will continue with the necessary external approval processes, including presenting the project to the Joint Bond Review Committee for approval on August 15, 2017. The project posted in the Federal Register for the Federal Highway Administration on August 1, 2017. This marks the beginning of the 150-day period for any claim seeking review of the Federal agency action regarding the Section 404 permit for the project. This period ended on December 29, 2017; however, the Southern Environmental Law Center on behalf of the Coastal Conservation League released a notice of intent to sue over violations of the Clean Water Act related to the approval of the USACE 404 permit on October 13, 2017. For additional information: <http://www.i73insc.com>. DNR project manager: Greg Mixon

Coastal Project Proposals

Cainhoy Plantation Mixed Use Development, Charleston & Berkeley Counties. See

http://www.sac.usace.army.mil/Portals/43/docs/regulatory/publicnotices/March2018_PN/SAC_%202016-756_Cainhoy_Plantation_Development_Berkeley%20County.pdf?ver=2018-03-22-115555-720

The 9,238-acre Cainhoy Plantation property is being planned and developed as a mixed-use community with homes, public schools, retail shops, restaurants and office space located within the City of Charleston and Berkeley County. The development of this project will result in unavoidable impacts to freshwater jurisdictional wetlands (approximately 200 acres). According to preliminary plans, approximately 50% of the property (4,500 acres) will be preserved property that provides vital habitat and connectivity for plant and animal species, with the centerpiece being the 500+acre Point Hope Nature Sanctuary. OEP staff attended an interagency meeting held on October 18, 2017 to review preliminary plans and provide initial feedback. Overall the project received a very favorable review from the reviewing agencies, including DNR.

On March 21, 2018 the public notice for this project was submitted for review. The proposed master plan would impact 185.25 acres of freshwater jurisdictional wetlands and 2.65 acres of saltwater critical area wetlands. As compensatory mitigation, a Permittee Responsible Mitigation (PRM) Plan has been developed. An approximately 585-acre Point Hope Nature Sanctuary (PHNS) would be the centerpiece of this PRM plan. The PHNS would be placed under a conservation easement held by Lord Berkeley Conservation Trust and would protect the most valuable and sensitive habitats and their associated suite of species. Financial assurances would provide funding for the long-term management of this area. Approximately 268 acres of wetlands that were previously managed for pine production would be restored to a hardwood mix wetland and protected along with the remaining unimpacted wetlands and associated upland buffers. On May 5, 2018 OEP staff submitted comments on the proposed development, highlighting the significance of the natural resources on this site and asking for clarification on various issues including protected species assessments, permit phasing, protections for remainder of property and avoidance and minimization measures. It was recommended that permit issuance be held in abeyance until issues and concerns were addressed. In August of 2019, the applicant provided a

response to DNR's original comments; OEP staff provided additional comments in a letter dated September 25, 2019. The DNR continued to express that the best use for this property, based on the ecological functions and unique resources located here, would be conservation and the need to address several outstanding issues. The DNR again recommended that permit issuance be held in abeyance until outstanding issues and concerns were addressed. On December 8, 2020, OEP staff commented on a revised Mitigation Plan for Cainhoy Plantation dated November 2020. The DNR continued to recommend that additional efforts are made to further avoid and minimize project impacts before consideration for compensatory mitigation. Specific comments regarding protected species and other elements of the plan were also provided. DNR project manager: Susan Davis

Carolina Bays Parkway Extension, Horry County. Action ID: SAW-2004-00823. See:

<https://www.ncdot.gov/projects/carolina-bays-parkway/Pages/default.aspx>

The North Carolina Department of Transportation (NCDOT) in cooperation with the South Carolina Department of Transportation (SCDOT) will be preparing a DEIS for the extension of the Carolina Bays Parkway. The project's purpose is to bypass congestion within the areas of Calabash, North Carolina and, in South Carolina, the Little River and Grand Strand areas. The project also intends to improve traffic flow and safety at the intersection of SC Hwy 9 and SC Hwy 57 and provide a more direct route for coastal truck traffic moving through North Carolina. In August of 2017, the DNR accepted an invitation to become a participating agency in the development of an EIS for this project. As a participating agency, the DNR will identify, as early as possible, any issues of concern regarding the project's potential environmental impacts. As decisions are made through the merger process, DNR will have the ability to concur, abstain, or not concur at each concurrence point. In September of 2017, the DNR provided scoping comments on this project, identifying a number of important coastal habitats in the study area, including intertidal marsh, tidal creeks and freshwater wetlands and the Waccamaw River Heritage Preserve (WRHP). Comments were also made on the need for careful consideration to avoiding and minimizing impacts to important natural resources in the selection of alternatives to be considered in the EIS. DNR recommended that project alternatives that encroach on the WRHP eliminated from consideration. DNR staff have participated in three coordination meetings regarding this project. On May 4, 2020, OEP staff participated in a meeting to review preliminary alternatives for the proposed Carolina Bays Parkway Extension project and reach concurrence on the alternatives that will be carried forward for detailed study. Formal concurrence on NEPA/Section 404 Merger Concurrence Point 2 was requested during this meeting. On December 8, 2020, staff submitted comments on a revised mitigation plan. In addition, staff continued to recommend that additional efforts were made to further avoid and minimize project impacts before considering compensatory mitigation and reiterated several concerns regarding the mitigation plan. DNR project manager: Maggie Jamison

Charleston Peninsula Coastal Flood Risk Management Study. See

<https://www.sac.usace.army.mil/Missions/Civil-Works/Supplemental-Funding/Charleston-Peninsula-Study/>

The U.S. Army Corps of Engineers (USACE), Charleston District and City of Charleston are performing a feasibility study to evaluate storm surge risk reduction measures for the Charleston Peninsula. The goal is to reduce risks to health, safety, and economic damages from coastal storm surge inundation on the peninsula. An integrated Draft Feasibility Report (FR)/Environmental Assessment (EA) has been prepared to present the results of the study to date, and to analyze impacts of the proposed measures on the environment. The Draft FR/EA was prepared in accordance with the National Environmental Policy Act (NEPA). It evaluates potential impacts of the alternative actions on the environment, including the no-action alternative. The Tentatively Selected Plan (TSP), which is also the National Economic Development Plan (NED) is Alternative 3. The TSP consists of a storm surge wall along the perimeter of the Peninsula, recreation features, interior drainage facilities, a wave attenuation structure offshore of the Battery, and nonstructural measures. Based on the Environmental Assessment, the USACE has proposed a Draft Finding of No Significant Impact (FONSI). DNR staff have been actively participating in Interagency Coordination Team (ICT) meetings on various aspects of the project since December 10, 2018. The Draft FR/EA and FONSI were placed on public notice on April 20, 2020. DNR submitted formal written comments on June 16, 2020. On September 16, 2020, DNR staff attended a virtual ICT meeting held by USACE to update agencies on study progress, including outcomes of optimization of the TSP.

The project was revised to reduce impacts by 64 acres and eliminate the miter gate and the proposed wave attenuator. The recommended plan is now Alternative 2, perimeter protection plus nonstructural measures. DNR Staff attended a virtual ICT update meeting for natural resource agencies on the Charleston Peninsula Coastal Flood Risk Management Study on January 11, 2021. At the meeting, the USACE announced that after further agency analysis and review of comments on the Draft FR/EA and FONSI, they would be seeking approval to pursue an Integrated Feasibility Report/Environmental Impact Statement (IFR/EIS) with a Record of Decision (ROD) for the study. On March 12, 2021 DNR staff participated in a Cooperating Agency Kick Off Meeting hosted by the Corps to discuss agency roles, project updates and next steps. The Notice of Intent for the Charleston Peninsula CFRM Study was published in the Federal Register on March 23, 2021, which initiates the 30-day scoping period. A virtual public scoping meeting was held on March 30th. DNR staff have been attending standing working group meetings of natural resource agencies and USACE for the project on a bi-weekly schedule. **The USACE released the preliminary Draft Integrated Feasibility Report/Environmental Impact Statement on July 26, 2021, and DNR submitted comments on the EIS on August 9, 2021.** DNR Project manager: Stacie Crowe

I-526 East Lowcountry Corridor Improvements Project, Charleston County. See

<http://www.526lowcountrycorridor.org/>

I-526 Lowcountry Corridor EAST (I-526 LCC EAST), extends from the eastern terminus of the I-526 LCC WEST project (Virginia Avenue) to US 17 in Mount Pleasant. The I-526 LCC EAST project would address current and projected congestion and operational issues along this 9.9 mile segment of I-526. The project consists of two major river crossings that include the Don Holt Bridge (over the Cooper River) and the James B. Edwards Bridge (over the Wando River). The Planning and Environment Linkages (PEL) program will be used to evaluate this project and was developed by FHWA to assist the transportation decisionmakers by encouraging the incorporation of key elements that include environmental resources, community, and economic goals early in project planning and development phases. On January 9, 2020, OEP staff participated in a meeting to discuss the PEL Program and how it will be implemented for this project. On April 15, 2020 DNR accepted an Invitation to Participate on the Planning and Environmental Linkages Study for I-526 Lowcountry Corridor East. On July 8, 2021, staff participated in an ACE meeting to discuss the project need and the alternatives matrix. DNR project manager: Maggie Jamison

I-526 Extension Project (Mark Clark Expressway), Charleston County. See

<http://www.scdotmarkclark.com/>

On August 22, 2019, OEP attended the kick-off meeting for this project. The project history was discussed, including the original FEIS signed in 1977 for the Charleston Inner Belt Freeway, SEIS and eventual construction of the 7-mile section from West Ashley to James Island in 1995, signed DEIS for the 7-mile section from West Ashley to James Island in 2010. The project was stopped in 2010 after the signing of the DEIS. A Re-evaluation of the West Ashley to James Island was prepared and signed by SCDOT and FHWA in 2016. The project was reinitiated in 2019 with the identification of funding through Charleston County and the SIB. Since there have been changes to land use, demographics, population and economic growth within the project area, and the availability of a new BCDCOG CHATS Travel Demand Model, it was determined that a SEIS would be prepared for the project. The project will not include re-scoping or redefinition of the project purpose and need.

The 39 alternatives will be reanalyzed with updated and supplemented current data. The project area includes a new location 7-mile roadway from the existing I-526 terminus at US 17 (Savannah Highway) to the James Island Connector (SC 30). On March 26, 2020, OEP attended a meeting to discuss the development of the Supplemental Environmental Impact Statement (SEIS) for the Mark Clark Extension project using the evaluation process originally developed for the 2010 Draft Environmental Impact Statement (2010 DEIS) to reevaluate the 39 preliminary alternatives identified in the 2010 DEIS using current data. The preliminary alternatives were analyzed based on traffic performance and environmental impact criteria. The goal of this process was to screen the 39 alternatives originally presented in the 2010 DEIS to a smaller set of Reasonable Alternatives that will be further evaluated in the SEIS. On April 16, 2020, the DNR submitted comments on the SEIS Alternative Analysis Tier 1 Criteria Evaluation process,

developed for the Mark Clark Extension project, stating that the DNR found the proposed approach to be rational in identifying a set of reasonable alternatives to be further evaluated in the SEIS. On Aug 18, 2021, the SCDOT and FHWA notified DNR of the release of the Draft Supplemental EIS (SEIS) and Draft Section 4(f). DNR project manager: Maggie Jamison

I-526 West Lowcountry Corridor Improvements Project, Charleston County. Federal Project Number P027507. See <http://www.526lowcountrycorridor.org/>

The Federal Highway Administration (FHWA) in cooperation with the South Carolina Department of Transportation (SCDOT) are preparing a DEIS for improvements to the I-526 corridor. The purpose of this project is to increase capacity and improve operations at the I-26/I-526 interchange and along the I-526 mainline from Virginia Avenue to Paul Cantrell Boulevard. The project will follow One Federal Decision (OFD) in accordance with Executive Order 13807. On April 10, 2019, the DNR accepted an invitation to become a participating agency in the development of an EIS for this project. As a participating agency, the DNR will identify, as early as possible, any issues of concern regarding the project's potential environmental impacts. As decisions are made through the OFD process, DNR will have the ability to concur, abstain, or not concur at each concurrence point. OEP staff submitted a letter of concurrence, May 3, 2019, on the Agency Coordination Plan (dated May 2019), the Purpose & Need Statement and the Permitting Timetable. DNR had no specific comments or concerns regarding these documents. On September 11, OEP staff participated in a meeting to discuss the mitigation needs assessment developed for the project. The DNR expressed that the protection of natural resources at Cainhoy Plantation would be DNR's priority in mitigating impacts for this project. On October 7, DNR submitted comments on the preliminary range of alternatives being considered and requested further analysis of the designs for avoidance and minimization of impacts such as reduce shoulder width and slopes and construction methods to avoid and minimize impacts. On December 11, 2019, OEP staff participated in a meeting to discuss the revised mitigation report and to further discuss mitigation options being considered. It was the consensus of the group that five options would be further considered, including Cedar Hill for freshwater and Jehossee Farms, a James Island spoil site, Noisette Creek and Filbin Creek for saltwater impacts. On March 11, 2020, OEP participated in a meeting on DOT's update on the mitigation needs assessment for the I-526 LCC West project. The DOT will continue vetting mitigation options including at Cedar Hill, Jehossee, Hermine, Noisette and others. On March 19, OEP sent a letter of concurrence on the proposed alternatives to be carried forward for detailed evaluation for the proposed I-526 West Lowcountry Corridor Improvements Environmental Impact Statement (EIS). On May 13, 2020 OEP staff participated in a meeting discuss the recommended Preferred Alternative. On June 8, 2020, DNR responded with concurrence to a Request for Concurrence on the Proposed Preferred Alternative to be carried forward for detailed analysis in the Proposed I-526 West Lowcountry Corridor Improvements Environmental Impact Statement (EIS). In August of 2020, the SCDOT circulated portions of the DEIS for preview and comment before finalizing the DEIS; OEP staff provided several recommendations. On October 22, 2020, the final DEIS for this project was submitted for review. On November 25, 2020, OEP staff provided comment on the permit request (SAC-2019-00593) for the proposed project with recommendations on construction methods and other BMPs to minimize project impacts. On June 9, 2021, the SCDOT issued a draft FEIS, ROD and final Section 4(f) Evaluation for this project. The SCDNR provided no additional comments or concerns regarding this document. DNR project manager: Maggie Jamison

McClellanville 115 kV Transmission Project, Central Electric Power Cooperative, Inc. DEIS April 2014. Central Electric proposed to construct, operate, and maintain a new 115 kV electrical transmission line (Project) that would bring service to the proposed McClellanville Substation to serve Berkeley Electric members in the McClellanville area. The new transmission line would originate at one of two potential locations near the Winyah Generation Station. The transmission line would terminate at the proposed McClellanville Substation. Approximately 15-20 miles of new 115 kV transmission line is proposed to be constructed along with a new 115 kV substation. The Project area identified encompasses parts of Georgetown and Charleston counties. DNR has been involved in the environmental review of the proposed project for well over a decade, including the submittal of extensive comments during the preliminary planning and scoping stages and most recently with the submittal of comments dated July 2, 2014 in response to the DEIS. Throughout the review process DNR has maintained a consistent position that any overhead, high voltage transmission line adjacent to US

Highway 17 across the Santee-Delta Wildlife Management Area (WMA) would, at a minimum, cause unacceptable and unavoidable impact to wetlands, sensitive species, intensively managed habitat, endangered species, migratory birds and result in avoidable view-shed impacts to a historic and culturally rich corridor. We have consistently recommended that any environmental review for the improved delivery of power to the McClellanville area fully consider alternatives that minimize or eliminate potential impacts to the Francis Marion National Forest, properties titled to the citizens of South Carolina through DNR, private properties protected by conservation easement, sensitive species/habitats and cultural and historic resources. Despite our efforts to emphasize the importance of the Santee River Delta and to highlight the potential adverse impacts resulting from new transmission line construction through this sensitive area, all of the alternatives considered for review in the DEIS cross the Santee River Delta. DNR submitted comments on July 2, 2014 outlining fundamental flaws and inadequacies of the DEIS and recommended the existing DEIS be revised and/or supplemented prior to proceeding with the development of a FEIS for the project, including a focused effort to fully reconsider less environmentally damaging alternatives to the McClellanville area. DNR staff met with Central Electric on August 18, 2014 to discuss alternatives that are less environmentally damaging. On April 15, DNR staff attended an interagency meeting to discuss Central Electric's re-evaluation of transmission line route alternatives and to present preliminary findings to the agencies before RUS and the cooperating agencies determine the next steps in the NEPA process. Following the agency meeting held in April 2015, Central Electric is moving forward with having an independent engineering study performed on the project. RUS has provided Central Electric a draft statement of work (SOW). Central Electric is handling the procurement side and will pay for the study. RUS solicited comments on the submitted SOW. No comments on the SOW were submitted by DNR. On February 28, 2017, DNR staff attended a meeting to discuss the results of the independent engineering study conducted for CEC. The results of the study determined that for various reasons the crossing of the Santee Delta was not a viable alternative and that the Jamestown to McClellanville was outlined as the preferred alternative. The Forest Service is initiating the next consultation meeting with Central Electric on March 21, 2017 to discuss survey requirements and initiate discussions on how to avoid impacts to endangered species, other sensitive species and habitats, private protected lands, and the Wilderness Area at Wambaw Creek. There will be a Supplemental DEIS prepared for the project that will focus on the Jamestown to McClellanville route as the preferred alternative. On August 23, 2019, a Supplemental Draft Environmental Impact Statement (DEIS) was published in the Federal Register (<https://www.rd.usda.gov/publications/environmental-studies/impact-statements/mcclellanville-115kv-transmission-line>) The Supplemental DEIS addresses the construction, operation and maintenance of Central Electric's proposed Project. The Project includes the construction of a new 115 kV transmission line needed to energize the new McClellanville Substation located near the McClellanville service area. The Supplemental DEIS considers three alternatives, encompassing three potential corridor locations with one corridor including two different alignments. The overall project area encompasses parts of Berkeley, Georgetown and Charleston counties in coastal South Carolina, and potentially crosses the Francis Marion National Forest. On October 28, 2019, OEP staff submitted comments on the SDEIS. DNR recommended that no alternatives crossing the Santee Delta be considered in the Final EIS (FEIS). DNR also recommended that the FEIS include information that adequately describes and evaluates the potential environmental impacts of the proposed project and provides for a full comparative environmental analysis of alternatives and that the selection of a preferred alternative be based on those alternatives that minimize or eliminate potential impacts to the Francis Marion National Forest (FMNF), private land conservation easement (CE) properties, sensitive species/habitats and cultural and historic resources. The FEIS is anticipated early in 2021. DNR project manager: Susan Davis

Riverport Development SAC-2010-00064. See

https://www.sac.usace.army.mil/Portals/43/docs/regulatory/publicnotices/May_2020_PN/SAC-2010-00064-Jasper-County-Riverport-Development.pdf?ver=2020-05-27-091515-030.

The proposed work consists of the construction of a mixed-use development including industrial, commercial, civic and residential uses. In detail, the proposed project is a master planned development at the 4,368.81-acre Riverport Tract situated north and south of I-95, with improvements to the existing two-lane Purrysburg Road as well as a new interchange with I-95 at Mile Marker 3. Residential development, including 3,339 residential dwelling units, would occupy the project area north of I-95, with commercial

and civic development situated along both sides of the new interchange and within the southern portion of the site, including over 10.6 million square feet of industrial warehouse space and 2.6 million square feet of commercial space (restaurant and hotel, grocery store, hospital, and office/retail space). The proposed work would require the placement of fill material into 35.17 acres of wetlands to accomplish road crossings for internal project access as well as for improvements to Purrysburg Road and I-95 where Exit 3 is proposed. The applicant has proposed to offset impacts to wetlands and other waters of the United States by implementing an on-site permittee-responsible compensatory mitigation plan, including the buffered preservation of all remaining wetlands on the site and restoration of approximately 150 acres of pine plantation to historic wetland condition. The project purpose is to construct a development in Jasper County, South Carolina, incorporating residential, commercial and industrial uses with direct access to Interstate 95 to meet projected future growth associated with the existing Port of Savannah and Jasper Ocean Terminal. On June 19, 2020, DNR asked that the permit be held in abeyance until comments addressing additional protections for the adjacent Savannah National Wildlife Refuge are addressed and additional information is provided regarding the proposed mitigation plan. On January 29, 2021, a revised notice was issued for this project, including a reduction in wetland impacts, as a result of a reevaluation of the jurisdictional status of wetlands on-site and a revised mitigation plan involving the purchase of mitigation credits from an approved mitigation bank. The SCDNR provided comment on this notice on February 9, 2021 and recommended that all undisturbed, excluded wetlands are included in the acreage to be preserved on-site and that mitigation is provided for all impacts to these areas. The SCDNR asked that the permit not be issued until all previously expressed concerns and recommendations were addressed. On March 23, 2021, a response to comments was submitted by the applicant that addressed all of DNR's previously expressed concerns. DNR project manager: Susan Davis

Savannah River below Augusta Restoration Feasibility Study. Under the authority of a resolution passed on 1 August 1990 by the U.S. House of Representatives Committee on Public Works and Transportation and by Section 1201(29) of the Water Resources Development Act of 1986, the SRBA Ecosystem Restoration Study considers modifications to restore hydraulic connectivity for ecosystem restoration to river meanders that were cut off to aid commercial river navigation. Of the 46 cutoff meanders that the study originally identified, the study team used detailed screening criteria to focus on an array of alternatives at seven sites that show potential to provide the greatest ecosystem restoration benefits. The USACE-Savannah District and the Savannah Riverkeeper have initiated a study to evaluate the feasibility of restoring natural bends (oxbows) in the Savannah River below Augusta. DNR staff are serving on the Task Force that will guide the feasibility study and evaluate the environmental impacts of the proposed restoration project. A total of \$12.5 million has been dedicated to this project through the Savannah Harbor Expansion Project (SHEP) Settlement Agreement, but the release of those funds will not occur until dredging begins in the inner harbor. The feasibility study is expected to be completed in 2019, when dredging of the inner harbor is expected to begin. Non-federal matching funds (\$1.5 million) to complete the oxbow restoration project are being solicited from state and local agencies and non-governmental organizations. The Task Force met on March 7, 2017 and identified several issues that should be addressed in the Feasibility Study. These include impacts on upstream migration of sturgeon; impacts on spawning habitat for sturgeon and robust redhorse; impacts on endangered freshwater mussel species; maintenance of stable channel configurations after the initial restoration; effects on sedimentation, geomorphology, hydrology, and water quality; and property ownership issues, including potential flooding. A field trip for Task Force Members to examine potential oxbow restoration sites was conducted April 24, 2017. In February 2019, it was announced that funding had been received to resume the Savannah River Below Augusta study. DNR staff participated in a web conference kickoff meeting held on February 26, 2019. DNR staff attended the Corps Savannah District Charrette Meeting held on March 12, 2019 at the Lower Savannah River Alliance Education Center in Allendale. DNR submitted comments on the proposed restoration study on April 18, 2019. DNR staff attended the Alternatives Milestone meeting May 22, 2019. DNR staff participated in a webinar and conference call for restoration project updates on June 5, 2019. DNR staff conducted a site visit to the seven oxbows being considered for restoration on August 26, 2019. Staff will be attending a stakeholder meeting on March 30, 2021 regarding this project. The USACE study team, with assistance from the National Ecosystem Restoration Planning Center of Expertise, is in the process of determining costs and benefits of the various

alternatives at each site and will perform a cost effectiveness and incremental cost analysis to help determine the National Ecosystem Restoration Plan. Staff attended a stakeholder meeting on March 30, 2021 regarding this project. The USACE study team, with assistance from the National Ecosystem Restoration Planning Center of Expertise, is in the process of determining costs and benefits of the various alternatives at each site and will perform a cost effectiveness and incremental cost analysis to help determine the National Ecosystem Restoration Plan. DNR staff attended a monthly status update meeting on May 24, 2021. SCDNR provided comments on the project to the USFWS for the Fish & Wildlife Coordination Act Report July 1, 2021. **DNR staff will attend a status update meeting to discuss the tentatively selected plan on September 7, 2021.** DNR project manager: Stacie Crowe

Savannah Harbor Navigation Project Mitigation Recovery. A Draft Environmental Assessment (EA), placed on public notice in November 2016, evaluated the potential impacts of the USACE's proposal to make specific improvements to selected wetland impoundments at the Savannah National Wildlife Refuge (SNWR) in order to enhance the effectiveness of those sites as bird habitat. The proposed action is intended to compensate for past and future short-term deficits in mitigation credits for the Savannah Harbor Navigation Project (which addresses long-term operation and maintenance requirements for the Harbor). Mitigation was required due to wetland impacts resulting from the impoundment of Dredged Material Containment Area (DMCA) 14A in 2006. In the Draft EA, USACE evaluated four alternatives for enhancing bird habitat in the SNWR and selected the least cost alternative as their preferred alternative, rather than the alternative recommended by SNWR staff. In our comment letter on the Draft EA (submitted December 8, 2016), DNR supported the selection of the alternative preferred by Refuge staff. DNR project manager: Stacie Crowe

Savannah Harbor Expansion Project (SHEP).

<http://www.sas.usace.army.mil/Missions/Civil-Works/Savannah-Harbor-Expansion/>

DNR project manager: Stacie Crowe crowes@dnr.sc.gov

1. Dissolved Oxygen (DO) Injection System. OEP staff attended a stakeholder meeting at the USACE Savannah District Headquarters on September 28, 2017 to discuss the proposed sampling and analysis plan to evaluate the efficacy of the SHEP DO injection systems (Speece Cones). The injection systems are being constructed at two locations on the Savannah River to mitigate for reduced oxygen levels due to harbor deepening. Modeling results indicate that a total of 40,000 lbs. of DO per day needs to be diffused into the Savannah River to compensate for the incremental reduction in DO. Construction began on the DO Injection System in February 2016 and the Hutchinson Island location was completed in March 2019. The first initial test, the Transfer Efficiency Study, which identifies the amount of oxygen being absorbed by the water column for each pound of oxygen introduced into the water, was conducted from February 17-March 3, 2019. The 60-day Water Collection Transfer Efficiency test run data collection occurred from March 17-May 16, 2019 and a data report is expected in mid-July 2019 for public comment and review. The Water Column Transfer Efficiency Report for the Dissolved Oxygen Facility Environmental Testing for the Savannah Harbor Expansion Project report was released August 15, 2019 for public comment. DNR staff reviewed the report and determined that the results of the tests indicate that the Corps met the standards they outlined in the settlement agreement. Water Column Transfer Efficiency Data Collection for the Upper System has been rescheduled to occur from July 6, 2020 – July 10, 2020 and a data report is now expected on August 1, 2020 for public comment and review. This is a slight change due to COVID-19.

As a part of a settlement agreement reached in 2013, prior to commencing the dredging of the Inner Harbor Channel, the USACE will also conduct additional tests to evaluate the downriver DO Injection System located at Hutchinson Island to demonstrate its ability to mitigate DO impacts of the SHEP project. The entire Oxygen Injection System must be operated, and instream DO must be monitored continuously for a period of 59 days (2 lunar cycles), of which at least one 29.5 day testing (one lunar cycle) must occur in July, August, or September immediately following the installation of the Oxygen Injection System. Continuous daily water quality monitoring must be conducted during this period at

locations specified in and pursuant to the monitoring plan. This 59-day period of operation is referred to herein as the “Start-up Run.” The Start-up Run has been rescheduled to begin on July 25, 2020 – September 11, 2020. Due to warranty (mechanical) issues with the Upriver DO plant and the COVID-19 impacts, the USACE has added 14 additional days of data collection to extend the Start-up Run through September 23, 2020. On October 28, 2020, USACE distributed the QAQC’d DO System plant raw data collected from July 13 – September 23, 2020, which includes the Start Up Run data. Only raw data was distributed and a full report summarizing the data is still expected in early 2021.

Following the Start-up Run and analysis of the modeling results and monitoring data, the USACE will provide a report comparing the monitoring data collected during the Start-up Run to the modeling results to the Conservation Groups (including DNR), Commission, and DHEC for review to assess whether the DO Injection System will work to mitigate the impacts of the SHEP project. The Startup Run Data Collection and Modeling Report was made available by the Corps for review on May 3 2021 and DNR staff submitted comments on June 11, 2021.

2. **Excavation and Placement of Cadmium-Laden Sediments.** A Draft Supplemental Environmental Assessment (SEA), placed on public notice in December 2016, proposes to modify the currently authorized plan for handling cadmium-laden sediments as described in the Final Environmental Impact Statement (FEIS) for the Savannah Harbor Expansion Project (SHEP). The purpose of the proposed action is to place cadmium-laden sediments that will be dredged as part of SHEP in a manner that reduces risk to wildlife without causing dike failure in Dredged Material Containment Areas (DMCAs) 14A and 14B. The Draft SEA describes ten alternatives for the disposal of these cadmium-laden sediments. Seven of the ten alternatives were eliminated during the initial screening evaluation due to one or more factors, including a high cost of construction, high cost of mitigation, high risk of dike failure, or unacceptable risk to wildlife from exposure to cadmium-laden sediments. The USACE preferred alternative (Alternative 10) would place cadmium-laden sediments from SHEP into DMCAs 14A and 14B and maintain these sites in a “moist” (saturated) rather than “flooded” (inundated) condition during placement, followed by shallow flooding with 6 to 12 inches of water until the site could be capped with 2 feet of clean dredged material. The currently authorized alternative described in the FEIS would have maintained these DMCAs in a more deeply flooded condition (4 to 6 feet of water) until the cadmium-laden sediments are capped. In our comment letter, dated February 2, 2017, the DNR acknowledged the USACE’s need to develop an alternate plan for disposing cadmium-laden sediments due to the risk of dike failure under the currently authorized plan; however, we recommended that Alternative 9 be implemented rather than Alternative 10 because it would more effectively limit the exposure of birds and other wildlife to cadmium-laden sediments. Alternative 9 would involve the construction of finger dikes within DMCAs 14A and 14B to create smaller impoundments that could be filled and capped more quickly than Alternative 10.
3. **McCoy’s Cut Flow-Rerouting Plan.** A Draft Supplemental Environmental Assessment (SEA) and Finding of No Significant Impact (FONSI) for proposed modifications to the McCoy’s Cut flow-rerouting feature of the Savannah Harbor Expansion Project (SHEP) was released on May 24, 2017 for public comment. The draft SEA supplements the 2012 Final Environmental Impact Statement (FEIS) and Record of Decision (ROD) for SHEP. The proposed modifications would extend the dredging area within the upper Middle River to ensure sufficient freshwater flow to intended areas, as well as save space in the upland Dredged Material Containment Areas (DMCAs) by using some of the dredged sediments to convert open-water manmade cuts (McCoomb’s Cut and Rifle Cut) to freshwater wetlands. These cuts are already planned to be plugged with recycled concrete material (from the former Highway 17 Bridge) and rock in order to prevent saltwater from the Savannah River from flowing into the Back River and adjacent tidal wetlands. The proposed modifications also include increasing the dredging depth at the mouth of Union Creek by four feet to account for potential future shoaling and constructing a temporary pile-supported platform on the edge of existing tidal wetlands in the Back River to access the construction site for the McCoy’s Cut diversion structure. Comments on the draft SEA/FONSI were submitted June 26, 2017. Construction of McCoy’s Cut flow re-routing feature began construction July 2018. It is anticipated to be complete in October 2019.

4. **Monitoring, Adaptive Management, and Status Reports.** In February 2018 the USACE-Savannah District released a Fiscal year 2017 Construction Monitoring Report for the Savannah Harbor Expansion Project (SHEP). This report covers the third year of construction monitoring. OEP staff are currently reviewing the FY 2017 report. In March 2018, USACE Savannah announced that they have reached the midpoint of the project with the completion of the entrance channel dredging. OEP staff attended a SHEP FY 2017 Monitoring Meeting on October 10, 2018 in Savannah, GA which reviewed the contents of the 2017 Construction Monitoring Report released in February 2018.
5. **New Savannah Bluff Lock and Dam.** The SHEP mitigation agreements, in compliance with the Endangered Species Act, require the USACE – Savannah District to reduce or mitigate impacts to sturgeon. Removal of New Savannah Bluff Lock and Dam (NSBLD) would benefit sturgeon by providing access to historic spawning areas. The USACE funded DNR Diadromous Fish staff to conduct pre-construction monitoring of sturgeon distribution and movement through the use of telemetry and sonic transmitters. This work was completed in 2014. Construction of the bypass channel originally proposed was not anticipated to occur until 2021. However, in December 2016, the Water Infrastructure Improvement for the Nation (WIIN) Act was signed into law. The WIIN Act deauthorized the NSBLD and repealed/replaced language in the Water Resources Development Appropriations Act of 2000/2001 with requirements to fulfill fish passage mitigation under the SHEP. The WIIN Act outlines two options:
 - A) Repair the NSBLD lock wall and modify the structure such that it is able to:
 - Maintain the pool for navigation, water supply and recreational activities, and
 - Allow safe passage over the structure to historic spawning grounds of shortnose and Atlantic sturgeon and other migratory fishes.
 - B) Construct at an appropriate location across the Savannah River of a structure that is able to maintain the pool for water supply and recreational activities and remove the NSBLD on completion of construction of the fish passage structure.

The Corps Savannah District presented five alternatives to be considered for the project to the public in June 2018 and plan to release the selected alternative in Fall 2018. OEP Staff attended the public meeting hosted by the Corps Savannah District in North Augusta, SC on November 14, 2018. The recommended plan for replacing the New Savannah Bluff Lock and Dam was announced. Of seven alternatives offered, the recommended plan chosen is a higher fixed crest weir with a dry floodplain bench. The plan involves the demolition of the current lock and dam and construction of a fixed weir with an in-channel fish passage and a floodplain bench that enables the passing of higher flows. With this design, the Corps Savannah District estimates the water level will decrease one to two feet in the downtown Augusta area under average flow conditions. River flows between 5,000 and 8,000 cubic feet per second (cfs) are considered average flows. Flows above 5,000 cfs occur approximately 77% of the time. This is a contentious issue for the community with concerns regarding maintaining the pool created by the current lock and dam for drinking water supply and recreational use. In response to concerns regarding pool height with the recommended plan, the Corps Savannah District conducted a drawdown to exhibit the height of the pool for the tentatively selected plan for local observation in February 11-14, 2019. In conjunction with the drawdown, the Corps Savannah District released the Draft Integrated Post Authorization Analysis Report (PAAR) and Supplemental Environmental Assessment (SEA), Fish Passage at New Savannah Bluff Lock and Dam (NSBLD), and Draft Finding of No Significant Impact (FONSI) for public review on February 27, 2019. DNR staff, the public, and other resource agencies and conservation groups will have 60 days to review the details of the tentatively selected plan and provide comment by April 16, 2019. DNR submitted comments on the PAAR and SEA for the NSBLD on March 27, 2019. Additionally, staff also reviewed and provided comments on the Draft Fish and Wildlife Coordination Act Report on the NSBLD to the USFWS on March 26, 2019. On October 29, 2019, the Corps announced its decision on the future of the fish passage at NSBLD. The Corps selected alternative 2-6d, a fixed weir with an in-channel fish passage and a floodplain bench that enables the passing of higher flows. The plan calls for removal of the lock and dam. On November 4, 2019, the South Carolina Attorney General on behalf of the

South Carolina Department of Health and Environmental Control and the Savannah River Maritime Commission filed a lawsuit against the United States Army Corps of Engineers Savannah District in regard to the elevation of the pool that should be maintained. DNR OEP staff attended a public meeting held in Augusta on November 13, 2019. On December 6, 2019, the City of Augusta filed a motion to intervene in the lawsuit filed by the State of South Carolina. On January 2, 2020, the Georgia Ports Authority also filed a motion to intervene in the lawsuit. On November 23, 2020, US District Judge Richard Gergel ruled in the Lock and Dam case. Judge Gergel entered an order in favor of the State of South Carolina and the City of Augusta and permanently enjoined the defendants (USACE and Georgia Ports Authority) from tearing down the NSBLD and required a mitigation alternative that keeps the pool level at 114.76 ft. On January 19, 2021, the US Army Corps of Engineers, a federal defendant in the case, filed a notice of appeal to the US Court of Appeals for the Fourth Circuit.

- 6. Wetland Mitigation Lands Acquisition.** The USACE-Savannah District released a draft Final Report documenting the acquisition and preservation of two tracts of land in partial fulfillment of wetland mitigation requirements for the Savannah Harbor Expansion Project (SHEP). Flow-rerouting features within the Savannah River estuary are expected to mitigate most of the impacts to freshwater wetlands due to SHEP (see item on McCoy's Cut below); however, the remaining impacts are required to be mitigated by the acquisition and preservation of 2,245 acres of existing wetlands within the estuary. In the 2012 SHEP Final EIS, the USACE stated it would acquire lands designated as high priority in the Savannah National Wildlife Refuge Acquisition Plan and provide them to the USFWS to manage as additions to the Refuge. The USFWS will manage these properties using funds obtained through the Department of Interior's normal budget process. The first property, a 175-acre mostly upland tract known as SLF III, was acquired by GADOT and transferred to the USFWS in 2015. The second property, Abercorn Island, is a 2,081-acre tract consisting mostly of non-tidal forested wetlands. Abercorn Island was identified by the USFWS as its top priority for acquisition. The GADOT acquired Abercorn Island in February 2017 and comments on the draft Final Report were submitted on May 30, 2017. Abercorn Island was transferred to the Refuge in June 2017.

Savannah River Training Wall Removal Study – Augusta. The U.S. Army Corps of Engineers, Savannah District, has initiated a study regarding a training wall in the Savannah River at Augusta, Georgia conducted under the authority of Section 216 of the Flood Control Act of 1970. The purpose of this type of study is to determine whether a water resources development project operated and maintained by the Corps of Engineers should be deauthorized, and if the associated property should undergo disposal. The training wall was constructed as part of the federally authorized project, Savannah River Below Augusta (SRBA), in the early 1900s. The wall, and associated structures, helped prevent formation of sandbars on the Georgia side of the river which impeded commercial navigation at the time. However, commercial navigation effectively ceased by 1980 and maintenance of the channel in that area was discontinued, the last known maintenance activity having been completed in December 1980.

The study area extends between Augusta's 13th Street Bridge and Palmetto Parkway Bridge (Interstate 520). Currently, the training wall, including underwater portions and those exposed during low flow periods controlled by the J. Strom Thurmond Dam, could be a navigational hazard. The study will determine if there remains Federal interest in this navigational feature of the SRBA project and if not, whether disposal of the wall is feasible. DNR submitted comments on the proposed study on October 28, 2019. On April 6, 2020, the USACE Savannah District released a draft Integrated Disposition Study (IDS)/Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI) under the authority of Section 216 of the Flood Control Act of 1970 (Public Law 91-611) for the Savannah River Below Augusta, Training Wall Disposition, Augusta, Georgia and North Augusta, South Carolina. The draft IDS/EA included the evaluation that the Corps performed to determine whether federal interests exist to retain or dispose of the Training Wall and its associated navigation features. The study evaluates three alternatives: (Alternative 1) Future Without Project Condition (FWOP)/No Action Alternative (NAA); (Alternative 2) Removal of the Training Wall; and (Alternative 3) Removal of the Training Wall and Sediment at Gardner's Bar on the South Carolina downstream bank. The recommended plan, Alternative 2, consists of the removal of the training wall and its associated navigation features and would allow for

the natural release of sediments accumulated behind the wall back into the river system. DNR staff provided comments on the report on April 30, 2020. DNR provided comments on the Draft Fish and Wildlife Coordination Act Report to the USFWS Georgia Ecological Services Office. The USFWS Georgia Ecological Services Office provided the Final Fish and Wildlife Coordination Act Report on the Training Wall on June 22, 2020. DNR project manager: Stacie Crowe

Soilutions, LLC - Edge Road Mine, Horry County SCG731593

The proposed project involves a proposed fill dirt mine in Horry County, SC that has requested coverage under the NPDES General Permit for Discharges Associated with Nonmetal Mineral Mines. The borrow pit proposes to discharge mine dewatering and stormwater to Boggy Swamp and eventually to the Waccamaw River. On June 4, 2021, the DNR provided comments to SCDHEC on the proposed mine, noting several records and potential impacts to protected species and/or species of concern near/within the proposed project area, including three state threatened species: the Carolina Pygmy Sunfish (*Elassoma boehlei*), and the Southern hognose snake (*Heterodon simus*), both species of highest conservation priority as designated by the by the State Wildlife Action Plan (SWAP), and spotted turtle (*Clemmys guttata*), which is also a federal At-Risk species (ARS) and a SWAP species of high conservation priority. The project also has the potential to affect a SWAP species of highest conservation priority, the pine snake (*Pituophis melanoleucus*). DNR also noted that the proposed project is immediately adjacent to the Lewis Ocean Bay Heritage Preserve (LOBHP) and the potential exists for impacts to sensitive LOBHP habitats and associated management resulting from mine construction, operation and the dewatering discharge from the project operations into adjoining wetlands. The DNR expressed concerns that the proposed mining operation may alter hydrology of wetlands that connect from the proposed site to the LOBHP, causing areas to become dryer and increasing wildfire risk and potentially impacting sensitive plant and negatively impacting herptiles that depend on these seasonal wetlands for reproduction. The DNR recommended that appropriate measures were taken to minimize or avoid impacts to LOBHP and the aforementioned species of concern. On July 13, 2021, OEP staff submitted additional comments, outlining concerns regarding red-cockaded woodpeckers that were recently observed on the proposed mining site. Given the presence of this protected species on the project site, the DNR stated that the proposed mining project does not qualify for the Mining GP and recommended that the subject mine project be reviewed under an Individual Mining Permit. **On July 30, 2021, OEP staff sent a follow up e-mail to SCDHEC stating that the potential for environmentally sensitive habitats for state listed species could be onsite but is unable to be determined from the survey provided and that regardless of the process for the permit to be reviewed, whether through the General Permit or an individual permit, the DNR requests clarity on the definition and interpretation of the Siting and Operation Criteria of GP1 regarding environmentally sensitive habitats and what is considered existence for threatened and endangered species on a proposed mining site.**

DNR project manager: Susan Davis

Stormwater Infrastructure General Permit, S.C. Department of Health and Environmental Control's Office of Ocean and Coastal Resource Management (DHEC OCRM), GP-2019-SW11, GP-2019-SW12 & GP-2019-SW13. DHEC OCRM is proposing to issue a general permit to streamline the authorization process for State Agencies, County Governments and Local Municipalities for public Storm Water Infrastructure improvement projects within DHEC OCRM Direct Permitting Authority (Critical Area), in accordance with the Coastal Zone Management Act (48-39-10 et.seq.). This GP will authorize State agencies, county governments and local municipalities to conduct activities required for the re-establishment, improvement or maintenance of existing public stormwater conveyance systems in the tideland. The purpose of this GP is to provide a simplified and expeditious means to authorize routine public stormwater infrastructure projects undertaken by state agencies, county governments and local municipalities that are similar in nature and result in only minimal individual and cumulative impacts to the tidelands critical area within the State of South Carolina.

In a letter dated April 23, 2019, DNR expressed various concerns regarding the issuance of this GP and the potential significant and cumulative impacts to important estuarine resources. DNR staff provided

recommendations for minimizing potential impacts. Staff also participated in a follow-up meeting to further discuss concerns of the various commenting agencies. This GP was officially noticed in August of 2020; OEP staff made additional recommendations for minimizing potential impacts. DNR project manager: Susan Davis

Stormwater Management General Permit Tidal Waters, USACE General Permit P/N SAC-2020-00959.

https://www.sac.usace.army.mil/Portals/43/docs/regulatory/publicnotices/Aug_2020_PN/SAC-2020-00959_Proposed_Stormwater_Conveyance_General_Permit_PN.pdf?ver=2020-08-14-095638-890 The Charleston District proposes to issue a General Permit (GP) to federal, state, or local government agencies authorizing certain stormwater management activities located in tidal waters within the boundaries of the Critical Area Tidelands of the Coastal Zone of Beaufort, Berkeley, Charleston, Colleton, Dorchester, Georgetown, Horry, and Jasper Counties in South Carolina. The GP would authorize the excavation/dredging of existing, maintained stormwater conveyances, expansion of existing, maintained stormwater conveyances, and installation of new stormwater conveyance and/or the re-establishment of non-maintained stormwater conveyances through tidal waters. The GP would also authorize the discharge of dredged or fill material and/or excavation/dredging to facilitate the installation of new and/or the maintenance, repair, replacement and/or extension of existing water control structures, pipes and culverts in tidal waters. In a letter dated September 3, 2020, DNR expressed various concerns regarding the issuance of this GP and the potential significant and cumulative impacts to important estuarine resources and provided recommendations for minimizing potential impacts. DNR project manager: Susan Davis.

US 278 Corridor Improvements Project, Beaufort County. Federal Project Number P030450. See:

<https://www.scdot278corridor.com/>

The Federal Highway Administration (FHWA) in cooperation with the South Carolina Department of Transportation (SCDOT) are preparing an EA for improvements to the US 278 corridor. The purpose of this project is to increase capacity and reduce congestion along US 278 from Moss Creek Drive to Squire Pope Road. As a part of the corridor improvements project, the eastbound Mackay Creek Bridge, which crosses the Intracoastal Waterway, would be replaced as a part of SCDOT's bridge replacement program and the remaining three bridges in the study area would also be studied for potential improvements. In addition, the access to Pinckney Island National Wildlife Refuge and the C.C. Haigh, Jr. boat ramp would also be studied for possible improvements. On April 10, 2019, the DNR accepted an invitation to become a participating agency in the development of an EA for this project. As a participating agency, the DNR will identify, as early as possible, any issues of concern regarding the project's potential environmental impacts. DNR will also be involved in the issue resolution process and provide meaningful and timely input on unresolved issues. In a letter dated September 20, 2018, the DNR has already provided scoping comments on this project, including preliminary comments on potential impacts to natural resources in the study area. In a letter dated April 10, 2019, the DNR accepted the invitation to become a participating agency and asked that the DNR's role in dispute resolution be clarified in the Final ACP. DNR reviewed the Draft Purpose and Need statement and had no comments or concerns. On June 13, 2020, the DNR participated in a meeting to discuss the alternative evaluation criteria, range of alternatives, and provide a coordination point for agencies as required by the EA process. On March 19, 2020, OEP staff participated in a meeting to discuss the following: the reasonable alternatives and revisions since the last agency meeting; the preliminary Essential Fish Habitat assessment; and future mitigation planning. Seventeen preliminary alternatives were developed originally and were narrowed down to six reasonable alternatives. On May 14 staff participated in an ACE meeting to discuss project updates, discuss the alternatives matrix and the recommended preferred alternative. **On July 7, 2021, a Notice of Availability of the Environmental Assessment for the US 278 Improvements was released and comments submitted on September 1, 2021.** DNR project manager: Maggie Jamison

Hydroelectric Energy Projects

Under the Federal Energy Regulatory Commission's (FERC) regulatory authority under the Federal Power Act, natural resource agencies have an opportunity to negotiate and collaborate with utilities to minimize and mitigate impacts to natural resources affected by the operation of hydroelectric facilities. OEP staff serve as the DNR representative as a part of the relicensing process and implementation of the license. DNR FERC Coordinator: Elizabeth Miller

Augusta Canal Hydroelectric Project (FERC Project No. 11810). The City of Augusta, Georgia, filed a license application with FERC on June 20, 2003, which is pending signatures to a Settlement Agreement and the completion of NMFS Section 7 endangered species consultation regarding hydro project impacts to shortnose and Atlantic sturgeon; DNR signed the Settlement Agreement. The Settlement Agreement and the license application propose upstream and downstream fish passage and operations of the Augusta Canal that will provide for seasonal minimum flows that will enhance aquatic habitat and recreational activities in the Savannah River at Augusta Shoals. On July 9, 2014 the City of Augusta submitted a request to DHEC for 401 Water Quality Certification (WQC) of its license application to FERC to which DNR provided comments to DHEC on Sep 11, 2014. On July 8, 2015 DHEC issued a 401 WQC of the City of Augusta's FERC license application, and the WQC is consistent with the DNR stream flow objectives. NMFS and FWS drafted a revised joint prescription for fish passage in November 2017 and again in March 2018. A draft joint fish passage prescription was issued in September 2019, which was also reviewed by DNR staff. On October 23, 2019, the City of Augusta filed for a trial type hear to resolve disputed issues regarding the Second Modified Prescription. In July 2020, the NMFS and the USFWS each filed Reservations of Authority, replacing the Second Modified Prescription for the Project. The agencies are jointly working to file a Third Modified Prescription for the Augusta Canal Project.

Coneross Hydroelectric Project (FERC Project No. 6731). Coneross Power Corporation filed a draft license application with the FERC on October 22, 2018. DNR staff reviewed the document and provided comments and recommendations before the January 20, 2019 comment period deadline. The applicant proposed a decrease in the minimum flow requirement of 25 cfs year-round to the bypass reach for the project and stated that it would be an enhancement to the project. DNR disagrees and finds that the change to this new flow regime would be a negative impact for aquatic resources. The current flow requirement in the previous license requires a minimum flow in the bypass reach at 35 cfs from February 1 – May 31 and 25 cfs from June 1 – January 31 or inflow to the Project's impoundment, whichever is less. They are also required to maintain a minimum flow of 36 cfs or inflow, whichever is less, downstream of the confluence between the tailrace and the bypass reach to support navigation. To address DNR's concerns, it was agreed that the applicant would fund studies to determine proper minimum flow requirements for their project. The final license application was submitted to the FERC on February 28, 2019. DNR submitted a follow-up letter in April 2019 to address the study needs required to determine adequate flow downstream of the project. The Project filed the Final License Application on January 23, 2020. The FERC issued the Scoping Document 1 (SD1) for the Project on February 20, 2020. The FERC issued an extension to the SD1's comment period on March 6, 2020 and comments were submitted by DNR staff on April 9, 2020. The FERC issued the Ready for Environmental Analysis for the Coneross Project on April 21, 2020. DNR staff reviewed the request and submitted comments and 10j recommendations on June 19, 2020. DHEC issued a public notice seeking comments on the Coneross Project's application for a 401 Water Quality Certification. DNR staff submitted comments on July 6, 2020 to DHEC recommending measures to provide protection, mitigation and enhancement for fish and wildlife resources affected by the Project. On December 15, 2020, Hydroland Omega LLC. took ownership of the Coneross Power Corporation and intends to continue to pursue the subsequent license. The ownership change is at the parent company level and the primary licensee of the Project will remain the same. DHEC issued a Notice of Department Decision regarding the Coneross Project's 401 Water Quality Certificate (401 WQC) on April 23, 2021. DNR staff identified an inconsistency with DHEC's 401 WQC NODD for the project regarding buffer zone protection and noticed DHEC staff to review the decision. DHEC adjusted the NODD for the 401 WQC and reissued the NODD on May 3, 2021 including DNR's recommendation for buffer zone protection. **The FERC issued the Environmental Assessment for the Coneross Project on August 10, 2021, and solicited public comment on the document. DNR staff are**

currently reviewing the document and plan to submit comments prior to the September 24, 2021, deadline.

Saluda Hydroelectric Project (FERC Project No. 516). SCE&G filed with FERC a license application for the Saluda (Lake Murray) Project on August 27, 2008 and a Comprehensive Relicensing Settlement Agreement (CRSA) on July 31, 2009. A new FERC license for this project is pending the completion of NMFS Section 7 endangered species consultation regarding hydro project impacts to shortnose and Atlantic sturgeon. The CRSA and license application propose important protection and enhancement measures for Lake Murray and downstream sections of the Saluda and Congaree rivers. Measures include the establishment of minimum flows and striped-bass spawning enhancement flows, low-inflow drought plan, a plan for dissolved-oxygen enhancement to improve water quality, increased protection of threatened and endangered species, enhancements in fish and wildlife habitat protection and increased recreational opportunities. On January 3, 2019, SCANA/SCE&G merged with Dominion Energy South Carolina, LLC. The project website is <http://www.saludahydrorelicense.com/>.

Santee Cooper Hydroelectric Project (FERC Project No. 199). S.C. Public Service Authority (SCPSA) filed with FERC a license application on Mar 15, 2004 and a Final Settlement Agreement (FSA) on May 24, 2007. The license application and FSA propose flows through the project to enhance aquatic habitat and water quality, a low-inflow/drought plan, fish passage and protection prescriptions, plans to protect sensitive species, shoreline management plan, recreation plan, and enhancements at the Santee National Wildlife Refuge. FERC issued its Final EIS in October 2007. A new FERC license for this project is pending the completion of National Marine Fisheries Service (NMFS) Section 7 endangered species consultation regarding hydro project impacts to shortnose and Atlantic sturgeon. DNR staff continues to participate in the Santee Cooper-NMFS consultation process regarding sturgeon protection measures. DNR provided comments on July 23, 2012 to address a Santee Cooper proposal to NMFS for sturgeon passage at the Project. NMFS resumed consultations with Santee Cooper and DNR staff on April 25, 2017, to address sturgeon passage issues and planned steps for revising the draft biological opinion. In July 2019, DNR staff received a draft of the Biological Opinion and Fishway Prescription from the NMFS Section 7 endangered species consultation for review. DNR staff attended a site visit and meeting on September 30 and October 1 to discuss the NMFS draft Biological Opinion. Staff reviewed the draft Biological Opinion and draft Second Modified Prescription for Fishways and submitted comments to the FERC on December 17, 2019. NMFS issued the final Biological Opinion on January 22, 2020 and the final Second Modified Prescription for Fishways on January 27, 2020.

Spartanburg Water Proposed Hydroelectric Projects. Spartanburg Water has been granted approval by FERC on July 7, 2014 to begin the licensing process in order to establish hydroelectric facilities at two existing Pacolet River dams on Lakes Blalock and Bowen and restoration of an abandoned hydropower facility at Fingerville on the North Pacolet River. DNR staff are providing input and assistance with study plans being implemented at the project sites. Spartanburg Water has paused its pursuit of these licenses pending resolution of related economic issues. The project website is: <http://www.sws-sssd.org/lakes/index.php>.

Stevens Creek Hydroelectric Project (FERC Project No. 2535). On January 3, 2019, SCANA/SCE&G merged with Dominion Energy. Dominion Energy conducted public outreach meetings on January 10, 2019 to address the upcoming relicense process for Stevens Creek Hydroelectric Project located on the Savannah River downstream of Lake Thurmond in Edgefield County, SC and Columbia County, GA. DNR staff attended a site visit on May 15, 2019 to survey the project area and recreational facilities provided by the project. DNR staff attended a draft Pre-Application Document (PAD) meeting on August 22, 2019. DNR is involved in several Resource Conservation Groups and has attended meetings with the different groups in preparation for the draft PAD. The current FERC license for the Project expires on October 31, 2025. Dominion Energy submitted their Pre-Application Document and request to use the Traditional Licensing Process (TLP) on May 15, 2020. DNR filed a concurrence letter in support of the use of the TLP for the Project. DNR staff participated in the Joint Agency Meeting and virtual site visit on September

3, 2020. DNR submitted comments on the Pre-Application Document and a study request for consideration on November 2, 2020. SCDNR staff participated in a site visit on May 27, 2021 to discuss fish passage and recreation amenities at the Project. The project website is <http://stevenscreekrelicense.com>.

Natural Resource Damage Assessment (NRDA).

Under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) or the Oil Pollution Act (OPA), natural resource trustees seek damages for injury to natural resources that are a result of releases of hazardous substances or oil. OEP staff serve as the DNR representative as a part of the Natural Resource Trustees. DNR project manager: Stacie Crowe

Exxon Mobil Corporation. The NRDA Trustees reached a settlement with the Exxon Mobil Corporation for approximately \$6.6 million for claims related to the release of hazardous waste at nine phosphate fertilizer plant sites located in Charleston, Beaufort and the Greenville area between 1900-1950. Remedial actions started around 2007-2008. The Consent Decree was filed on May 2, 2019 and entered into final judgement on June 26, 2019. Environmental impacts typically associated with phosphate-based fertilizer manufacturing facilities include elevated concentrations of metals, particularly lead and arsenic in soil, groundwater and sediment, as well as acidic pH conditions. The NRDA Trustees will now begin the Restoration Planning process where restoration actions will be designed to return impacted resources to baseline condition. The Trustees signed the funding resolution in January 2020. The settlement funds are anticipated to be used for marsh and oyster restoration projects in the Charleston and Beaufort areas.

Koppers Company Inc. The NRDA Trustees reached a settlement with Beazer East, Inc., the responsible party, for the Koppers Company site for approximately \$3 million. The Consent Decree was filed on January 7, 2019. Starting as early as 1942, wood treatment and fertilizer manufacturing facilities located at Koppers in Charleston released hazardous substances into wetland and riverine habitats in and near the Ashley River. Approximately 140 acres of tidal marsh and creeks were impacted by the contaminants released, which included polycyclic aromatic hydrocarbons (PAHs) and heavy metals. Beazer East, Inc. worked cooperatively with the EPA to clean up the contamination and remedial activities were completed in 2003. The Trustees conducted a NRDA and determined that both intertidal and subtidal habitats were affected by the contamination. Contaminant concentrations would have been toxic to benthic invertebrates (including grass shrimp), and possibly fish, birds and mammals. The Trustees have released the Final Damage Assessment and Restoration Plan, as well as the Environmental Assessment for the Koppers Site, which describes restoration projects focusing on salt marsh restoration at sites on the Ashley River and Long Branch Creek in Charleston. The comment period on the Draft Restoration Plan closed on February 12, 2020 and no public comments were received. A Trustee resolution to accept an oyster restoration project as the preferred alternative was circulated on February 26, 2020. The Trustees signed the Trustee Resolution approving the Final Supplement's release on March 12, 2020. The salt marsh restoration project at Drayton Hall began on March 17, 2021, and was completed on May 10, 2021. Trustees reviewed the post-construction report in July 2021.

Mitigation Banks and Interagency Review Team

Under the 2008 Mitigation Rule, natural resource agencies have an opportunity to participate collaboratively with resource and regulatory agencies on the Interagency Review Team (IRT) to oversee and provide feedback on mitigation bank or in-lieu fee development. The IRT process ensures that mitigation banks are sited appropriately and provide ecological value, in addition to functional uplift of aquatic resources to offset the loss of aquatic resources associated with U.S. Army Corps of Engineers Section 404 permits. A majority of the OEP staff serve on the IRT to provide expertise on stream restoration and wetland enhancement during this process. The following are a list of recent banks that are under review; this does not include existing banks that are also reviewed during the monitoring phases of the bank's life.

Audubon Silver Bluff Mitigation Bank Prospectus

The proposed project consists of establishing a 475-acre freshwater stream and wetland mitigation bank in the Middle Savannah River watershed (8-digit HUC 03060106) located in the Southern Outer Piedmont Ecoregion near Spartanburg, Spartanburg County (34.837678, -82.057584). The proposal is to restore 6,036 linear feet of Curry Branch. Approximately 292.8 acres of wetlands will be enhanced or restored through plugging ditches and vegetative enhancements. The bank is owned by the National Audubon Society and sponsored by Audubon South Carolina. The long-term steward will be Audubon South Carolina and the conservation easement holder will be the Lowcountry Land Trust. Prospectus comments were submitted to the USACE by DNR on December 17, 2020. DNR project manager: Tom Daniel

Ben's Creek Mitigation Bank Draft Mitigation Banking Instrument

The proposed project consists of establishing a freshwater stream and wetland mitigation bank in the South Tyger watershed (8-digit Hydrologic Unit Code 03050107) located in the Southern Outer Piedmont Ecoregion near Spartanburg, Spartanburg County (34.837678, -82.057584). The proposed 249.05-acre mitigation bank includes approximately 26,540 linear feet of stream channels and 108 acres of wetlands. The proposal is to preserve 16,940 linear feet of stream, and either enhance or restore 9,575 linear feet of streams by stabilizing stream channels and reconnecting streams to their floodplain. Approximately 108 acres of wetlands will be enhanced or restored through removal of fill, berms and roadbeds. The bank is owned by Mr. David Keller of Moore, SC and sponsored by Southern Oaks Land and Water. Southern Oaks Land and Water will be the long-term steward. The conservation easement holder has not yet been identified. Prospectus comments were submitted to the USACE by DNR on February 19, 2020. **The Draft Mitigation Banking Instrument, dated September 2021, is under review with comments due by September 15, 2021.** DNR project manager: Tom Daniel

Big Dutchman Creek Mitigation Bank Draft Mitigation Banking Instrument

The proposed project consists of establishing a freshwater stream and wetland mitigation bank in the Lower Catawba watershed (8-digit Hydrologic Unit Code 03050103) located in the Level III Piedmont Ecoregion near the Rock Hill, York County, SC (35.00422, -81.08689). The proposed 106 acre bank site is located within the 800 acre Harper Farm. The proposal is to restore approximately 17,600 linear feet of stream and enhance 3.82 acres of wetlands. The bank owners and long-term stewards are Mr. Richard C. Harper and Mr. Craig Harper and the conservation easement holder is the York County Soil and Water Conservation District. Prospectus comments were submitted to the USACE by DNR on September 6, 2017 and DMBI comments were submitted on April 3, 2020. DNR submitted comments on the Design Plans for the proposed bank on September 10, 2020. DNR project manager: Greg Mixon

Black Gum Mitigation Bank Prospectus

The proposed project consists of establishing a freshwater stream and wetland mitigation bank in the Lynches River watershed (8-digit Hydrologic Unit Codes 03040202) located in the Sand Hills Ecoregion near Bethune, Kershaw County (34.415914, -80.438341). The proposed 654-acre mitigation site includes approximately 616.3 acres of freshwater wetlands, 29,935 linear feet of perennial streams, and 11,066 linear feet of non-wetland waters (manmade ditches). The proposal is to preserve 22,333 linear feet of stream, and either enhance or restore 7,602 linear feet of streams by redirecting flows to a relic channel. Approximately 532.6 acres of wetlands will be enhanced or restored through removal of fill, berms and roadbeds. Approximately 83.7 acres of wetlands will be preserved on site. The bank is owned and sponsored by SCP Black Gum, LLC. In addition, SCP Black Gum, LLC will be the long-term steward. The conservation easement holder has not yet been identified. DNR received the public notice including the prospectus on June 2, 2021 and provided comments on July 8, 2021. DNR project manager: Tom Daniel

Brosnan Forest Coldwater Branch Mitigation Bank Mitigation Banking Instrument

The proposed bank is located in the Four Hole Swamp watershed (8-digit Hydrologic Unit Code 03050205) in the Middle Atlantic Coastal Plain ecoregion. The proposed 1,106 mitigation site is located

in Norfolk Southern Railway Company's Brosnan Forest, a 14,405-acre corporate conference center and outdoor recreation facility. The proposal is to restore 299.2 acres of headwater wetlands, 2.3 acres of isolated wetlands, 123.2 acres of streamside wetlands, 21 acres of restored impounded wetlands, and 46.3 acres of formerly impounded wetlands that will be hydrologically enhanced. All wetlands will be protected by a 150-foot average width upland buffer. In addition, 34,488 linear feet of stream will be restored or preserved with 300-foot average width upland buffers. The bank is owned and sponsored by Norfolk Southern Railway Company and will be protected by a conservation easement held by Lowcountry Land Trust, Inc. Prospectus comments were submitted to the USACE by DNR on February 4, 2019 and DMBI comments were submitted on June 2, 2020. DNR staff reviewed a revised DMBI dated September 2020 and submitted comments on October 27, 2020. This bank will be approved soon by the USACE. DNR. Project Manager: Greg Mixon

Buckhead Road Mitigation Bank Prospectus

The proposed bank is located in the Lower Broad River watershed (8-digit Hydrologic Unit Code 03050106). The proposed 73.61-acre mitigation site includes approximately 3.36 acres of freshwater wetlands and 6,846 linear feet of non-wetland waters. The proposal is to preserve 3,127 lf of headwater tributaries and 3.4 acres of palustrine forested wetlands through the permanent protection of a conservation easement. In addition, 3,884 linear feet of stream will be restored/enhanced through priority one and two restoration utilizing natural channel design techniques. This includes channel re-alignment, construction of new channels, and bank stabilization. Additionally, 743 linear feet of streams will be enhanced through Priority 4 restoration techniques, including bank stabilization. An upland buffer will be placed around stream resources. The bank is owned and sponsored by RMC and Associates, LLC and is proposed to be protected by a conservation easement held by Congaree Land Trust. The Prospectus is under review by DNR staff and comments will be provided by September 17, 2021. DNR Project Manager: Greg Mixon

Catawba Mitigation Bank Prospectus

The proposed bank is located in the Lower Catawba watershed (8-digit Hydrologic Unit Code 03050103). The proposed 623-acre mitigation site includes approximately 28.3 acres of freshwater wetlands and 48,294 linear feet of streams. The proposal is to preserve approximately 38,429 linear feet of streams and 12.47 acres of palustrine forested wetlands. In addition, 15.53 acres of freshwater wetlands will be enhanced through removal of loblolly pine and replanted in native species. 11,766 linear feet of stream will be restored/enhanced through removal of two dams utilizing natural channel design techniques. The bank owner, sponsor and proposed long-term steward is SCP Catawba, LLC. The identity of the conservation easement holder has not been finalized. DNR received the public notice including the prospectus on April 16, 2021 and provided comments on June 2, 2021. DNR project manager: Greg Mixon

Catfish Farm Mitigation Bank Prospectus

The proposed bank is located in in the Little Pee Dee and Great Pee Dee watershed (8-digit Hydrologic Unit Code 03040204 and 03040201) located in the Middle Atlantic Coastal Plain Ecoregion. The proposed 1,199-acre mitigation site would preserve 4,098 linear feet of stream. In addition, 2,418 linear feet of stream will be enhanced by re-routing flow back into relic channels. Approximately 12,807 linear feet of stream will be restored by stabilizing stream channels, reconnecting streams to their floodplain, removal of existing impoundments, and creating new channels where needed. Buffers will be enhanced by planting a mix of native trees to improve vegetative diversity. Approximately 596.69 acres of wetlands will be enhanced by re-establishment of native hardwood species. 252.48 acres of wetlands will be restored by removing exiting pine plantation, restoring hydrology through grading and ditch plugging, and re-establishing forested wetland vegetative communities. Approximately 42.31 acres of wetlands will be preserved on site. The bank owner and proposed long-term steward is Catfish Farm, LLC and the conservation easement holder is anticipated to be Pee Dee Land Trust. Draft Prospectus comments were submitted to the USACE by DNR on May 8, 2017 and final Prospectus comments were submitted on May 5, 2020. DNR staff reviewed a Draft MBI, dated June 15, 2021, and provided comments by August 20, 2021. DNR project manager: Greg Mixon

Caw Caw Mitigation Bank Draft Mitigation Banking Instrument

The proposal consists of establishing a freshwater wetland mitigation bank in the Stono River watershed (USGS 8-digit Hydrologic Unit Code 03050202) and the Middle Atlantic Coastal Plain ecoregion of South Carolina. The proposed 668.7-acre mitigation site includes 658.8 acres of freshwater wetlands and 9.87 acres of upland roads. The mitigation work plan includes the enhancement/restoration of 197.1 acres of palustrine forested wetlands by the removal of pine species and the planting of bottomland hardwood seedlings; and the preservation of 445.3 acres of palustrine forested and scrub shrub wetlands. The bank will be protected with a conservation easement held by Ducks Unlimited. Prospectus comments were submitted to the USACE by DNR on February 12, 2015 and DMBI comments were submitted on May 14, 2020. Project manager: Susan Davis

Corley Mill Mitigation Bank Final Mitigation Banking Instrument

The proposed project consists of establishing a freshwater stream and wetland mitigation bank in the Saluda River watershed (8-digit Hydrologic Unit Code 03050109) located in the Level III Piedmont Ecoregion near Lexington, Lexington County, SC (34.0278, -81.1647). The proposed 116.07-acre bank includes the lower portions of both Twelve Mile and Fourteen Mile Creeks approximately 0.65 miles upstream from the confluence with the Saluda River. The site includes 8,234 linear feet of streams and 72.64 acres of wetlands that are proposed to be restored, enhanced and preserved. The bank owners are Mrs. Lenna C. Young and Mrs. Cindy C. Waters. The long-term steward is the Corley Mill Preservation Group LLC and conservation easement holder is Congaree Land Trust. Prospectus comments were submitted to the USACE by DNR on December 17, 2016 and DMBI comments were submitted on May 5, 2020 and again on July 24, 2020 on the MBI document dated June 29, 2020. DNR staff reviewed a revised DMBI dated September 23, 2020 and provided comments dated December 9, 2020. DNR staff reviewed a proposed final MBI dated May 18, 2021 and provided comments dated June 4, 2021. DNR project manager: Greg Mixon

Crane Creek Mitigation Bank Draft Mitigation Banking Instrument

The proposed project consists of establishing a freshwater stream and wetland mitigation bank in the Lower Broad River watershed (8-digit Hydrologic Unit Code 03050106) located in the Level III Piedmont Ecoregion near Columbia, Richland County, SC (34.076905, -81.038011). The proposed 309.32-acre bank includes restoration and buffering of 12,031 linear feet of Crane Creek, 4,007 linear feet of associated tributaries, and 134.5 acres of palustrine forested, scrub-shrub and emergent wetlands and open water. The bank owner and long-term steward is Crane Creek Mitigation LLC and the conservation easement will be held by Congaree Land Trust. Prospectus comments were submitted to the USACE by DNR on August 24, 2017 and Draft MBI comments were submitted to the USACE by DNR on April 27, 2020. DNR staff reviewed a revised DMBI dated August 12, 2020 and submitted comments October 23, 2020. DNR project manager: Greg Mixon

Daniel Island Saltwater Mitigation Bank Draft Mitigation Banking Instrument

The proposed project consists of establishing a saltwater mitigation bank in the Cooper River watershed (8-digit Hydrologic Unit Code 03050201) in the Sea Island/Coastal Marsh Ecoregion. The 134.76-acre mitigation site is a portion of a former confined disposal facility and prior to 1970 was used to manage dredged material. According to the Prospectus, the mitigation site consists of 25.67 acres of existing salt marsh and 109.09 acres that were used for the placement of dredged material and farming activities. The long-term steward for the proposed mitigation bank will be the property owner SC Ports Authority. The third-party conservation easement holder for the site will be The Lord Berkeley Conservation Trust. Prospectus comments were submitted to the USACE by DNR on January 1, 2017 and DMBI comments were submitted August 11, 2020. DNR project Manager: Susan Davis

French Quarter Creek Mitigation Bank Draft Mitigation Banking Instrument

The French Quarter Creek (FQC) Site is in Berkeley County, South Carolina within the Cooper River Basin (8-digit HUC 03050201). The FQC Site is owned by Environmental Banc & Exchange, LLC a wholly owned subsidiary of Resource Environmental Solutions, LLC (RES) and has an estimated acreage of approximately 445 acres. The proposed bank includes both wetland and stream restoration,

enhancement, enhancement by upland buffering, and preservation. In detail, the project proposes to restore approximately 70.5 acres of bottomland hardwood forest by filling ditches and raising the water table of the affected area; enhance approximately 206 acres of various wetland habitats through planting of native species and land management practices; and approximately 1,200 feet of stream restoration. The DNR has been proposed as the long-term steward of the bank and the site will be protected with a conservation easement held by Lowcountry Land Trust. Prospectus comments were provided to the USACE by DNR on March 7, 2019 and DMBI comments on March 30, 2020. **In August 2021, additional comments were provided in response to a revised MBI.** DNR project manager: Susan Davis

Goose Pond Mitigation Bank Draft Mitigation Banking Instrument

The proposed project consists of establishing a freshwater wetland and stream mitigation bank in the Congaree watershed (8-digit Hydrologic Unit Code 03050110) located in the Level III Southeastern Plains Ecoregion. The proposed 1,185-acre mitigation site includes approximately 20,076 linear feet (LF) of streams and approximately 676 acres of freshwater wetlands. The proposal is to preserve 11,163 LF of stream and restore 9,940 LF of stream. The proposal would also enhance 437.7 acres of bottomland hardwood wetlands and preserve and additional 238.8 acres of bottomland hardwood wetlands. The bank owner and sponsor are Southern Oaks Land & Water, LLC and the long-term steward is proposed to be Palmetto Environmental Consultants. The conservation easement holder is proposed to be Congaree Land Trust. Prospectus comments were provided to the USACE by DNR on October 8, 2018. A DMBI, dated July 2020, was reviewed and comments submitted on August 28, 2020. Project Manager: Greg Mixon.

Grist Mill Mitigation Bank Prospectus

The proposed work consists of establishing a freshwater wetland and stream mitigation bank in the Lynches River watershed (8-digit Hydrologic Unit Codes 03040202) located in the Level III Middle Atlantic Coastal Plain Ecoregion. The proposed 1,182.5 acre mitigation site includes approximately 81.06-acres of freshwater wetlands and 39,345 linear feet of streams. The proposal is to preserve 10,822 LF of stream and restore 13,269 LF of stream. The proposal would also enhance 591.5 acres of wetlands and preserve and additional 44.42-acres of palustrine forested wetlands. The bank owner and sponsor are FLO Fund Domestic, LLC and the long-term steward has yet to be determined. The conservation easement holder is proposed to be Congaree Land Trust. **Prospectus comments were provided to the USACE by DNR on August 26, 2021.** Project Manager: Tom Daniel

Grove Creek Mitigation Bank Phase 3 Restoration Plan

The proposed project consists of designing and constructing Phase 3 at the existing mitigation bank in the Saluda watershed (8-digit Hydrologic Unit Code 03050109) located in the Level III Piedmont Ecoregion. The 512.73-acre site includes a Phase 1 and Phase 2 restoration that have been previously constructed. Phase 3 will consist of the restoration of 4,182 linear feet of the main stem of Grove Creek on approximately 100 acres within the existing bank. The owner and sponsor are Hollingsworth Funds, Inc. and the conservation easement holder is Upstate Forever. DNR previously provided comments on the Phase 3 Restoration Plan on July 20, 2016. DNR staff reviewed the proposed Phase 3 Restoration Plan dated June 2020 and provided comments on September 18, 2020. DNR staff participated in a site visit on October 22, 2020 and provided additional comments dated November 13, 2020. DNR staff have reviewed a response to agency comments provided by the sponsor on June 4, 2021 and DNR provided comments on June 10, 2021. Project Manager: Greg Mixon

Halidon Hill Mitigation Bank Draft Mitigation Banking Instrument

The proposed project consists of establishing a freshwater wetland and stream mitigation bank in the Cooper River watershed (8-digit Hydrologic Unit Code 03050201) located in the Level III Middle Atlantic Plains Ecoregion. The proposed 1,744.5-acre mitigation site includes approximately 1,074.6 acres of wetlands, 22.8 acres of non-wetland waters, and 647.1 acres of uplands. The proposal is to preserve 175.14 acres of freshwater wetland and 802 linear feet of stream. In addition, 222.93 of freshwater wetlands will be enhanced through removal of loblolly pine and replanted with native hardwood species; 94.36 acres of wetland will be enhanced through filling ditches, breaching/removal of berms, removal of roads and culverts; 418.81 acres of wetland will be enhanced through removal of loblolly pine, replanting

native species, and removing hydrological impairments and 16.91 acres of freshwater wetland will be restored by removal of loblolly pine and restoring natural hydrology. In addition, 21,881 linear feet of stream will be restored through removal of undersized culverts, bank stabilization, and construction of a new channel. The bank sponsor, using a conservation easement (Ducks Unlimited), will protect the mitigation bank site. Prospectus comments were provided to the USACE by DNR on October 10, 2019 and DMBI comments were submitted on May 21, 2020. Project manager: Susan Davis

Landsford Canal Mitigation Bank Prospectus

The proposed project consists of establishing a freshwater wetland and stream mitigation bank in the Lower Catawba watershed (8-digit Hydrologic Unit Code 03050103). The proposed 250-acre mitigation site includes approximately 27.18 acres of wetlands and 30,131 linear feet of streams. The project will preserve approximately 16,712 linear feet of streams and 24.91 acres of palustrine, forested wetlands, restore approximately 3,674 linear feet of streams by establishing a new channel and reconnecting the stream with the abandoned floodplain bench at the current stream elevation, enhance approximately 9,745 linear feet of streams by stabilizing of the existing channel and the creation a floodplain bench at the current stream elevation restoration, and enhance approximately 2.5 acres of freshwater forested wetlands through restoration of a native hardwood community. The bank owner, sponsor and proposed long-term steward is Landsford Mitigation Bank, LLC. The identity of the conservation easement holder has not been finalized. DNR received the public notice including the prospectus on March 8, 2021 and provided comments on April 7, 2021. DNR project manager: Greg Mixon

Lower Broad Mitigation Bank Prospectus

The proposed project consists of establishing a freshwater stream and wetland mitigation bank in the Lower Broad watershed (8-digit Hydrologic Unit Code 03050106) located in the Southern Piedmont Ecoregion. The proposed 259.78-acre mitigation bank includes approximately 28,876 linear feet of stream channels and 2.37 acres of wetlands. The proposal is to preserve 11,167 linear feet of stream, enhance 442 linear feet of stream, and restore 8,994 linear feet of stream by raising streambed elevations, primarily by stabilizing stream channels, grading streambanks and reconnecting streams to their floodplain. Buffers will be enhanced by planting a mix of native trees to improve vegetative diversity. Approximately 2.37 acres of wetlands will be preserved on site. The bank owner, sponsor and proposed long-term steward is SCP Lower Broad, LLC. The identity of the conservation easement holder has not been finalized. DNR received the public notice including the prospectus on March 17, 2021 and provided comments on April 16, 2021. DNR project manager: Tom Daniel

Minkum Creek Mitigation Bank Draft Mitigation Banking Instrument

The proposed project consists of establishing a freshwater stream and wetland mitigation bank in the Broad River watershed (8-digit Hydrologic Unit Code 03050105) located in the Level III Piedmont Ecoregion near Gaffney, Cherokee County, SC (34.981895, -81.620860). The proposed 435-acre mitigation site includes approximately 36,600 linear feet of stream channels and approximately 10 acres of freshwater wetlands. The proposal is to restore or enhance 10,010 linear feet of perennial and seasonal streams. All streams within the bank are currently proposed for some level of restoration. The bank is owned by Heritage Preservation Holdings, LLC and sponsored by Sandy Creek Partners, LLC. The property owner, Heritage Preservation Holdings, LLC, will also be the long-term steward. The conservation easement holder has not yet been identified. Prospectus comments were submitted to the USACE by DNR on June 7, 2019. The DMBI, dated July 2, 2020, was reviewed and comments submitted August 25, 2020. DNR project manager: Greg Mixon

Mossy Bend Mitigation Bank Prospectus

The proposed project consists of establishing a freshwater wetland mitigation bank in the Black River watershed (8-digit Hydrologic Unit Codes 03040205). The proposed 722.3-acre mitigation site includes approximately 696.7 acres of freshwater wetlands and 22,000 linear feet (lf) of non-wetland waters (manmade ditches). The proposal is to enhance the hydroperiod of 696.7 acres of freshwater wetlands by plugging/filling 22,000 linear feet of ditches and installing additional culverts and/or breaches (i.e., low water crossings) through elevated roadbeds. Of that area, 129.4 acres will also be enhanced through

removal/thinning of loblolly pine and replanted with native wetland hardwoods. Approximately 7.2 acres of upland buffer will also be preserved. The bank sponsor (SCP Mossy Bend, LLC), using a conservation easement, will protect the bank site. The Prospectus, dated December 81, 2020, was reviewed and comments submitted July 8, 2021. DNR project manager: Stacie Crowe

Mountain Bridge Passage Mitigation Bank Prospectus

The proposed bank would consist of three parcels in Greenville County, South Carolina located within the Saluda River watershed (HUC 03050109). The three parcels encompass approximately 568.72 acres, containing approximately 45,948 linear feet (8.70 miles) of stream channels. The restoration work will occur on only one of the three tracts, the site of the former Holiday Lake/Civitan Camp (35.079475, - 82.574669). This work consists of 4,217 linear feet of stream restoration, 3,772 feet of stream enhancement, and 37,959 feet of stream preservation. The bank is owned and sponsored by Naturaland Trust and will be protected using a conservation easement held by Upstate Forever. The property owner, Naturaland Trust, will be the long-term steward. Prospectus comments were submitted to the USACE by DNR on June 12, 2019. DNR project manager: Tom Daniel

Palmetto Umbrella Mitigation Bank: Edisto River Mitigation Site Draft Instrument Modification (DIM)

The proposed bank is located in the Edisto River watershed (8-digit Hydrologic Unit Code 03050206) located in the Middle Atlantic Coastal Plain Ecoregion within the ACE Basin. The proposed 1,291-acre mitigation site includes approximately 12,877 linear feet of stream channels and 429.5 acres of wetlands. The proposal is to preserve 3,911 linear feet of stream and to restore 8,966 linear feet of stream by redirecting flow from channelized portions back into on-site relic channels. Wetland enhancement of 35.4 acres will include establishing native vegetation where commercial pine plantations have encroached or where vegetation has been disturbed. Approximately 395.6 acres of wetlands will be restored by removal of ditches, roads and berms. Native vegetation will be restored in areas that are in commercial pine production. Approximately 359.5 acres of wetlands will be preserved on site. The bank is owned and sponsored by Weyerhaeuser NR Company and will be protected using a conservation easement held by Lord Berkeley Conservation Trust. DIM comments were submitted to the USACE by DNR on March 19, 2020. Project Manager: Susan Davis

Palmetto Umbrella Mitigation Bank: Great Swamp Mitigation Site Draft Instrument Modification (DIM)

The proposed bank is located in the Salkehatchie watershed (8-digit Hydrologic Unit Code 03050210) located in the Coastal Plain Ecoregion. The proposed 3,067-acre mitigation site includes approximately 53,570 linear feet of stream channels and 1,411.5 acres of wetlands. The proposal is to preserve 7,035 linear feet of stream and enhance 1,283 feet of stream by stabilizing stream channels and reconnecting natural hydrology upstream. Restoration of 38,152 linear feet of stream will be achieved by removing spoil piles, utilizing available relic channels, and adding appropriate in stream structures to maintain dimension, pattern, and profile. Wetland enhancement will include establishing native vegetation where commercial pine plantations have encroached or where vegetation has been disturbed. Approximately 848.4 acres of wetlands will be preserved on site. The bank is owned and sponsored by Weyerhaeuser NR Company and will be protected using a conservation easement held by Lord Berkeley Conservation Trust. DIM comments were submitted to the USACE by DNR on February 12, 2020 and again on May 13, 2021 in response to a revised DMBI. Project Manager: Susan Davis

Red Bluff Mitigation Bank Prospectus

The proposed project consists of establishing a freshwater and saltwater wetland and freshwater stream mitigation bank in the Lower Savannah and Calibogue Sound/Wright River watersheds (8-digit hydrologic Unit Codes 03060109 and 03060110). The proposed 5,514.74-acre mitigation site includes approximately 427.63 acres of freshwater wetlands, 4,704.74 acres of tidal wetlands, 5,514.74 linear feet (lf) of non-wetland waters, and 382.37 acres of uplands. The proposal is to preserve approximately 904.9 lf of streams, 163.3 acres of palustrine, forested wetlands, and 4,677.7 acres of tidal wetlands through the permanent protection of a conservation easement. In addition, 151.9 acres of freshwater wetlands will be enhanced through removal of loblolly pine and replanted in native species, 75.6 acres of freshwater wetlands will be enhanced through removal of loblolly pine, replanting native species, and

removing hydrologic impairments, 3.9 acres of freshwater wetland will be restored by filling the ditches, removing the roads, and re-planting the area with native wetland species, 0.8 acres of tidal wetlands will be restored or enhanced by increasing tidal flow through breaking or removal of berms to allow for full range of tidal flows, 26.2 acres of tidal marsh will be created in areas that were converted to agricultural lands and 4,139.3 lf of streams will be enhanced through removal of undersized culverts, bank stabilization, and construction of new channels. An upland buffer will be placed around all wetland resources. the Bank is owned by Pelican Capital, LLC and the bank sponsor is Red Bluff Mitigation Bank, LLC. The bank site will be protected using a conservation easement held by the Beaufort County Open Land Trust (BCOLT). On April 19, 2021, the DNR submitted comments on the Final Prospectus dated November 2, 2020. DNR Project Manager: Susan Davis

Reedy Run Mitigation Bank Prospectus

The proposed project consists of establishing a freshwater stream and wetland mitigation bank in the Saluda River watershed (8-digit Hydrologic Unit Code 03050109) located in the Piedmont Ecoregion. The proposed 275-acre mitigation bank includes approximately 25,835 linear feet of stream, and 78 acres of freshwater wetlands. The proposal is to preserve 17.9 acres of palustrine forested and emergent wetlands, enhance 60.1 acres of freshwater wetlands, preserve approximately 10,170 linear feet of Bush River and restore approximately 15,665 linear feet of streams. The bank owner and long-term steward is Mr. Trip Taylor with Reedy Run Real Estate in Greenville, SC and the proposed conservation easement holder is the Newberry Soil and Water Conservation District. The Corps of Engineers public noticed a Prospectus on November 4, 2020 and DNR provided comments on November 30, 2020. DNR project manager: Tom Daniel

Roberts Swamp Mitigation Bank Prospectus

The proposed project consists of establishing a freshwater stream and wetland mitigation bank in the South Fork Edisto River watershed (8-digit Hydrologic Unit Code 3050204) located in the Level III Southeastern Plain Ecoregion near the Town of Norman, Orangeburg County, SC (33.454108, - 81.075959). The proposed 255+ acre bank includes approximately 12,612 linear feet of streams and 165 acres of wetlands. The bank owners are West Stone 123 LLC and Mr. Robert Johnson. The long-term steward will be Roberts Swamp MB, LLC and the (tentative) conservation easement holder is Congaree Land Trust. The USACE public noticed the Prospectus on June 19, and DNR provided comments on July 15, 2020. DNR project manager: Greg Mixon

Rocky Creek Mitigation Bank Mitigation Banking Instrument

The proposed project consists of establishing a freshwater stream and wetland mitigation bank in the Lower Catawba River watershed (8-digit Hydrologic Unit Code 03050103) in the Piedmont ecoregion. The proposed 131-acre former cattle farm consists of three impoundments, seven unnamed tributaries, two freshwater wetlands, Rock Creek, Little Rocky Creek, upland and riparian buffers and an existing utility easement. The mitigation work plan includes planting existing pasture with hardwood species, restoring natural hydrology in wetlands and restoring channelized and impounded headwater streams on-site. The property owner, Cowland LLC will also be the long-term steward and the conservation easement is proposed to be held by Katawba Valley Land Trust. DNR reviewed a Prospectus dated September 9, 2014 and provided comments dated October 22, 2014. DNR staff reviewed a DMBI dated December 19, 2016 and comments were provided on March 1, 2017. DNR has received a revised MBI dated October 5, 2020 and provided comments dated November 16, 2020. DNR project manager: Greg Mixon

Salkehatchie Mitigation Bank Prospectus

The proposed project consists of establishing a freshwater wetland and stream mitigation bank in the Salkehatchie watershed (8-digit Hydrologic Unit Codes 03050207). The proposed 2,040.85-acre mitigation site includes approximately 1,958.76 acres of freshwater wetlands and 33,206 linear feet (lf) of non-wetland waters. The proposal is to preserve approximately 26,581 lf of streams and 1,212.99 acres of palustrine forested wetlands through the permanent protection of a conservation easement. In addition,

472.59 acres of freshwater wetlands will be enhanced through removal of loblolly pine and replanted in native species. 10,060 lf of stream will be restored/enhanced through removal priority one restoration utilizing natural channel design techniques. This includes channel realignment, construction of new channels, and bank stabilization. An upland buffer will be placed around stream resources. The bank sponsor, using a conservation easement, will protect the entire bank site. The bank owner is WNL Properties, LLC and the sponsor is Palustrine Group, LLC. DNR staff reviewed a Prospectus dated May 27, 2021 and comments were provided July 27, 2021. DNR project manager: Stacie Crowe.

South Carolina Department of Transportation (SCDOT) In-Lieu Fee Program Draft Instrument

The proposed project consists of establishing a Statewide In Lieu Fee (ILF) Mitigation Program initially in the Lower and Upper Catawba and Wateree River Watersheds (HUCs 3050101, 03050103, and 03050104) in the Piedmont ecoregion. The SCDOT ILF Program proposes to generate freshwater stream compensatory mitigation credit through the replacement of perched or undersized culverts within the SCDOT's transportation system in watersheds that are not currently served or are underserved by existing mitigation banks. The SCDOT will identify projects and provide funding for the ILF Program. Projects will be selected as mitigation needs require and will implemented pending IRT approval. Credits will only be used for SCDOT transportation projects. It is anticipated that the ILF Program will be used to offset impacts for smaller roadway improvement projects. Prior to submitting the permit application, the SCDOT will determine if the purchase of credits is practicable from an existing mitigation bank in the watershed. If credits are not available, the SCDOT will utilize credits from the ILF Program. The SCDOT will request the use of credits from the ILF Program when the permit application is submitted for the project. The ILF Program will likely be amended to allow additional service areas when Compensation Planning Frameworks are completed for these areas, eventually becoming a statewide ILF program. This ILF program would become South Carolina's first and only ILF program. The Prospectus was public noticed by USACE on October 19, 2020 and DNR provided comments on November 11, 2020. **DNR staff are currently reviewing a Draft Instrument, dated July 15, 2021, and will provide comments by September 10, 2021.** DNR project manager: Tom Daniel

Swamp Thing Mitigation Bank Draft Mitigation Banking Instrument

The proposed project consists of establishing a freshwater wetland mitigation bank in the Cooper River watershed (8-digit Hydrologic Unit Code 03050201) located in the Level III Lower Coastal Plain Ecoregion. The proposed 1,018.76-acre mitigation site includes approximately 997.67-acres of freshwater wetlands to be restored, enhanced, and preserved. According to the prospectus, the proposal is to restore 7.29-acres of hardwood forested wetlands that are currently trail roads; enhance 578.67-acres of hardwood forested wetlands that are currently inundated with loblolly pine; and, preserve 412.99-acres of bottomland hardwood forest. The project will be accomplished through the removal of planted pine, grading, planting native species, filling and plugging ditches, and the installation of a weir. The bank sponsor, using a conservation easement, will protect the mitigation bank site. Prospectus comments were submitted to the USACE by DNR on May 17, 2017 and DMBI comments were submitted on June 18, 2020 and again on May 26, 2021 in response to a revised DMBI. Project manager: Susan Davis

Tyger Watershed Mitigation Bank Draft Mitigation Banking Instrument

The proposed project consists of establishing a freshwater stream and wetland mitigation bank in the Tyger watershed (8-digit Hydrologic Unit Code 03050107) located in the Level III Piedmont Ecoregion. The proposed 405-acre mitigation site includes approximately 60,308 linear feet of stream channels and 10.89 acres of freshwater wetlands. In addition, 5,987 feet of streams and 0.163 acres of wetlands will be enhanced and restoration of 37,436 linear feet of Cane Creek, Motley Branch, and associated tributaries. The proposal is to preserve 14,397 linear feet of stream, including 12,355 linear feet of the Tyger River and 2,042 linear feet of stable tributary streams and preserve 3.44 acres of functioning forested wetlands. The bank owner and proposed long-term steward is Wiley Fork Legacy LLC and the conservation easement holder is Spartanburg Area Conservancy (SPACE). Prospectus comments were

submitted to the USACE by DNR on January 23, 2019 and DMBI comments were submitted on July 20, 2020. DNR project manager: Tom Daniel

Monthly Division Reports

EXECUTIVE OFFICE

OFFICE OF THE DIRECTOR

AUGUST 2021 HIGHLIGHTS

During the month of August, Director Robert Boyles participated in daily telephone conversations and meetings with staff, Deputy Directors, Board Members, legislators, partners, and constituents.

Director Boyles met with Anna Smith in Charleston to discuss ongoing projects and grants.

Director Boyles and Kevin Ryan attended the Conservation and Antiquities roll-out event at the Cypress Preserve on the Black River in Andrews with Governor Henry McMaster, Senator Chip Campsen, Senator Ronnie Sabb, Tom Mullikin and others in attendance. Later, Director Boyles chaired the Deputy Directors/Senior Staff meeting as well as met with Deputy Directors, Scott Speares, and Kevin Ryan on the FY23 State budget request.

Director Boyles had a telephone meeting with Mallory Martin, US Fish & Wildlife Service SECAS Coordinator, to discuss landscape scale conservation. Director Boyles participated in a conference call meeting of the Association of Fish & Wildlife Agencies (AWFA) Annual Awards Committee to review award nominations in preparation for the upcoming AFWA Fall Meeting.

Director Boyles and Tyler Brown met with officials of the SC Association of Conservation Districts (SCACD) including President Jeff Wilson, Vice President Ben Setzler and Past President Kenny Mullis at their request to discuss the FY23 Budget and future plans.

Director Boyles attended the Hampton Wildlife Fund Board of Directors Meeting in the Board Room in Columbia. Director Boyles and Shannon Bobertz met virtually with Jill Hufnagel on planned leadership training.

Director Boyles met with Chairman Norman Pulliam in Spartanburg to discuss legislation, constituent issues and the August Board agenda. Director Boyles participated in a conference call meeting of the Southeastern Association of Fish & Wildlife Agencies (SEAFWA) Executive Committee.

Due to Phil Maier's absence, Director Boyles chaired the MRD Senior Staff Meeting in Charleston and later had a conference call meeting with the Deputy Directors and Senior Staff.

Director Boyles and Kevin Ryan met with staff of The Nature Conservancy at their request including Director Dale Threatt-Taylor, April Donnelly, and Eric Krueger at the Marine Center for a discussion of water planning, oysters and the Antiquities Act.

Director Boyles met with Lorianne Riggins and Shannon Bobertz on environmental projects and ongoing issues. Director Boyles had a telephone meeting with Tanya Darden and Chantal Rice of MRD about the Center for Coastal Environmental Health and Biomolecular Research (CCEHBRR) Laboratory.

Director Boyles and Hope Mizzell represented SCDNR at the first meeting of the Resilience Office Advisory Committee held at the Resilience Office in Columbia. Later, Director Boyles attended the Heritage Trust Advisory Board meeting at the Parker Annex Archaeology Center and had lunch with the group.

Director Boyles met with Governor Henry McMaster and staff for a briefing on horseshoe crabs.

Director Boyles attended and spoke at the WFF Wildlife Biologists annual meeting at Seawell's in Columbia.

Director Boyles attended the Land, Water & Conservation Advisory Committee quarterly meeting at the Wampee Plantation in Berkeley County. Later, Director Boyles had a telephone meeting with the Deputy Directors in preparation for the August Board Meeting.

Director Boyles, Kevin Ryan, Amy Tegeler, Felicia Sanders, Mary Catherine Martin and staff of the SC Coastal Conservation League took a boat trip to Deveaux Bank and discussed shorebird management.

Director Boyles participated in the SCDNR Board Meeting held virtually and in person in Columbia on August 19.

Director Boyles participated in the Law Enforcement Training Council Quarterly Meeting.

In Phil Maier's absence, Director Boyles led the MRD Senior Staff Meeting in Charleston.

Director Boyles, Chairman Norman Pulliam and Board Member Jake Rasor participated in the London Creek WMA ribbon cutting ceremony in Gaffney with Senator Harvey Peeler and partners from Duke Energy in attendance as well as Deputy Director Cope and Billy Dukes and local Law Enforcement staff. Later, Director Boyles and Deputy Director Cope met with staff including Lorianne Riggins, Billy Dukes and local WFF staff and toured the Beaverdam Waterfowl Area in Townville.

Director Boyles and Col. Chisolm Frampton met with Representative William Bailey in his Columbia

office at his request to discuss boating safety on the ICW in Horry County.

Director Boyles had a telephone meeting with Sea Grant Executive Director Susan Lovelace about leadership and development at Sea Grant as well as the Sea Grant Accountability Report.

Marine Resources Division

Marine Resources Research Institute (MRRI)

Grant Proposals

Awarded: Kingsley-Smith, P.R., M.R. Kendrick, G.W. Sundin, G.A. Wagner & M. Perkinson. Facilitating and implementing the removal of derelict crab traps (DCTs) in South Carolina estuaries. FY2021 NOAA Marine Debris Removal Program. September 1, 2021 - August 31, 2023. \$97,006 awarded; \$97,053 as match.

Awarded: Montie, E.W. & J. C. Ballenger. Estuarine soundscape observatory network (ESON) – Long-term measurements of sound and comparisons to biodiversity in South Carolina. SECOORA Integrated Ocean Observing System. June 1, 2021 – May 31, 2026. Original project budget - \$909,521, with \$111,950 to SCDNR; asked to reduce scope with final amount to SCDNR of \$27,111 (maintenance of receivers only).

Publications

Published: Glasgow D.M., M.J. Reichert & J. Quattro (2021). Effects of environmental factors on reef fish assemblage structure in the southeastern US Atlantic. *Marine Ecology Progress Series* 671:147-163.

Published: Spanik, S., T. Smart, M.J.M. Reichert & T. Darden (2021). Using DNA barcoding to improve taxonomic resolution of the diet of red snapper (*Lutjanus campechanus*) along the Atlantic coast of the southeastern United States. *Fishery Bulletin* 119(2-3):123-134.

Published: Nash, C.S., P. Darby, B.S. Frazier, J. Hendon, J. Higgs, E.H. Hoffmayer & T.S. Daly-Engel (2021). Multiple paternity in two populations of finetooth sharks *Carcharhinus isodon* with varying reproductive periodicity. *Ecology and Evolution*. <https://doi.org/10.1002/ece3.7948>

Published: White, S., D. Kazyak, T. Darden, D. Farrae, B. Lubinski, R. Johnson, M. Eackles, M. Balazik, H. Brundage, A. Fox, C. Hager, J. Kahn & I. Wirgin (2021). Establishing a microsatellite genetic baseline for North American Atlantic sturgeon (*Acipenser o. oxyrinchus*) conservation and management. *Conservation Genetics*. <https://doi.org/10.1007/s10592-021-01390-x>

Published: Sinkus, W., B. White, L. Reed & V. Shervette (2021). Mercury accumulation in reef fishes: a comparison among red grouper, scamp, and gag of the Atlantic southeastern US and evaluation of “grouper” consumption guidelines. *Environmental Monitoring and Assessment* 193:574. <https://doi.org/10.1007/s10661-021-09299-1>

Accepted: Jacoby, D.M.P., B.S. Fairbairn, B.S. Frazier, A.J. Gallagher, M.R. Heithaus, S.J. Cooke & N. Hammerschlag (2021). Social network analysis reveals the subtle impacts of tourist provisioning on the social behaviour of a generalist marine apex predator. *Frontiers in Marine Science*.

Submitted: X. Lu, D. Deng, F. Huang, F. Casu, E. Kraco, R. Newton, M. Zohn, S. Teh, A. Watson, B. Shepherd, Y. Ma, M. Dawood & L. Mendoza. Chronic exposure to feed containing high-density polyethylene microplastic disrupts nutrient utilization of juvenile yellow perch (*Perca flavescens*). *Animal Nutrition*.

Resubmitted: M. McClain, N. Hammerschlag, A. Gallagher, M. Drymon, D. Grubbs, T. Guttridge, M. Smukall, B. Frazier & T. Daly-Engel. Bisexual philopatry and long-term monogamy in a circumglobal marine predator. *Molecular Ecology*.

Resubmitted: Z. Lane, E. McElroy, M. Kendrick & J. Zardus. Extreme passive feeding of a sea-turtle barnacle sustained by borrowed flow. *Journal of Crustacean Biology*.

Presentations

D. Sasson, M. Kendrick, J. Brunson, E. Gooding, J. Huber, T. Puckette & P. Kingsley-Smith. The use of salt marsh habitat for spawning by the American horseshoe crab, *Limulus polyphemus*. MRRI Managers Meeting, MRRI Auditorium, July 23, 2021. Approximately 20 scientific attendees.

D. Sasson, M. Kendrick, J. Brunson, E. Gooding, J. Huber, T. Puckette & P. Kingsley-Smith. The use of salt marsh habitat for spawning by the American horseshoe crab, *Limulus polyphemus*. Ecological Society of America Annual Conference (virtual), August 2, 2021.

D. Swift, S. O'Leary, D. Grubbs, B. Frazier, J. Gardiner, M. Drymon, D. Bethea & D. Portnoy. Delineation of blacktip shark genetic stock structure in the northern Gulf of Mexico. Joint Meeting of Ichthyologists and Herpetologists, July 21, 2021, Phoenix, AZ. Attendees ~100 (in-person and virtual).

B. Frazier, E. Vinyard, D. Adams, D. Bethea, W. Driggers III, M. Drymon, A. Fields, D. Grubbs, J. Hendon & E. Hoffmayer. Age, growth, and maturity of the bonnethead, *Sphyrna tiburo*, in the Gulf of Mexico. Joint Meeting of Ichthyologists and Herpetologists, July 21, 2021, Phoenix, AZ. Attendees ~100 (in-person and virtual).

E. Levesque. Hormone spawning induction in southern flounder. Estuarine Finfish Research Section meeting presentation. August 30, 2021, ~25 attendees.

F. Casu, A. Watson and D. Klett all practiced talks for Aquaculture America 2021 conference on August 2 and August 9, 2021 at the Estuarine Finfish Research Section meeting, 20 attendees, technical audience.

F. Casu. Effects of polyethylene microplastic-containing feeds on the metabolite profiles of juvenile yellow perch (*Perca flavescens*). Aquaculture America 2021, August 14, 2021, San Antonio, TX, 40 attendees.

A. Watson, F. Casu & K. Kolmos. Initial assessment of nuclear magnetic resonance-based metabolomics as a tool for the identification of skipped-spawning biomarkers. Aquaculture America 2021, August 14, 2021, San Antonio, TX, 40 attendees.

D. Klett & A. Watson. Nutritional performance of juvenile red drum, *Sciaenops ocellatus* fed various fish, squid, and shrimp diets. Aquaculture America 2021, August 14, 2021, San Antonio, TX, 40 attendees. **[David Klett won the USAS/AFS-FCS Best Abstract Award for this presentation and received the award at the Student Reception.]**

S. Harris. Genomic resources for southern flounder. Estuarine Finfish Research Section meeting, August 16, 2021, 20 attendees.

M. Young. Project update: habitat use by hammerhead sharks. Estuarine Finfish Research Section meeting, August 23, 2021, 20 attendees.

T. Kellison, J. Garland, P. Chase & M. Reichert. Fishery independent surveys – An overview. August 18, 2021. Fisheries Atlantic Coast Data Coordination Workshop.

Outreach

On August 18, Evan Bowman participated in the “Keep the Broad Creek Clean” Education event on Hilton Head Island with Coastal Reserves and Outreach (CRO) staff.

On August 10-11, Gary Sundin presented a virtual “Lunch and Learn” lecture through the SC Interagency Drone Users Consortium (SCiDUC) as part of a test preparation course for members studying to take the FAA Part 107 exam; the topic was FAA airspace classifications and sectional aeronautical chart reading. 15-18 attendees.

On August 19, Erin Levesque presented a talk “Stewards of the Sound” to the residents of Spring Island as a part of their Spring Island Trust Speaker Series. General audience, 40 attendees.

On August 23, Michael Kendrick participated in the Acoustics Monitoring Workshop hosted by the Mission-Aransas, Rookery Bay, and North Inlet-Winyah Bay National Estuarine Research Reserves.

Daniel Sasson joined and met with the DISTEM committee which aims to stimulate discussion and action around diversity and inclusion in STEM within the Fort Johnson community.

Recent living shorelines and stormwater runoff research conducted by the MRRRI Shellfish Research Section, ACE Basin NERR, and Environmental Research Section was included as part of the article entitled “*All Hands On Deck: Addressing Coastal Challenges of the Next 30 Years*” featured in the summer 2021 issue of *Coastal Heritage Magazine*, Volume 34(1).

Progress Report and Activities

Coastal Research Section

After more than 6 years of service, Christopher Evans resigned from the SCDNR, effective September 1, to pursue a position outside the Agency. We thank Chris for his contributions to the section and the Agency over the years, and we wish him well in his new job.

We received the new MARMAP grant approval from NOAA.

Walter Bublely participated in the South Atlantic Fishery Management Council, Science and Statistical Committee virtual meeting on July 28, 2021 to discuss projections of Red Snapper stock levels into the future that will be utilized to set allowable biological catch (ABC) for upcoming years. He also attended a call for the Southeast Fishery Science Center SEDAR Steering Committee as a major data provider to discuss planned assessments and determine dates for start and completion.

Marcel Reichert participated in the Atlantic Coast Data Coordination Workshop on August 24-26, 2021. Regional cooperation of NOAA-supported fishery surveys along the US Atlantic coast was discussed, aimed at improving survey utility and efficiency.

Michael Arendt attended a planning meeting for the 2021 College of Charleston Grice Student Colloquium which will be held on-line on October 23, 2021.

Reef Fish Survey (MARMAP and SEAMAP-SA): We recently purchased four new underwater stereo camera systems for the Reef Fish Survey. Preparations are being made for final assembly, calibration, and testing of the systems prior to actual use, as well as training staff in the use of the associated software.

The 10-day Legs 7 and 8, scheduled for period August 9-20 and August 23 - September 3, respectively, were each split into two 5-day cruises due to the unavailability of sufficient vessel crew. The R/V *Palmetto* departed for Leg 7A on August 9 and returned on August 13 after a successful week of sampling off North and South Carolina.

Leg 7B departed on August 17 after a weather delay and returned on in the early hours of August 20. Leg 8 A was canceled and Leg 8B was shortened (August 29-31) due to inclement weather, including the effect of Hurricane Ida. During the realized legs, we deployed a total of 232 chevron video traps, made 42 CTD casts, and sampled fish during 8 hook-and-line efforts. Catches were typical for these sampled areas and included Tomtate, Vermilion Snapper, White Grunt, Sea Bass, Gray Triggerfish, some groupers, several porgy species, and a total of 78 red snappers. Noteworthy were the capture of a large Great Barracuda in a trap, and a large Cornet Fish and a 16lb Jolthead Porgy on hook-and-line. The Reef Fish Survey provided a deck hand to assist the vessel crew for all three realized legs.

South Atlantic Deepwater Longline Survey (SADLS): The first trip of the year from the vessel out of Florida was successful in deploying 10 longline sets over 3 days of fishing. SCDNR staff, NMFS collaborators, observers/observer coordinators, and the vessel owner had a debriefing call following the trip to evaluate fieldwork and provide guidance on how to handle work-up of larger catches. We requested and received an amendment to the Letter of Acknowledgement to include the additional collaborating North Carolina and Florida fishers.

Life History Project (MARFIN): Staff continue to process and examine archived samples, including Mutton Snapper samples in preparation for the SEDAR 79 stock assessment.

Short Bottom Longline Survey (MARFIN): Preparations for field sampling aboard the R/V *Lady Lisa* continued, including discussing methods to deploy a camera array from the vessel. The R/V *Lady Lisa* departed on August 18 for Leg 1, and returned on August 21 after 2 full days of sampling and deepwater camera deployments off South Carolina in 300-700' depths. Catches were diverse, including Snowy Grouper, Blueline and Golden tilefish, Almaco jack, Greater Amberjack, and even a Hagfish. The scientific crew provided a deckhand to assist the vessel crew. Leg 2 was delayed due to weather but departed on August 28 and returned on August 31 when a hydraulic leak in the steering system was discovered that could not be repaired while underway. Leg 2 deployed 5 sets of short bottom longlines and cameras off southern SC and GA between 200 and 700' depths, with relatively light catches of jacks, likely due to a lack of high relief habitats.

Data Management: Staff continue to update data in the current online database. The data management team filled 5 external data requests, including 2 in support of the South Atlantic Red Snapper Research Project (SARSRP) sub-recipient grant. The data management team also participated in a SECOORA PI webinar where recently funded research investigators met to discuss their research and discover opportunities for collaboration.

Coastal Trawl Survey (SEAMAP-SA): Shortage of vessel crew continued to be problematic and the cruise in the week of August 2 was canceled because of a lack of vessel crew. The last leg of the summer cruise was cut short due to a COVID-19 concern. After departure on August 8, the R/V *Lady Lisa* returned on August 10. With insufficient time to sample any remaining stations, the summer cruise was ended. During the realized 9.5 of the 20 scheduled sea days, 38 of the 102 stations were sampled, leaving us considerably short of a minimum number of sampled stations. Staff met with Vessel Operations to discuss needed trawl survey vessel specifications for the R/V *Lady Lisa*'s replacement as Vessel Operations puts together a bid package.

In-water sea turtle research: Personnel participated in two sea turtle tag training days with the Inshore Fisheries Trammel Net survey, during which time three green sea turtles and one loggerhead sea turtle were tagged. Sea turtle blood samples for Dr. Andy Shedlock (College of Charleston) and Dr. Joseph Quattro (Univ. S. Carolina) were picked up. We also coordinated sending samples to Dr. Mariela Pajuelo (Univ. Florida, stable isotopes) and Dr. Roldan Valderde (Southeastern Louisiana University, steroid hormone for sex determination). Reports for the Annual tagging (Archie Carr Center for Sea Turtle Research, Cooperative Marine Turtle Tagging Program) and sampling permit (GADNR, NMFS Protected Resources) were submitted. Trawl nets used aboard the R/V *Georgia Bulldog* were retrieved from Brunswick, GA for end-of-season storage.

Diamondback terrapin research: Seven citizen scientist reports were received during August, three involving dead terrapins (hatchlings for two reports, adult female for one report) and four involving live terrapins (two involving hatchling emergence on the beach, one involving an in-water sighting from a distance, and one involving an in-water capture on hook-and-line fishing gear).

Coastal acoustic receivers (DJ): Eight acoustic receivers deployed since summer 2020 were uploaded at the Area 51 and 53 arrays on August 11 and 12, and a detection summary and a video were prepared for the Marine Artificial Reef Program. Receiver uploads scheduled in the Grand Strand for August 20 and Beaufort for August 25 were cancelled due to swell from tropical storm Henri; however, we were able to reattach two receivers to ATONs in Port Royal Sound which were missing during last servicing on July 14. Seventy-six of 118 (64%) of unmatched transmitter codes were subsequently associated with a researcher (and species) through a combination of the Florida Atlantic Coast Telemetry Node and communication with researchers. Eighteen additional codes are awaiting researcher confirmations and 21 new codes were submitted to the manufacturer for identification assistance. Since fall 2013, more than 2,000 transmitter codes representing at least 41 species have been detected.

Stock Assessment Activities: Staff will be providing the limited information we have on Mutton Snapper to the SEDAR 79 Stock assessment team at the Florida Fish and Wildlife Institute.

Ecosystem Research Section

SCECAP: The 2021 field season is complete, with 30 sites being sampled ranging from Daufuskie Island to Little River. Early results suggest a fairly typical year in terms of environmental parameters and nekton abundances, but full results will take nearly a year to process. Black gill has been present in some shrimp, but not at all sites. Sampling was coordinated with SCDHEC, which is also conducting water sampling for nutrients and harmful algal bloom (HAB) toxins. The 2020 benthic samples are still being processed, with 45 out of 60 sorted and 39 out of 60 identified. The 2021 samples are already being processed as well, with 7 out of 60 complete.

Shorebird Habitat Project: This project aims to quantify shorebird (piping plover, red knot) foraging habitat requirements through the assessment of benthic prey resources, fecal DNA analysis of diet (in collaboration with the SCDNR Genetics group), and other geomorphic attributes. Staff met to coordinate data sharing obligations in coordination with NOAA guidelines.

Kiawah Pond Project: The bi-monthly samplings were conducted on August 9 and 23. Sampling of Kiawah ponds yielded high D.O. values (120%+) in two ponds as well as a bloom of *Chattonella subsalsa*, a toxin-producing species associated with 'brown tides' in two of the ponds (K73 and K74) on both sampling events. Blooms of a chlorophyte were also observed at two ponds.

SECOORA: The Fort Johnson water quality site is actively transmitting data, with its instrument being swapped twice in August. The instrument collecting the data was not transmitting for a brief period and a faulty wire was repaired to fix the issue. The data can be viewed real-time here: <https://cdmo.baruch.sc.edu/dges/>.

ACE Basin NERR: All six of the water quality instruments were swapped with new instruments twice this month (August 4 and 16). The water quality and weather data were submitted to the NERR central data repository (CDMO). Nutrients were collected at all six sites and the diurnal St. Pierre site sampling occurred on August 3. The 2020 weather data was authenticated by the Centralized Data Management Office (CDMO). Water quality data for the 2020 was exceptional, and the CDMO reported that "Your dedication to high quality data collection and QC (quality control) is definitely noticed!" The ACE also received full marks for on-time data reporting for all of 2020. The data can be viewed real-time here: <https://cdmo.baruch.sc.edu/dges/>.

Nicole King and Lauton Sutley collected the September swap and nutrient grabs and retrieved the ISCO sampler (deployed on the September 1) on September 2. The ACE Basin team is preparing for its biannual vegetation sampling that will be done between September 16-21 and in conjunction with the UAV flying of the site as part of a NERRS Catalyst project, in collaboration with the Shellfish Research Section. The area will be flown on September 14 and 16. In addition to the normal parameters (% percent cover and plant density), the ACE Basin team will collect biomass samples, measure elevations at the vegetation plots as well as other points that will be used to verify the elevations taken by the drone. In addition, the project will delineate the shoreline and the boundaries of the major vegetation zones at the sites as part of the NERRS Catalyst project.

Miscellaneous: Staff that were in the area responded to a fish kill in a pond off Highway 41. Very low dissolved oxygen was observed (0.06 mg/L) alongside carp and sunfish that had been dead for several days. The pond is privately owned and managed, and no further action was taken. Staff are moving and organizing labs to accommodate USGS who will occupy a former section laboratory. Staff participated in a SC Sea Grant Consortium workshop to discuss the update and possible expansion of a website to identify where water quality sampling is occurring in the coastal zone. Staff also participated in the SC (Harmful Algal Bloom) HAB Net Steering Group meeting.

Estuarine Finfish Research Section

NIST Collaborations: Mariculture staff are collaborating with a NIST post-doc interested in fish hormones. The group is currently working on experimental protocols to sample fish slime of several of MRRI and WMC's important species to determine if spawning cues and/or maturation hormones can be detected with minimally invasive methods and to determine sex of unidentified broodstock.

SCSG Brewery By-Product Evaluation: Juvenile red drum were moved from NWL 5 to HML 121 tanks in preparation for the digestibility trial. All four diets for the digestibility trial have been manufactured and are being stored prior to the digestibility trial. We have begun feeding digestibility diets to juvenile red drum for this project. Stripping of and collection of feces for analysis will begin the week of September 7.

Red Drum Production: Broodstock spawning is well underway and 11 ponds have been stocked with larvae representing 3 genetic families. One pond was been harvested on September 2. 5,000 fish were transported to the MRRI and the rest were released in the ACE Basin. There are 10 production ponds remaining with red drum larvae stocked. Mean total length (TL) from 8 ponds that have been sampled range from 9-28 mm. Bears Bluff National Fish Hatchery received 800,000

red drum larvae from the MRRI for stocking into their ponds. Fish will be released into the North Edisto after approximately a month. The number of red drum broodstock that need to be captured by the Inshore Fisheries group has been determined and plans are underway to collect these in September. A total of 11 new fish will be brought into the lab.

FIGLU: The final draft of the FIGLU manuscript has been sent to coauthors for review, with anticipated submission to a journal by the end of September.

Red Drum Natural Feeds Metabolomics: Processing and NMR-based metabolomic analysis of red drum liver samples collected over the course of the 12-week natural diet component feeding trial is ongoing. NMR spectra (1Ds and 2Ds) are currently being acquired on samples from the final time point. Unfortunately, due to a power outage that occurred at the NMR facility on August 6, the 700 MHz spectrometer will require maintenance before we can run the last batch of samples from this project. The results will be summarized in a manuscript for submission later this year.

Collection coolers: The carcass collection coolers were removed last week from Hilton Head Island. This year we collected a total of 52 cobia carcasses and one tripletail carcass from recreational anglers and charter fisherman. We also collected data from an additional 20 cobia from tournaments this year.

Terrapins: All nests that were “planted” in West Ashley and Botany Bay (n=23) have been recovered. Nests are in various stages of hatching at the Waddell Mariculture Center (WMC) and some hatchlings are already in aquaria. Eight nests in total were depredated over the course of the study. A photographer took photos of the last of the nest recoveries to be used in a SC Sea Grant Consortium publication. To date, 112 hatchlings have successfully hatched and are being head-started at WMC.

Tripletail: Fish in one of the 10-ft diameter tanks were injected on August 4, 19, and 31 with LH-RHa + domperidone. Any resulting larvae will be used for short-duration intensive larval trials and/or extensive pond production once a few repairs have been done to the S-pond. Additional tripletail collection efforts in Florida are continuing to acquire another 10-15 individuals for spawning experiments in 2022. Blood plasma and mucus samples will be collected next week from tripletail for hormone analyses. The natural photoperiod will soon no longer be conducive for spawning. One more round of spawning induction with GnRH IIa + domperidone in the upcoming weeks will be attempted to finish project objectives for this year.

SRAC Artemia replacement: Experiments for the project will start again in December. Additional broodfish will potentially be collected during trammel net sampling in Port Royal in September/October.

Acoustic Receivers: Acoustic receiver arrays were downloaded for the North Edisto River as well as St. Helena Sound and Port Royal Sound. Data are being compiled for dissemination to tag owners.

Adult Red Drum and Shark Longline Survey: The first trip has been completed with 2 days in Port Royal Sound and 2 days in Saint Helena Sound (total of 60 sets, 30 per strata). The first sampling days in Winyah Bay and Charleston Harbor are scheduled for the week of September 7.

Age and Growth: Ages for spotted seatrout collected in 2020 were finalized and ages of Charleston Harbor fish captured between September and December 2020 were shared with the Population Genetics team. The number of samples available from 2020 were less than most years due to the reduction of life history sampling from late-March through December to accommodate COVID-19 social distancing protocols. Staff have begun second reads on Scalloped/Carolina Hammerhead vertebrae for the upcoming assessment. First reads have been completed for over 1,000 vertebrae.

ASMFC Stock Assessment Training: Staff participated in an ASMFC-sponsored Advanced Stock Assessment Training Workshop on the theory and application of Management Strategy Evaluation as a tool to assist fisheries managers, stakeholders, and assessment scientists to understand the trade-offs and risks associated with different management options. This five-day workshop was held virtually by ASMFC on August 16-20.

COASTSPAN: Seven out of eight scheduled days were completed in July (2 days in ACE Basin, 2 days in the North Edisto River and 3 days in Bulls Bay). August sampling has begun with seven of the eight days complete. The only remaining sampling day in August is a makeup day in the North Edisto scheduled for August 30. The season is now complete with no further days scheduled in 2021.

Eboard/FEED: Staff continue to work on the Eboard/FEED software in hopes of having it ready for field testing during longline activities later this month. Issues arose with computer hardware/software and a new version of firmware was received and successfully installed this week. Testing/calibration is ongoing.

Electrofishing Survey: August electrofishing sampling is complete, with all four scheduled strata (Combahee, Winyah Bay, Cooper River, and Ashley River) completed on August 2-5. September electrofishing sampling has commenced with 3 strata (Combahee River, Winyah Bay/Waccamaw River, and Cooper River) sampled to date. One additional stratum (Edisto River) is scheduled for sampling later in the month.

Estuarine Trawl Survey: August included an estuarine trawl survey south trip, with a total of four days of sampling completed between August 16 and 19, 2021. The survey report has been distributed.

Hammerhead Complex Stock Assessment: Staff participated in the first and second stock ID workshop for the hammerhead complex. Staff presented preliminary age and growth information for scalloped and great hammerheads. Stock

ID recommendations were finalized with significant discussions around how to handle the presence of the Carolina hammerhead.

Southern Flounder: Staff are preparing workplans to begin the new flounder stock enhancement program. Coordination with regional collaborators for genetics samples is ongoing; sampling for NexGen sequencing was completed and staff are awaiting purchasing documents before submitting samples. Staff are preparing plans for mariculture facilities modifications and submitting purchase requisitions. Staff from the North Carolina Division of Marine Fisheries (NCDMF) reached out to discuss SCDNR's interest in participating in a satellite tagging project intended to determine the spawning grounds of Southern Flounder. NCDMF tagged 130 flounder with these tags during the fall of 2020 in North Carolina. They intend to tag approximately the same number this year and hope to have 30 of the fish tagged in South Carolina estuaries. Tagged fish will all be females greater than 20" TL. SCDNR will support these efforts as much as possible, provided that it does not interfere with the collection of broodstock for the development of SCDNR's Southern Flounder stock enhancement program.

Status of Stocks: Staff are working with CRO to update the "status of stocks" reports for priority species, the first of which will be Red Drum. Staff are working with CRO to develop a streamlined report making it easier to update in a timely manner that will convey pertinent information clearly to the general public.

Acoustic Monitoring Workshop: Staff were invited to participate in an acoustics monitoring workshop hosted by the Mission-Aransas, Rookery Bay, and North Inlet-Winyah Bay National Estuarine Research Reserves. The goal was, among other topics, to assess the value of acoustic monitoring reserves in NERRs to further scientific knowledge, provide an opportunity for public education, and to glean information on use of NERRs.

Trammel Net Survey: All four scheduled trammel days were completed for July (Port Royal Sound, Romain Harbor, Ashley River, and Wando River strata) and August (Muddy and Bulls Bays, ACE Basin, Ashley River, Winyah Bay, and Charleston Harbor). September trammel net field activities will begin the week of September 7-10, with five strata (Winyah Bay, Charleston Harbor, Port Royal Sound, Wando River, and ACE Basin) scheduled for sampling.

Cobia: Field samples are continuing to be genotyped to evaluate stocking contribution and will be incorporated into our stock structure analyses. Additional samples were received from FL collaborators; they are being archived and genotyped. Ten juvenile cobia from this year's pond production were donated to the Port Royal Sound Foundation Maritime Center. A satellite tagged cobia in December 2020 off Georgia has transmitted data to Wildlife Computers. This is the first tag that has successfully stayed on through the winter months. Typically tags pop off around the 2-3-month range. Two adult cobia were transported from WMC to MRRRI to complete a second family for spawning in 2022. Completion of the 2021 cobia sample collection year is complete. Anglers that requested a fin clip kit have been contacted and samples are being shipped in for processing. Data will be imported into our database and proofed.

Cobia eDNA: Staff are compiling data and working on the upcoming annual report.

Crayfish Genetics: Genotyping of field samples with the new microsatellite marker panel is nearing completion.

Robust Redhorse: Staff are continuing to test the new eDNA markers for robust redhorse and are collaborating with UGA partners on further testing to confirm species specificity. Staff have completed the archiving of the spring's field collection of fin clips from all systems and will begin genotyping shortly. Staff have completed the assessment of the historic samples from the Altamaha systems in Georgia and will begin genotyping them; they represent critical baseline data for this decreasing population. Staff are assisting in the coordination of the annual RRCC meeting next month.

Shortnose Sturgeon Genetic Tool Development: Staff meet with WVU collaborators on the initial screening of potential disomic markers. The development work is going to be transferred down to the MRRRI for completion and we are moving forward with additional sequencing.

Snakehead eDNA Tool Development: Staff are working on the development of an eDNA tool for detecting the presence of multiple invasive snakehead species. Testing of the proposed eDNA tool is continuing.

Spotted Seatrout: Field collections from 2020 have been genotyped to evaluate contribution from our experimental stocking program. Work is starting on annual report preparation.

Striped Bass: Genotyping of the SC winter gillnet samples is nearing completion.

White Seabass Genetics: Staff are continuing to isolate DNA from otoliths and genotyping field samples.

Genetics Tissue Archive: Staff are continuing to curate and accession genetics sample sets; efforts to return completed sample sets back into the HML collection room is ongoing.

Laboratory Safety: Staff representing each section attended the Safety Meeting on July 27. Staff are working to schedule lab safety tours for all new employees in the Inshore Finfish Research Section.

Graduate Students: Augustus Snyder (CofC Master's student) is continuing his training with Fabio Casu on NMR metabolomic analysis for its thesis project on the effects of *Kudoa inornata* infection in spotted seatrout. Hands-on training on a metabolite identification program (Chenomx) was provided at HML.

HML: Staff are working with the HML safety officer to update safety documentation to new templates. The DNR Monthly Safety Reports for July and August were submitted on time. Fabio Casu is assisting NIST during their personnel

shortage with nitrogen fill of the 700 MHz NMR spectrometer at HML. He also assisted with a nitrogen gas leak from the cryocooling unit of the 800 MHz spectrometer; the NMR facility remains operational. NOAA will remain in a Phase I (25% capacity) for the foreseeable future.

MRRI Wetlab: The chiller on the OWL side has been down for two weeks. Maintenance has been notified and we are waiting for a contractor to fix the problem. Brooke Czwartacki sampled our freshwater deep well to evaluate saltwater intrusion over time.

Waddell Mariculture Center (WMC) Facilities: Emergency oxygen apparatus for broodfish systems has been established and just requires electrical wiring. Work has resumed to complete the heater-chiller system. Plans are being developed for the new tank systems on the concrete pad of the old maturation building. Work is moving forward with initial phases of the pond renovation project and the FEMA project to upgrade and repair the pump house. Five of the 11 systems in the wet lab which house cobia and tripetail broodfish have been connected to the generator for automatic power transfer during outages (pumps). DO membranes for wall mounted YSI units have been switched and replaced.

HML Research Committee: Aaron Watson and Daniel Farrae attended the meeting on July 28, 2021.

HML Science Board: Aaron Watson and Tanya Darden attended the bi-weekly meetings.

Aquaculture America 2021: Fabio Casu chaired the “-Omics Approaches” session at the conference in San Antonio, TX. Additionally, Fabio Casu helped judge students’ presentations at the same conference. Aaron Watson was the Steering Committee Chair for the Aquaculture America Conference in San Antonio, TX August 12-14, 2021. Aaron Watson (Vice President) attended the quarterly United States Aquaculture Society Board Meeting on August 11, 2021 in San Antonio, TX.

Highly Migratory Species (HMS) Safe Handling, Release, and Identification Workshop: Several staff of Inshore fisheries participated in the workshop hosted by NOAA Fisheries in Charleston on August 31. The workshop is required by all federal highly migratory species commercial permit holders and is strongly encouraged for staff conducting scientific surveys having a non-zero chance of encountering protected resources during field efforts. Staff were instructed in the proper technique for the dehooking and detangling of sea turtles interacting with hooked gear, identification of sea turtle species, technique for proper release of smalltooth sawfish, and identification of baleen and toothed whales that may encounter fishing gear along the US South Atlantic coast.

EPMS: Supervisors were able to work with all employees to evaluate their FY21 performance and submit performance evaluation documents within agency mandated time frames. Despite the ongoing impact of COVID-19 and loss of several staff, the EFR group remained highly productive throughout the year.

Staff: Staff officially welcomed Claire Benson, Elizabeth Bullard, and Lukas Troha to the Inshore Finfish Research group. Claire’s first day was August 2. Elizabeth and Lukas’ first day as seasonal hourly employees with Inshore Finfish Research group was September 2, although they have been volunteering with Inshore for the last several months. They are integrating themselves quickly and have proven themselves valuable in the field. The Population Genetics Team has completed the first round of phone interviews for the Assistant Marine Scientist positions and is scheduling the second round interviews with the top candidates. Aaron Watson has been promoted to Associate Marine Scientist. Interviews were conducted for the 2nd MRRI Mariculture Biologist I position; paperwork has been submitted.

Shellfish Research Section

Unoccupied Aerial Vehicle (UAV) research: Staff flew several small flight missions to test the functionality of the near infrared (NIR) sensor on the Mavic drone purchased for the NERR Science Collaborative Catalyst grant-funded project (led by the MRRI Environmental Research Section). ERS and MRMS biologists met to plan out the details of the fieldwork for the flights, which will occur in mid-September. **Biologist Graham Wagner was recognized for his contributions to the Agency’s UAV mission by SCiDUC in its September member spotlight (<https://www.sciduc.org/member-spotlight>).** **DNR videographer Danielle Kent produced a short video on how staff use drones for research (https://www.youtube.com/watch?v=cJ1_IC0zFAo).**

South Carolina Oyster Demographic Assessment (SCODA) survey: Staff completed initial processing and completed full *Perkinsus marinus* (Dermo) assessments for oyster disease samples from 12 sites. Dermo was detected at all sites assessed, which was not unexpected and is consistent with disease prevalence work completed 20+ years ago. Staff have begun developing a database to manage the new disease data. Biologist Graham Wagner provided an updated summary of demographic data, through the 2020 - 2021 sampling season, which was used by Ben Dyar in the annual State Shellfish Ground condition assessment meeting on August 26.

NMFS Community-Based Restoration project: Staff completed post-construction monitoring of the Turn-of-River and Big Bay restoration sites. Staff have begun soliciting information from all collaborators for the semi-annual report which will cover activities conducted April 1 - September 30, 2021.

SCDHEC 309 living shorelines monitoring: This year’s monitoring season began in August and to date staff have completed monitoring at 10 of 14 sites. Staff have begun entering the field data into the database and processing the UAV mapping data.

Dingell-Johnson (DJ) / SRFAC funding: Staff used shorelines digitized by Crustacean Research and Monitoring Section hourly Trap Puckette to conduct Analyzing Moving Boundaries Using R (AMBUR) analyses at two living shoreline installations completed in 2017 and 2018 near the Ashepoo River. These small analyses, completed independently of more formal experimental projects, continue to improve the understanding of how installation parameters affect living shoreline performance. Gary Sundin produced draft language and maps for OFM describing commercial channel, seine, and gill net areas in the North Santee River, Winyah Bay, and Little River Inlet. Gary Sundin, with assistance from Evan Cook, produced a full round of draft annual shellfish maps for the upcoming harvest season, which will open October 1. Over 340 maps are produced prior to the season for use by the public, by the OFM Shellfish Management Section, and the SCDNR Law Enforcement Division. Three web applications will also be updated with current information as part of the seasonal preparations.

Estuarine trawl survey: The Estuarine Trawl Survey (ETS) August 'south trip' aboard the *R/V Silver Crescent* conducting trawl sampling from Charleston Harbor to Calibogue Sound was completed on August 16-18; this was immediately followed by sampling in the Charleston area on August 19. The catch of white shrimp was near the long-term mean in estuaries south of Charleston and well above average in the Charleston area. The size of white shrimp relative to the long-term mean varied between estuaries and at stations within estuaries. Generally, few brown shrimp were collected, which is typical for August sampling. Black gill prevalence in shrimp was slightly above average. Blue crab catch was near average in the Charleston area but below average in all other estuaries. Twenty horseshoe crabs were collected at the Haig Point station in Calibogue Sound, leading to an above average catch. Temperature and salinity were below long-term means.

Creek trawl survey: This month's creek trawl survey, which primarily targets juvenile penaeid shrimp and all blue crab stages, was completed on August 19 and 20, in the Wando and Ashley River watersheds, respectively. The catch of white shrimp was slightly below average, while their size was well above the long-term average. Brown shrimp size and catch were below average. The catch of blue crabs was also below average while width was well above the long-term average. Temperature was above the long-term average while salinity was slightly below. Staff continue to enter historical data into the creek trawl Access database and perform checks on the integrity of the data already housed in that database.

Blue crab (adult and juvenile) salinity gradient potting survey: Adult and juvenile crab pot survey in the Ashley River was completed on August 10 and 11. New crab pots were delivered by Beaufort Marine Supply Inc. and fitted with lines for deployment for this sampling event. Adult blue crab abundance was below the August survey average and carapace width was above average at two of the four blocks where blue crabs were found. Only one juvenile blue crab was collected in the juvenile crab pots this month. Staff continues to conduct analysis on this dataset.

Horseshoe crabs: Staff completed sediment analyses of beach and marsh samples collected during the Competitive State Wildlife Grant (C-SWG)-funded project. As expected, samples taken from the marsh had higher silt/clay content than samples taken from the beach. Staff also finished staging embryos of egg samples that were collected as part of the C-SWG surveys. Staff have begun running statistical analyses and writing up the results of their findings. Staff met with C-SWG grant collaborators in Connecticut and New Hampshire to discuss results and takeaways from the field season. Data and emails required by a recent FOIA request were compiled and submitted. Staff have begun working with the Coastal Reserves and Outreach (CRO) section to update the Sea Science pamphlet on horseshoe crabs.

White Spot Syndrome Virus (WSSV): Staff met to discuss the current progress of and future plans for various WSSV projects. Additional blue crab samples were collected during the harbor trawl, including white shrimp, brown shrimp, and blue crabs to assess the occurrence of white spot syndrome virus (WSSV). Greg Rothman began working on protocols for his upcoming Master's research on white spot syndrome virus (WSSV) research in HML.

Invasive species: Staff continue to receive reports about the occurrence of the invasive Island apple snail (*Pomacea maculata*), particularly in ponds in the Myrtle Beach area. Kim Sitta and Erica Schmidt drove to Myrtle Beach on August 4 to conduct surveys along the Waccamaw River and in Murrells Inlet after receiving reports from the public that the apple snails were being found in ponds in close proximity to these natural water bodies. Eighteen locations were surveyed, and while no snails were found in either the Waccamaw River or Murrells Inlet, apple snails were found in additional ponds that are connected to these systems. Kim and Erica also surveyed the Snee Farm neighborhood and Boone Hall Creek in Mt Pleasant on August 17 after receiving a report from a resident. Apple snails and egg clutches were found in all but two of the eight sites surveyed.

Two tiger shrimp were given to CRMS this month, one collected by the Inshore Finfish Research Section while sampling in the Cooper River and one caught by a member of the public on James Island. Genetic tissue samples were collected from both shrimp to test for white spot syndrome virus.

Progress has also been made on the non-native juvenile portunid project. While no non-native species have been collected so far, genetic samples have been taken from all the juvenile portunids collected during August Estuarine Trawl Survey sampling efforts. The portunids have also been photographed and tentatively identified to assist with future identification of juveniles in the field.

Matt Walker reported the observation of a brown anole (*Anole sagrei*) to the EDDMaps database managed by researchers at the University of Georgia. A second specimen was collected in the MRRI has in being housed in a secure aquarium for outreach and education purposes.

Personnel: Hourly Trap Puckette worked his last day with the section on August 3, 2021 before returning to Tulane University (Class of '23). Trap had a fantastic summer with the section and we thoroughly enjoyed having him as part of our team. We would certainly welcome the opportunity for him to rejoin us next summer.

Jeff Good started his position as a Wildlife Biologist I position with the CRMS on August 17 and has completed his initial HR and IT training.

Interviews were completed for the Wildlife Biologist I position in the Molluscan Research and Monitoring Section (MRMS). The external job posting received 78 applicants and seven applicants were interviewed. The selection committee for this position comprised Peter Kingsley-Smith, Gary Sundin and Graham Wagner. The preferred candidate, Lauren Faulk, has been approved and has accepted the position to begin on October 18. Lauren is a recent graduate with an MS from the University of SC and has a background in coastal and freshwater invertebrate ecology work. Seven of the 26 applicants that applied for the externally posted Wildlife Biologist II position within the Crustacean Research and Monitoring Section (CRMS) were also interviewed and the selection committee are in the process of ranking these applicants. The selection committee for this position comprised Michael Kendrick, Peter Kingsley-Smith and Kim Sitta. A request has been submitted to HR to hire the selected top ranked candidate.

Michael Kendrick also served as part of the interview panel for the new OSHA Safety Officer position, while Peter Kingsley-Smith participated in the five interviews for the MRRI Administrative Assistant I position to refill the position vacated by Eli Rivers.

Training: Staff have completed all required EPMS and Pay Plan documentation as required based on employee hiring timelines. Peter Kingsley-Smith and Daniel Sasson completed the Visionary Leadership training course offered through AFWA's Management Assistance Team (MAT). Michael Kendrick completed a project management training course through the LinkedIn Learning platform. Michael Kendrick attended the 4-hr driver training course on August 5. Jeff Brunson completed the MAT Emotional Intelligence course. Several staff also attended the FOIA training offered internally by Shannon Bobertz and Caroline Pinckney. Staff are also in the process of completing the new, required Cybersecurity Training, due by October 1, offered through KnowBe4.com. Michael Kendrick led safety training on August 25 to allow two employees in the SCORE Program to work in MRRI Lab 16.

Vessels: Annual service and water pump replacement on the R/V *Miss Sookie* was completed at Seel's Outboard in Charleston. The R/V *McKee* is currently at Seel's for her annual service. Staff completed maintenance on the R/V *Stratasfear* trailer including replacing both wooden bunks and the winch roller, and re-packing all of the trailer wheel bearings, while the vessel was undergoing diagnosis for issues. The Evinrude motor on the R/V *Stratasfear* was found to have a bad gearbox. Staff are working to find available parts to complete a temporary repair on the motor to cover the months before a new Honda motor can be purchased and the old motor retired (expected in February 2022). All new outboard engines available through state contracts have a significant backlog for delivery. Meanwhile, staff are working to coordinate sharing the R/V *Miss Sookie* across the section.

Miscellaneous: Staff provided comments and suggested edits on a living shorelines website under development by Clemson, in collaboration with The Nature Conservancy and SCDNR. Staff also initiated planning for upcoming monitoring of Crab Bank, with the current expectation that renourishment activity is going to begin in early November 2021 and continue into January 2022. Staff also participated in a meeting with USACE representatives to discuss the feasibility of including living shorelines within the long-term plan for addressing sea level rise, storm surge, and flooding around the Charleston Peninsula.

Staff (primarily led by Peter Kingsley-Smith, Michael Kendrick and Kim Sitta) have developed plans for the relocation of laboratory furniture (i.e., countertops, wall and floor cabinetry) from CCEHBR to MRRI labs 13,15, 16, and 23. Staff relocated two large filing cabinets of SERTC publications and references to the Marine Resources library. Staff are grateful to Geoff Timms for creating space for these publications which will hopefully be accessed by a larger audience in this new location.

Office of Fisheries Management (OFM): **Shellfish Management & Permits:**

Culture Permits and State Grounds

16 permit holders requested verification of legally required shellfish culture permit plantings for 22 permits during August. Through calendar year 2021, permit holders have requested planting verifications on 60 permits with 46 completing planting quotas for 2021. A total of 116,725 U.S. bushels (67,261.3 U.S. bushels for credit & 49,463.7 in overages) of shellfish seed, green oyster shell, clam cover or approved cultch, cultivation, or equivalent has been planted (1956 BU on

state or public grounds). The assessed planting quota for the state's 103 culture permits is 94,655.9 U.S. bushels after taking into consideration permit cancellations, acreage reductions or increases, boundary modifications and approved variances, leaving 27,394.8 BU (29%) left to be planted in 2021. Shellfish seed may be planted throughout the calendar year; however, by S.C. law (§ 50-5-940), cultch must be placed between 01 May and 31 August to receive planting credit.

The culture application for multiple areas in Beaufort County that was on hold pending a request for additional information from the applicant has been withdrawn. The annual Parris Island shellfish management report was prepared and mailed out. The annual status report on SSG's was compiled and presented.

An updated draft to the natural resource management agreement between SCDNR and Parris Island Marine Depot was completed and sent to PIMD for review. This included management plans for shellfish as well as horseshoe crabs.

Mariculture/Importation

Corrections to the engineered drawings for the application in Privateer Creek were received from the engineer. Staff will begin review of the updated drawings and have a meeting with the other permitting agencies to discuss whether the new drawings satisfy requirements from all agencies involved.

3 requests for information were received for mariculture permit applications and the process in August. Staff has had follow up conversations with 2 of the 3 potential applicants.

4 requests were received for importation of seed (2 clam and 2 oyster) into SC. Staff conducted 4 inspections and found all seed to be clean and pass inspection.

Compliance checks were conducted on M-277. Staff found there to be very little gear on the permit. In one area there were 5 cages that were silted in. In one area there was no gear. In the third area there were 3 sets of bags that were full of dead shell and mud. Staff plans to speak with permittee to inform them of the dead shell and silted in cages.

Mariculture staff attended the SPC meeting to discuss the opening of the 2021-22 oyster season and the grounds that will be opening for the season.

Mariculture staff has completed a majority (98%) of the work on the boat trailer for the *Natalie Portman*, (the section's white High Tide).

SCORE – South Carolina Oyster Recycling and Enhancement

Shell recycling and planting; Recreational management

Shell Recycling

In the August Recycling period, 1,671 bushels were recycled. The public drop off sites at Fort Johnson, Clothing World, City Roots, and Jessen Boat Landing were all emptied totaling 775.5 bushels. The restaurant route contributed 895.5 bushels across 35 partner restaurants. No oyster roast events were scheduled in August. No new partners were added to the restaurant route. Two new hires, Kelly Lambert and Matthew McDonald, have both started cross training on the restaurant route operations.

Equipment maintenance continued during this recycling period. The old route trailer had new battery terminal connections installed and the hydraulic oil reservoir refilled. The new route trailer had a seasonal maintenance check completed. It received a tire rotation. The entire track, can lift, and back doors were brought down to bare metal and repainted. The hubs were regreased along with the leg stand. One of the safety chain hooks was replaced due to a missing clasp and excessive rust. The flatbed equipment trailer had a professional rewire completed as well as new side and light brackets welded on. The F-350 was taken to Corbin's for a new bumper, receiver tube, electrical trailer plug, and duplex plug. The Shell Recycling section's 90hp Evinrude outboard motor was installed on the R/V Shorebird with plans to renew the Shorebird's use for future field activities.

In continuing good working realtions between SCDNR and USFW Cape Romain management, Stephen Czwartacki and Ann Clark Coyle loaded and transported 70,000 lbs. of concrete from Garris Public Boat Landing to the pier at Bull Island via the R/V Indigo Princess' barge over the course of two days (8/25 - 8/26). A 4-wheeler and mower attachment were also transported from Bull Island back to Garris Public Boat Landing. DNR assisted USFWS in this activity as the USFWS allowed the R/V Indigo Princess and barge to be moored, for a two month period, to the pier at Garris Landing. The SCORE program will continue to ask permission to moor in the coming years for planting of shellfish resources.

Volunteer Oyster Shell Recycling Program (Beaufort, Charleston, Greenville, Columbia)

Beaufort volunteers donated 42.5 hours recycling 65 bushels from area partner restaurants. Greenville volunteers donated 20.5 hours recycling 117.25 bushels from area partner restaurants. Charleston volunteers donated 6 hours recycling 41 bushels from area partner restaurants.

Shell Planting for State Managed Grounds

A total of 975 pieces of bamboo stakes were placed in Murrells Inlet on State Shellfish Ground S358 (Woodland Cut) . Contractual plantings were completed in Beaufort County during this reporting period A grand total of 15,275 bushels

of material were planted across 3 State Shellfish Ground. Approximately 6,200 bushels of recycled oyster shell and limestone were planted at State Shellfish Ground S038 (Skull Creek) , approximately 4,000 bushels of recycled oyster shell and limestone were planted at three sites on State Shellfish Ground S104 (Story River) and approximately 5,075 bushels of oyster shell and limestone were planted on State Shellfish Ground S117 (Distant Island Creek). Beaufort County boat landings were used for the loading of the material onto the contractors barge. SCDNR coordinates the use of the landings with Beaufort County Public Works. Three volunteers assisted with monitoring these plantings and helped with trash removal from the oyster shell pile and water.

Fall monitoring of 1-yr (2020) and 3-yr (2018) sites is in the planning process. Live oyster will be collected from replicate 0.25 m² quadrats at 1-yr sites (n=13 sites) and brought back to the lab for measurement. These data will be used to assess age, growth and recruitment of live oysters since planting. Footprints of live oysters from 3-yr sites (n=16 sites) will be mapped using a Trimble GeoXT GPS device for and some qualitative data will be recorded for assessment. Three new 2021 sites will have their initial footprints mapped during this process also.

Grant and Contract-funded Projects

Community Based Restoration

SCORE hosted four volunteer events, during this reporting period, with 52 volunteers totaling 163 volunteer hours. Charleston Waterkeeper came to two greenhouse cleanup events to help wash pots and reset greenhouse equipment. Recreational anglers of the Johns Island Stono View community built nine manufactured wire reefs that were hung under their community dock the following week. Two bagged shell reefs were scheduled with the Outside Foundation at Shelter Cove and Long Cove both sites in Hilton Head. SCORE staff stayed at the Waddell Mariculture Center to attend these events. The Shelter Cove event was cancelled due to inclement weather and has been rescheduled for Saturday, September 4th. Quadrat sample process has been completed. Matthew McDonald and Kelly Lambert completed Lab 16 safety training. Oyster shell bagging events are beginning to be scheduled and manufactured wire reef fabrication events are continued to be held.

Grant Funding

Michael Hodges participated in a conference call with partners involved with the NFWF National Coastal Resilience project. The purpose of the call was to discuss the data collected in July and to discuss the restoration plans for the project site in Maryville. Robinson Design Engineers proposed 3 different tidal channel restoration plans. No decision has been made on which plan will be targeted.

Miscellaneous

Kelly Lambert started her hourly position with the SCORE Program on August 1st.
Ben Dyar attended FOIA training.

Meetings

SCORE had a team meeting on planning the upcoming fall and winter season projects and programs.

Lee Taylor and Ben Dyar met with Southwick survey group as a follow up meeting to the report draft to address concerns about the recreational harvest survey results.

Ben Dyar attended meeting regarding creations of MRD regulations

Ben Dyar attended the first installment of planning of Sea Grant Water Chats as part of the advisory committee. Shellfish Management Staff, including Lee Taylor, Ben Dyar presented and Henry Davega, Holly Kight Sommers, Kevin Swain, Christian Sergeant, and Kelly Lambert attended a meeting on the SSG commercial harvest management plan for upcoming 21-22 shellfish season.

Statistics:

- Delinquent letters for late submission of July 2021 mandatory logbooks were mailed on August 18th, 2021 (250 letters) to license holders for Wholesale Seafood Dealers and For-Hire Charter Vessels for July 2021 reports not yet received by the August 10th, 2021, deadline. The affidavit list and action list for July was provided to Law Enforcement on September 1, 2021.
- Several data requests were completed during this month for commercial data including the following: overall landing by commercial fisherman, species grouping, and specifically annual species summaries on shellfish, shrimp, spotted sea trout, and spanish mackerel. Comprehensive reports were submitted to ASMFC associated with various projects that summarized the previous calendar and/or fiscal year commercial and recreational landing and ex-vessel value for fisheries landed in SC. SCDNR charter database also had data requests including specific species of spotted sea trout and spanish mackerel for catch and effort, and data reviews associated with CARES.

- Staff continue to gain information to determine eligibility for the second allocation for the CARES Act funds. The agency had great success with the first allocations of funds, which were distributed to the state's commercial fishermen, wholesale seafood dealers and for-hire fishermen if the qualified for hardship during the COVID-19 pandemic. The allocation plan and final run of the data was completed by OFM staff, and letters to those constitutes that are eligible to receive CARES funds will be mailed in early September.
- Staff continue to work diligently to increase electronic data collections and efficiency for both recreational for-hire and commercial data. This will improve data quality and timeliness.

Commercial Trip Interview Program

- During the month of August, OFM Port Agents intercepted 21 commercial trips and collected 352 length frequencies along with obtaining 337 associated age structures from primarily snapper grouper species. Fishing activity increased, as weather has been more favorable.

Recreational Statistics Section Summary

- In the month of August 2021, OFM staff completed 58 APAIS assignments resulting in 527 interviews with recreational anglers.
- OFM staff participated in a ACCSP Recreational Technical Committee call on August 10th.
- OFM staff sampled commercial shrimp landings to collect data and make observations on species, size, black gill occurrence and abundance.

Additional activities during the reporting period included: working closely with commercial seafood dealers to ensure compliance with reporting, assisting the SCDNR oyster shell recycling, distributing rules & regulations books and fish rulers to coastal businesses as requested.

Coastal Reserves & Outreach (CRO):

Public Outreach

Outreach to Coastal Residents and Visitors

- Education staff led a marsh walk and talk for 10 residents at Overture Apartments in West Ashley and tabled at the Keep the Broad River Clean event on Hilton Head reaching 110 attendees.
- The Diversity Outreach Section focuses on the inclusion of underrepresented populations through translating and interpreting existing material, event planning and promotion to build relationships with these communities. In August, diversity staff archived messages and posts from the public, and provided content on the SCDNR's Diversity Facebook pages for 2021. Staff translated 2 marine education lesson plans. Staff assisted stewardship, and saltwater outreach with 2 outreach programs.
- Three fishing instructors volunteered 12.3 hours at Jason's Lake and helped answer fishing related questions to 10 people.
- Two Saltwater Family Fishing Clinics were hosted in August. In total, 28 attendees participated and 7 certified SCDNR Family Fishing Instructors volunteered 52.3 hours. Clinics took place at the North-Inlet Winyah Bay NERR and Huntington Beach State Park.
- Four fishing instructors walked the Myrtle Beach State Park Pier volunteering 35.2 hours and helped answer fishing related questions for 406 people as part of the Pier Outreach Program.
- Through the Marine Game Fish Tagging Program, 22 active participants tagged and released 140 fish, primarily red drum and flounder. Additionally, 50 anglers reported 53 recaptures. Of these recaptures, 84% were re-released. Staff processed the tagging and recapture data, and rewards were mailed to anglers who reported recapture(s).
- In August, Stewardship and Diversity Outreach staff partnered with the Colleton County Farmers Market and Commercial Kitchen to distribute STEM kits to students participating in the Summer Feeding Program.
- Joey Coz's "A Climatology Based Forecast Tool for Coastal Flooding in the Low Country" was published in *The Journal of Applied Meteorology and Climatology*.

Media and Communications

- Staff spent two staff days in the field and two staff days in local archives conducting research in association with their work to develop interpretive signage for Botany Bay WMA.
- Staff continued work planning a comprehensive agency communication training set to launch in December 2021.
- Staff developed additional talking points and a factsheet related to ongoing work to communicate about flounder stocking efforts and how the agency conducts ethical stock enhancement.
- Media specialist Kaitlyn Hackathorn successfully passed the Part 107 test and became a registered FAA Remote Pilot in order to use the section's new UAV for outreach purposes.

- Staff finalized the fall Coastal Information Distribution route flyer that will be distributed to marinas, tackle shops and other vendors receiving rules and regulations books this season. This fall, the flyer highlights the agency's new collaboration with the Fish Rules app to encourage anglers to 'stay legal' by using the app.
- Staff provided design, multimedia, and writing/editing services for six projects, including additional revisions of Sea Science publications and MOTUS tower program interpretive signage.
- Staff continued to assist with the transition to a new OMO social media coordinator by taking over social media campaigns on clean boating and shorebird awareness.
- Staff responded directly to 19 media inquiries on topics ranging from sea turtle nest harassment to shark fishing rules to a pilot whale stranding.
- Over 700 clips referencing SCDNR MRD programs, staff or issues were published in July 2021. The vast majority of these were due to an AP article on the biomedical value of horseshoe crab blood that was published in hundreds of small papers across the country.

Students and Teachers

- The Carolina Coastal Discovery Programs focus on conservation of the state's coastal natural resources, as well as relevant science standards. Aboard the Educational Vessel (E/V) *Discovery*, and on land, staff provide science investigations using field sampling techniques and equipment that echo current research methods. In August, 60 children participated in field studies.
- 47 teachers participated in teacher training, investigating Real-time water data lessons, stewardship project planning, and outdoor science lesson training.

Support for Coastal Communities and Partners

- The Boating Infrastructure Grant (BIG) Program is a competitive US Fish and Wildlife Service program providing competitive funding for marina infrastructure to serve large transient recreational boats and provides access to recreational, historic and natural resources. Projects are considered public/private partnerships between the SCDNR, the US Fish and Wildlife Service, and the marina. For the FY22 funding cycle, SCDNR is currently preparing to submit 4 proposals for USFWS consideration. The proposals have been reviewed by our SC BIG Advisory Committee and SCDNR Office of Environmental Programs. Applicants are currently revising their proposals as needed prior to submission to USFWS.
- The Clean Vessel Act (CVA) provides USFWS funding to install and operate marine sanitary pumpout programs as outlined in the US Clean Water Act to divert overboard discharges and protect water quality. Staff are developing agreements with 21 marina partners, which includes the installation of 3 new pumpout boats, and the installation of an integrated pumpout system at Isle of Palms Marina. Six of these partners are from inland marinas, and the CVA program is also working with SCDHEC staff to assist two prospective inland partners who are interested in receiving funding for new pumpout systems.
- Program staff presented at the State's Organization for Boating Access conference, discussing the development of monitoring practices to ensure subrecipients' compliance with federal regulations, and also our agency's successes with Clean Vessel outreach and education.
- CVA Program staff collaborated with SC Sea Grant Consortium to host the annual Clean Marina workshop. Representatives from marinas across the state were in attendance. The workshop served as a phenomenal opportunity to engage with program partners about CVA, BIG, and Clean Boater Program (CBP) initiatives.
- The Clean Boater Program collaborated with SC Sea Grant Consortium staff to explore opportunities to integrate Clean Marina Program messaging into outreach and education efforts for CVA partners and the general public. The SC Clean Boater Program also continued to develop content for this year's social media outreach campaign.
- Stewardship staff continues to provide support and consultation on Motus Wildlife Tracking Systems for various federal, state and private partners. In August, SCDNR assisted the Nemours Foundation, Harbor Island, Fort Moultrie, and Port Royal Sound Maritime Center, Spring Island Trust, Edisto Beach State Park, Audubon, Daufuskie Island, and Fripp Island with the construction, maintenance and data collection of Motus towers.
- Staff is actively participating in a NERRS Science Collaborative Transfer Grant, "Building Capacity for Reserves to be Motus Wildlife Tracking Leaders." In August, staff collaborated with San Francisco Bay National Estuarine Research Reserve to plan a capacity building workshop for SF Bay area partners.
- In August, staff participated in the South Carolina Adopt-A-Stream program for tidal saltwater systems, a pilot community science project through SCDHEC and Clemson Extension to engage volunteers in water quality monitoring. The Stewardship Coordinator continued to participate by assisting 11 volunteers and conducting monitoring in the ACE Basin.
- The Coastal Training Program (CTP) connects coastal decision makers with scientific information about water quality, habitat conservation, community resilience and public access. In August, the CTP partnered with Clemson Extension, SC

SeaGrant and the North Inlet-Winyah Bay NERR to provide the final webinar of the Flooding 411 series. Aimed at coastal SC residents, this four-part series covers information residents need to know about all types of flooding. Each session was attended by over 100 people and was eligible for 1.5 credit hours of SCPEAC continuing education for planning commissioners.

- College of Charleston graduate student Sean Cannon started his research assistantship with CTP. He will be focusing on communication barriers to stormwater best management practices.
- Working with all sectors at the ACE Basin and NI-WB NERRs, the CTP developed and disseminated a research and training needs assessment for coastal marsh stakeholders. Results will guide the development of workshops and collaborative research in the future.

Coastal Reserves

- Stewardship staff assisted the NOAA Margaret A. Davidson Fellow's project to characterize visitor use in the ACE Basin to better understand impacts on natural resources.
- ACE Basin NERR staff continue to maintain South Fenwick Island to provide habitat management and public access opportunities. Trails and fields were mowed, sprayed and cleared of invasive species. Staff continued to build firebreaks and prepare for controlled burning.
- Staff continue to monitor Chinese Tallow within the St. Helena Sound WMA and South Fenwick Island WMA.
- August on Capers island saw only 78 campers over 21 permits, marking the lowest camping numbers for August on record. Grass cutting is in full swing and with the maintenance of the dyke trail cutting grass has taken the bulk of the management time this month. Turtle nesting has slowed and no more nests were detected in August with a total of 10 nests being documented and sampled so far.
- In August, 10,143 people visited Botany Bay Plantation HP/WMA. Volunteers provided 672 hours of service, providing public outreach and performing maintenance activities at the office building and property.

Protected Species

- Seventeen sea turtle stranding events were reported (2 adults, 3 unknown and 12 juveniles); one green, seven Kemp's ridley, one unknown and eight loggerheads. Four live events and 13 dead. Staff photographed and recorded information regarding entanglement material associated with stranding events.
- Biologist tagged seven turtles as part of pre-release protocol for turtles undergoing rehab and expected to be released to the wild.
- Staff members continue to provide 24 hour on-call coverage of sea turtle hotline during the week, weekends and on holidays, as well as, picking up live turtles and carcasses.
- Coordinator worked with SC Aquarium for release of turtles in Grice Cove.
- Coordinator continues to work on QA/QC and data entry of historical nesting data into the database as time allows.
- Staff conducted 10 ground surveys on barrier islands. In addition two ground surveys were conducted on Bull Island (Cape Romain National Wildlife Refuge).
- On site technician at Botany Bay Plantation WMA and Island continues daily surveys for sea turtle project on the property.
- Staff conducted seven site visits to project beaches.
- Staff picked up genetic samples from sea turtles and diamond backed terrapins from all volunteer projects along the coast on two collection pickup days, staff picked up genetic samples from NC and coordinated pickup of all with University of Georgia PhD.
- Staff initiated end of season equipment breakdown for storage.
- Coordinator transported ATVs to/from Botany and technician for service.
- Coordinator and Biologist met with new graduate student - Josh Ratay - to discuss masters thesis project and Biologist attended GMBP graduate student's Oral Exam; Biologist on Committee
- Staff generated weekly online content for SCDNR MTCP Sea Turtle Volunteer Facebook group
- Staff presented to America's Boating Club (ABC) - 20 people in attendance; staff provided Powerpoint slide for use in future Boating Education Courses with ABC
- Coordinator continued to work with subcontractor company for ongoing Morris Island monitoring project associated with groin protection project; attended to ongoing requests re: necropsy lab space; conducted EPMS reviews with staff; data requests from USFWS re: Kemp's ridley sea turtle 5-year review
- Eagle biologist received one eagle carcass and responded to calls.

WILDLIFE AND FRESHWATER FISHERIES

ASSISTANT DEPUTY DIRECTOR'S OFFICE

Completed administrative and budgetary tasks. Prepared special use permit for DNR property in Edgefield County. Completed EPMS reviews. Served on interview panel for Assistant Wildlife Chief. Submitted Accountability Report to Executive Office. Compiled and delivered hard copies of two grant applications to SC Conservation Bank. Spoke to attorney concerning request to use DNR property in Berkeley County. Continued discussions with surveyor about boundary line issue at Savannah River Bluffs HP. Reviewed closing documents on property purchase at Landsford Canal in Chester County. Transaction was completed. Investigated potential property donation in Lexington County. Hired attorney for property donation in Georgetown County. Contracted for appraisal of property in Horry County. Obtained appraisal and Phase I ESA on property in Jasper County. Received title work on property purchase in Greenville County and discussed with legal staff. Prepared summaries on two real estate matters for consideration by the DNR Board. Provided information on recent DNR property acquisitions to The Nature Conservancy. Updated DNR and HT property lists. Examined potential property acquisition in Lee County. Continued work on eight other real estate projects. Engaged in conversations with Naturaland Trust, Lowcountry Land Trust, Open Space Institute, Ducks Unlimited, and The Nature Conservancy about potential/ongoing property acquisitions. Consulted with WFF staff on matters concerning Forest Legacy and State Wildlife Grants. Meetings and events attended: DNR Board meeting, Heritage Trust Advisory Board meeting, WFF staff meeting, Wildlife Section biologists meeting, conference call with Haile Gold Mine, conference call with SC Conservation Bank, and conference call with staff about conservation easement violations on property in Charleston County.

SWG/FOREST LEGACY COORDINATOR

State Wildlife Action Plan (SWAP) Implementation & State Wildlife Grants (SWG) Coordination [Anna Smith]

SWG grant extensions, modifications and new submissions were done. Award letters were distributed to PIs. All SWG grant documents were submitted to Grant Solutions and entries made into TRACS. The SWG tracking spreadsheet was updated accordingly. Smith investigated the Gullah-Geechee Nation website and their involvement in various coastal initiatives such as their G-G Sea Island Coalition, G-G Fishing Association, and the South Atlantic Salt Marsh Initiative (SASMI) for which Smith is on the Steering Committee. A SASMI survey was taken this month as part of this committee. A swamp rabbit grant proposal by Clemson University was read and edited. *TWS Wildlifer* and online newsletter articles were read for continuing education. Smith gave a presentation on "Habitat Protection Program Updates" at the Annual Biologists' Meeting and repeated it for the SCDNR/USFWS Annual Coordination Meeting. A site visit to Bobwhite Hills in Sumter/Lee Counties was conducted on 8/26/21 in association with SCDNR staff, SCCB staff, and Pheasants/Quail Unlimited staff and local chapter members. Smith assisted with this year's Accountability Report as it related to SWAP species and SWG grants.

Forest Legacy Program (FLP) Coordination [Anna Smith]

Smith completed the State Matrix for our Forest Legacy Program and submitted it to the USFS. A River Forks grant submittal form was completed for the SCDNR Grants Department. Data for this new Forest Legacy FY23 grant was compiled into a file and the application begun. The SCDNR's Geology, Hydrology and Archeology sections were engaged for data. A Power Point was created in preparation of the upcoming Annual FLP Subcommittee Meeting to provide updates on projects in the works and showcase the new River Forks proposal. The new FLP readiness requirements were discussed with staff and partners. Preliminary evaluations were done for the Rawl/Bayview Farms Tract as well as the Botany Bay HP Addition tract. A SCCB grant was completed for the Slater Tract. This is part of the required match for the FLP grant for the same tract in hopes of eventual funding. The management plans currently in place for the Edisto Easement are being compiled for update.

Other Activities / USFWS Liaison [Anna Smith]

Two SC Conservation Bank grants were written and submitted: Slater Tract and Santee Island. Smith also wrote the Bobwhite Hills SCCB grant on behalf of Pheasants/Quail Forever. An adjoining landowner that received one of our letters in regards to the Slater Tract SCCB application called for more information on boundary and road easement concerns. Smith assisted Grosse with a tegu necropsy in which samples were taken for DNA research and the stomach contents identified. Smith completed Lemeris's annual EPMS. The final report for the SEAFWA C-SWG Hellbender grant was compiled, edited, and submitted to the USFWS. Smith submitted an EO record for white beach tiger beetles she found on the south end of Bull Island, CRNWR. A Savannah River Clean Water Fund grant

was written for the Tillman Additions. Smith reviewed the applications of interviewees for the new SCDNR/SCCB GIS Analyst position. Interviews were conducted this month in Columbia. A support letter was provided to Naturaland Trust for the Bramlett Tract SCCB grant proposal submitted this cycle. A Habitat Protection Committee financial meeting was had via conference call to discuss current projects in progress.

Summary of meetings attended / conference calls / webinars watched / continuing ed programs or workshops:

- Annual SCDNR Biologists' Meeting (8/16/21)- gave presentation
- SERPPAS South Atlantic Salt Marsh Initiative Steering Committee Meeting (8/17/21)
- USFWS/SCDNR Annual Coordination Meeting (8/18/21)- gave presentation
Lunch & Learn: Archeology (8/18/21)
- SEAFWA-WDC monthly conference call (8/19/21)

Natural Heritage Database Program / GIS Manager [Joe Lemeris]

Meetings:

- 8/4 – Lemeris attended the monthly US Section Council Call (NatureServe) which discussed updates to NatureServe government relations/legislative updates, new multijurisdictional projects, and the creation of a US Network Program action plan.
- 8/10 – Lemeris participated in the monthly SCDNR GIS Webinar, which discussed basics of using ArcGIS Pro.
- 8/10, 11, 13 – Lemeris, Arrington and Thachik participated (along with other SCDNR staff and partner organizations) in an annual Esri Advantage Program Planning Meeting(s), which were held virtually over 3 days. These meetings were an effort to understand needs/goals of the agency surrounding GIS, and planning activities to meet those goals in the coming year.
 - 8/10 – Kickoff Meeting – Lemeris and Arrington presented achievements of the previous program year and solicited feedback on the trajectory/next steps from SCDNR/partner programs.
 - 8/11 – Strategy Canvas formation and Idea Incubation Sessions – intended to formulate strategies to achieve goals/needs informed from previous day.
 - 8/13 – Final Session – wrap-up/prioritize ideas/strategies to begin the year. Updates found in 'Progress Updates' section below.
- 8/16 – Lemeris participated in the WFF Wildlife Biologists meeting
- 8/16 – Lemeris and Arrington met with Esri staff to continue discussions surrounding Enterprise Agreements for GIS software across the agency.
- 8/17 – Lemeris participated in model review tool training by NatureServe (virtual) to become familiar with new tool updates.
- 8/18 – Lemeris participated in the SCDNR/USFWS coordination meeting (virtual)
- 8/25 – Lemeris, Smith, Arrington and West (SCCB) held interviews for the position of GIS Analyst for Heritage Trust/SC Conservation Bank. Three candidates were interviewed, one was selected/offered the position and accepted.
- 8/26 – Lemeris participated in a NatureServe network topic call, addressing Arizona's Heritage Program methods for collecting and maintaining data from scientific/collection permits.
- 8/26 – Lemeris met with Tegeler to discuss changes to Survey123 Loggerhead Shrike survey forms and possibility of creating a public Baltimore Oriole form for next season.
- 8/27 – Lemeris, Arrington and Thachik met with Esri advantage program staff for a bi-weekly meeting, discussing technology updates, project status, and next steps.
- 8/30 – Lemeris met with Andrew Tweel and Sharleen Johnson regarding MRD species databases—about how best to integrate these with Natural Heritage Program data. Lemeris was pointed in the direction of publicly accessible data from MRD trawl, longline and reef surveys.

Project Progress Updates:

- Esri Enterprise Advantage Program Update:
 - Annual Advantage Program planning meetings held 8/10, 11, 13. The team came away with a good plan for activities to tackle in the upcoming year. On top of ongoing activities mentioned below, plans for implementing a land management activities tracker and land acquisition property tracking platform are identified goals.

- Arrington and team are continuing to compile GIS data from across WFF to incorporate into a managed lands database and are close to standing up the data in a new Enterprise geodatabase for production use.
 - Fishing/Boat Access data have been pulled into a web format, and applications have been created for review by SCDNR staff. Review is almost complete.
- Distribution Modelling Workflows: Modelling workflows have reached a stop/pause point at the moment, until the image server can be configured. In the meantime, Lemeris is researching additional statistical validation metrics to incorporate into model output.
- NatureServe has agreed to allow SC to create a local copy of their model review tool for implementation of SC model reviews, sharing with partners, etc. Once SCDNR's image server is fully configured (coming weeks), NatureServe will meet with SCDNR to discuss the tool's configuration requirements.
- SCDNR/SCCB Joint position update:
 - In August, the GIS analyst position closed with 21 applicants. Three top candidates were interviewed on August 25th and an offer was made to the selected individual. The selected candidate accepted and will begin employment on October 4th!
- **The Natural Heritage Hub Site has been viewed 730 times in August (13,450 all time since April 2020), and 15 new users (total of 325 since April 2020)** from state/federal/local agencies, land trusts, and private environmental consultants have requested/gained access to review species data and generate reports.
- **101 of 489** users accessed the Heritage Trust GIS Portal in August, compared with 109 in July.
- **Over 460** new records were added to the database in August, comprising of a mix of herps, plants, RCWs, and insects.
- **71 species reviews were completed automatically** using the new species reviewer tool for environmental professionals in August, compared with 102 in June.
- Lemeris rolled out a new version of the observation survey form which will interact more directly with our Heritage Database, including syncing photos back to occurrence records.
- Lemeris assisted various staff in the development of maps for projects, informational documentation, advisory board materials, etc.
- Turner (hourly intern) has been pulling historic museum records for invertebrate species (G1 through G3) for which we currently have no/minimal records. Hundreds of G1-G3 invertebrate records were added to the database this month!

FRESHWATER FISHERIES

Highlights

Staff continued work on the new Hartwell Fish Habitat Project permit. Staff prepared staging area, marked trees to be cut and cabled along the shoreline, and hauled materials to storage area.

Two days of effort were expended on the Waccamaw River cataloguing the fish population's recovery from a massive fish kill following Hurricane Florence in 2018. This is the third and final year of the study.

To estimate pelagic forage abundance in Lake Murray hydroacoustic surveys were conducted overnight on August 23rd and 24th. During those surveys data was collected from roughly 60 km of transects in the lower and mid lake areas. Vertical and horizontal gill nets were fished to evaluate forage species distribution and size ranges. Considerable effort was dedicated to determining how to best deploy submerged horizontal gill nets.

Staff met with representatives of both the Santee Cooper Country tourism board and CP&P concrete to make initial plans for concrete additions to Lake Marion and Moultrie fish attractors. With the permit for this work running through June 2023, the goal is to add concrete to the remaining 14 attractors.

Staff continued data collection for the development of a Stream Quantification Tool (SQT) for South Carolina. Fish sampling was completed at 7 sites in August 2021, bringing the study total to 79 sites completed (study total target of 100). This study will provide the data for development of biological indicators to evaluate the effectiveness of stream restoration and mitigation activities in South Carolina.

This month 6,780 grass carp were processed for sterility testing at Cohen Campbell Fisheries Center.

Diadromous Fish Project efforts this month included: downloading acoustic receivers and manual tracking in Charleston Harbor, Lake Marion, the Rediversion and Diversion Canals, and the Congaree, Wateree, Cooper, Santee, Edisto, Waccamaw, Great Pee Dee, and Savannah Rivers; gillnetting for Atlantic and shortnose sturgeon in the Great Pee Dee, Waccamaw, Black, Sampit, Edisto, and Savannah Rivers; monitoring elver ingress at Goose Creek Reservoir and St. Stephen Dam;

Staff attended Clemson Carolina Heelsplitter Collaborator Meeting and Brook Floater Working Group Meeting. Held 3 clinics open to the public: High Falls County Park, Chau Ram County Park and South Cove County Park and held 2 clinics for closed group: Boy Scouts at Table Rock State Park and Outdoor Afro at Cohen Campbell Fish Hatchery

Coordination (Chief's Office)

Staff inspected proposed stream restoration project in Twelvemile Creek drainage with representatives from the Legal Office and Naturaland Trust

Staff completed performance appraisals for all supervisees.

Staff participated in the Robust Redhorse Conservation Committee (RRCC) Executive Committee meeting to plan for the annual RRCC meeting.

Staff conducted the monthly meeting of Section Coordinators via telephone conference to discuss administrative matters and review project activities.

Staff complete revision for the SARP Coordinator employment contract for SEAFWA.

Met with Hatchery Coordination staff to review and plan for the restaffing of Spring Stevens Hatchery in Lancaster County.

Region 1

Staff communicated with Vic DiCenzo to fix problems seen in SAS coding for creel programs. Staff started inputting data from Saluda River Creel 2020-2021 into SAS for data analysis. Creel continued as scheduled on Lake Greenwood.

Staff replaced batteries in the Pioneer creel boat and ran boat to ensure working order.

Staff cut standpipe at Burrell's Pond, to eliminate pond refilling, for dam removal. Staff placed extension on standpipe at Burrell's Pond, to raise pond level and reduce sedimentation, while sediment is being removed through use of heavy equipment.

Assisted Region 2 staff electrofishing in the Broad River.

Staff worked on Annual and Federal Aid reports.

Staff completed yearly EPMS evaluations.

Staff met with Clemson University researchers discussing future Savannah River sampling opportunities.

Staff ordered outboard motor for existing SeaArk. Installed a new motor on Sea Ark.

Staff worked on management plans for state lakes.

Staff received and tested two new backpack electrofishing units for fall trout sampling.

Staff took truck to dealership mechanic for starting issues. Delivered pontoon boat to shop after discovering electrical issues at helm during attempted test run.

Staff monitored fish health at the Major League Fishing High School Tournament on Lake Hartwell (June 30 – July 3).

Responded to the blue-green algae report on Lake Hartwell in 18-mile creek. No report of dead fish.

Staff continued work on the new Hartwell Fish Habitat Project permit. Staff prepared staging area, marked trees to be cut and cabled along the shoreline, and hauled materials to storage area.

Staff assembled fish feeders in preparation for beginning a supplemental trout feeding project on the Middle Saluda River.

Trout stocking was conducted on schedule. Staff stocked 19,000 fish in 15 trips.

Staff assisted the public with pond management questions – 7 calls.

Staff continued work on the new Hartwell Fish Habitat Project permit. Staff prepared staging area, marked trees to be cut and cabled along the shoreline, and hauled materials to storage area. Interviews were conducted for Technician III on the Hartwell Habitat Project (Twelvemile Creek Mitigation).

Staff commented on the Tugalo Modernization Project-Southern Company (GA Power).

Staff cleared down trees from Russell Ponds/Calhoun Falls Fishing Area in Abbeville Co.

Region 2

Staff prepared and submitted the July 2021 activity report, daily work reports, mileage & purchasing card logs to HQ as required.

Two days of effort were expended on the Waccamaw River cataloging the fish population's recovery from a massive fish kill following Hurricane Florence in 2018. This is the third and final year of the study.

Region 2 Intern Aiden Maddux completed his summer internship at the Rock Hill Office.

Staff received notice of a harmful algal bloom occurring on Lake Wylie without fish mortalities.

Region 2 staff assisted the Small Rivers/Stream Team with stream surveys on Sandy Branch & Brunson Swamp. Staff submitted a request thru the Region 2 HUB for funds from the York, Chester, Fairfield, & Lancaster County Game & Fish Funds for needed equipment.

Staff assisted Region 1 personnel with 3 days sampling effort on the Broad River.

Staff collected water samples from Jonesville Reservoir & Lake Oliphant for water quality analysis by University of Florida's Lakewatch Lab.

Staff completed preparation & ageing of sportfish/catfish otoliths from winter 2020-2021 Lake Wateree gill net sampling.

Staff completed & submitted required EPMS evaluations for all personnel.

Biologist Chrisman attended a virtual SDAFS Small Impoundment Committee Meeting.

Biologists Chrisman & Marsik updated the Public Fishing Access Review for OMO. Chrisman provided state lakes coordinator Joey Lindler with updated GPS locations of attractors in state lakes.

Staff participated in a required coordinator's conference call.

Florence staff shipped a malfunctioning Smith-Root GPP 5.0 electrofisher unit back to the manufacturer for repair.

Staff initiated, completed & submitted the FY21 Federal Annual Report.

Staff reviewed 1 Scientific Collection Permit Application.

Staff continued work on the Lynches River fish kill report.

Staff investigated a fish kill occurring in an unnamed tributary to Wildcat Creek within Rock Hill City limits on the 27th & 28th.

Staff met with DNR drone pilot Gregory Sorg & Duke Energy personnel at Great Fall Reservoir Short Bypassed Reach collaborating on future fish kill investigation planning in the tailrace.

There were 2 weed identifications & 2 water quality tests performed in Rock Hill during the month. In Florence 1 weed identification and 3 water quality tests were performed for pond owners.

One telephone pond consult was conducted at the Rock Hill Office (1 grass carp stocking recommendation) and 2 fisheries information requests were received from the public. 24 calls regarding fisheries information were received at the Florence Office with 12 of those calls being pond related (6 general management, 1 vegetation, 2 stocking & 3 other issues). Constituents seeking fisheries information were served by Ginger Ridgill, Jason Marsik, or Gatlin Edge in Florence and by Robert Stroud, Preston Chrisman, or Alex Michaeli at the Rock Hill Workstation. Recommendations and pertinent pond management literature was disseminated as necessary via telephone, in-person, through the US Postal Service or by email to pond owners.

Contact with NGOs: None.

Region 3

To estimate pelagic forage abundance in Lake Murray hydroacoustic surveys were conducted overnight on August 23rd and 24th. During those surveys data was collected from roughly 60 km of transects in the lower and mid lake areas. Vertical and horizontal gill nets were fished to evaluate forage species distribution and size ranges. Considerable effort was dedicated to determining how to best deploy submerged horizontal gill nets.

Summer-time striped bass habitat monitoring in Lake Murray continued by collecting temperature and dissolved oxygen profiles at five sites on two August dates. Dissolved oxygen below the thermocline, where temperatures are optimal for striped bass, was hypoxic (< 1.8 mg/L). The low dissolved oxygen levels resulted in a minor to moderate summer-time striped bass die-off. The lower lake was surveyed on three dates to enumerate dead striped bass during which 174 dead striped bass were observed.

A study monitoring the seasonal distribution and summer habitat use of adult striped bass in the Edisto River continued. Acoustic receivers in the North and South Forks of the Edisto River were downloaded.

Water quality monitoring in Lake Brown continued to assess the presence and likelihood of a summer-time blue green algae (cyanobacteria) bloom. Surface water temperatures in Lake Brown were 30 - 32 °C during August; however, a blue-green algae bloom was not detected.

As part of a multi-year study to evaluate the influence of the invasive flathead catfish on native catfishes in the lower Savannah River seven sections of the Savannah River below NSBL&D were sampled with boat electrofishing. Below NSBL&D flathead catfish are now the dominant catfish with decreasing numbers of channel and white catfish. No native bullheads were collected in the sampled sections.

Standardized boat electrofishing was conducted at 8 sites in the Lower Saluda River to assess the trout population. Five rainbow trout and 6 brown trout were collected. Rainbow trout and brown trout stocked during winter 2021 currently average 14.8- and 11.2-inches, respectively. One 18-inch holdover rainbow trout was collected. Trout stocked into the lower Saluda River continue to have excellent growth and poor survival.

Staff provided pond management assistance to 5 pond owners involving queries on vegetation control and general management. Staff responded to 22 calls or emails seeking information on boat titling, regulations, fishing licenses, Lake Murray buoys, striped bass fish kill and injured animals. A news release on the Lake Murray striped bass die-off was published. Phone interviews regarding the Lake Murray striped bass die-off were given to WLTX, Columbia and the Post and Courier, Charleston.

During August a much-needed internet upgrade was completed, and a new phone system installed at the Eastover office.

Staff completed and submitted annual Federal Aid reports.

Region 4

Technical/Meetings

Federal Aid report

Staff finished analysis and write up of the FY21 Federal Aid report. A copy was submitted to the section's executive office.

Santee Cooper Country / CP&P inc

Staff met with representatives of both the Santee Cooper Country tourism board and CP&P concrete to make initial plans for concrete additions to Lake Marion and Moultrie fish attractors. A similar project was initiated in 2014, during which 18 of 32 fish attractors received permanent concrete additions. With the permit for this work running through June 2023, the goal is to add concrete to the remaining 14 attractors.

Field Work

Santee River survey

Staff spent most of August finishing field sampling for the Santee River Survey. A total of 32 sites were sampled, split evenly between high and low frequency electrofishing to inventory the sportfish and catfish community. Otoliths were extracted from a subsample of LMB, BLG, RBS, BCF, and FCF for age and growth purposes. Although this year's survey was the second of two planned years of sampling, sampling protocols in 2020 altered the survey such that data were not collected in a standard fashion. Therefore, a third and final year of sampling on Santee River is planned for FY23.

Grass Carp collections

A total of 41 GCP were collected during two nights of bowfishing on Lake Marion/Moultrie by FWF section staff from Region I. This cooperative effort has increased the number of GCP being collected throughout the year and from areas not previously sampled. All GCP were weighed and measured, and otoliths were extracted for age and growth purposes. Data collected from GCP on this system are used to inform plant management decisions, including the need for future GCP stocking events and at what rate.

Shrine Club fish kill

Staff went on-site to do a preliminary investigation of a fish kill on the Dorchester Shrine Club property. It is outside the section's protocol to do on-site investigations of fish kills when they occur on private property, however, due to the extent of the kill and its proximity to the Ashley River headwaters, staff determined it worthwhile to follow up. The kill appeared to be the result of an influx of poorly oxygenated water from nearby wetlands into the Shrine Club pond as a result of flow diversion from SCDOT work occurring nearby. DHEC personnel also visited the location, although have not released an official cause for the kill.

Lab Work

Otolith Sectioning

Staff have continued mounting, sectioning, and ageing otoliths collected from the Santee River survey. Data will be analyzed and results will be provided in the FY22 annual report and federal aid report.

Statewide Research

We continued data collection for the development of a Stream Quantification Tool (SQT) for South Carolina. Fish sampling was completed at 7 sites in August 2021, bringing the study total to 79 sites completed (study total target of 100). This study will provide the data for development of biological indicators to evaluate the effectiveness of stream restoration and mitigation activities in South Carolina.

We continued site selection and field sampling for the C-SWG Bartram's Redeye Bass conservation study, focusing on distribution and occupancy modeling for this species. Three sites were sampled and fish tissue samples were obtained for genetic analysis.

We met with Clemson and Region 1 fisheries staff to plan Bartram's Redeye Bass collections in the mainstem Savannah River.

EPMS annual evaluations were conducted and submitted.

A temporary hourly position was posted to replace the outgoing incumbent.

Hatcheries and State Lakes Activities

Coordination

This month 6,780 grass carp were processed for sterility testing at Cohen Campbell Fisheries Center.

Two (2) vendor permits were issued for grass carp distribution statewide.

Dennis Wildlife Center (DWC) and Bayless Hatchery

Staff completed two (2) trainings in August, a DLEO online training video for open-carry weapons and the AAA Driver Improvement Program refresher course.

Two (2) DWC staff members tested positive for COVID-19 and quarantined for 2-weeks. Three (3) other staff members also quarantined for and returned to work with negative test results after five (5) days.

A major fish kill occurred in two of the Phase II striped bass ponds, the cause currently unknown. The robust redhorse pond was sampled to verify the presence and size of the fish.

EPMS review documents and planning stages were completed and submitted for all staff. Pamela Corwin resigned from her position at Bayless/DWC and will move to a new outreach position at MRD early September; all transfer paperwork was completed. Intern Kaitlyn Dozler also finished her 12-week hatchery internship and went back home to Nebraska.

Staff assisted Region 4 with catfish electrofishing sampling on the Santee River.

DWC Staff transported a tractor, 2 bushhog side implements, and a boat trailer to the STYX Receiving Compound for disposal.

Staff unloaded 11 pallets of 2021-22 rules and regs and 1 pallet of WMA maps at DWC, as well as loading numerous law enforcement vehicles and trailers with regulations to be distributed throughout the tri-county area.

Purchase requisitions were submitted for a new electrofishing box, Honda generator, 4-wheeler, fish hauling tank, two new gooseneck trailers, and lakebed aerator cabinets. Site visits of HVAC companies competing for services at DWC/Bayless were completed, along with the procurement of chemicals and fish food for day-to-day operations.

The main pipe supplying water to the DWC admin building was replaced.

Staff completed and submitted daily staff reporting logs, monthly reports, weekly itineraries, mileage sheets, fuel logs, procurement statements, and purchase requisitions.

Staff performed routine water quality monitoring and fish feeding, as well as maintenance of grounds, buildings, and equipment.

Walhalla State Fish Hatchery

A total of 13,325 trout were stocked during the month of August.

Staff dealt with the remnants of Tropical Storm Fred, and as August concludes, are preparing for further issues that may arise from Ida.

Staff continued daily operations.

Visitation was high throughout the reporting period.

Cohen Campbell Fisheries Center/Barnwell Substation

Assisted State Lakes with requirements gathering for Lake Brown maintenance RFP.

Transported the Marsh Master to Baton Rouge, LA for service.

Hosted pre-bid meeting for janitorial services contract for Cohen Campbell buildings.

Assisted Mussel Propagation program with filter preventative maintenance.

Attended Budgets and Expenditure Monitoring meeting for FY2022.

Performed general maintenance and upkeep at both Cohen Campbell and Barnwell substation.

Continued construction of in-pond raceway system.

Assisted Hatchery Coordination with continuing efforts at Spring Stevens Fish Hatchery.

Began grounds maintenance of the new 60-acre property for the Barnwell Substation.

Performed maintenance of mini excavator for the State Lakes program.

Facilitated Outdoor Afro fishing clinics for the outreach section.

Tested 2 shipments of Grass Carp.

Cheraw State Fish Hatchery

A budgeting meeting was attended by both the hatchery manager and the assistant manager.

Staff completed annual reports such as the federal grant report, EPMS reports, and continued to work on the state's annual report.

New Assistant Hatchery Manager, Wyatt Sipple, started his first day of work on August 2nd, 2021. Hatchery is still in the process of hiring for an open Tech III position.

Staff completed and submitted daily staff reporting logs, monthly reports, mileage sheets, fuel logs, procurement statements, and purchase requisitions.

Staff continued to perform routine summer month hatchery operations including daily water quality inspection, feeding, disease control, cleaning tanks, and controlling aquatic vegetation.

Staff continued to maintain the hatchery grounds, equipment, and buildings.

Spring Stevens State Fish Hatchery

Currently, 65 acres of land are bordering the Spring Stevens Hatchery. Research on obtaining the property bordering the hatchery is being conducted.

Hatchery Air system repairs at the hatchery are ongoing.

Repairs on equipment are being conducted to restore to working condition.

Summer grow-out of brim species continued.

Routine care and maintenance of the facility continued by Fresh Eyes Coordinator. The State Lakes Crew continued to cut grass at Spring Stevens Hatchery every two weeks.

State Lakes

Met with Engineers regarding a solution to the water leak in the Sunrise Lake dam, as we could potentially around the old pipe through the dam.

Met with and received quotes from contractors about the possibility of installing new aluminum fishing piers at Lake Cherokee and Mountain Lake 2.

Began acquiring quotes for a Vault restroom to be installed at Lake Cherokee and ordered a new mulching head for the Mini Excavator.

Continued to monitor water levels at Sunrise Lake and Lake Johnson.

Opened access road to the dam of Lake Johnson by removing downed trees.

Fertilized Lakes Starfort, Johnson, Jonesville Reservoir, Cherokee, Long, Oliphant, Sunrise, and Mountain Lakes 1&2.

Removed benches from under picnic shelters at Lakes Cherokee, Long, Oliphant and Ashwood. Quotes for repairs to the picnic shelter roof at Lake Long was acquired and a requisition submitted.

Continue to maintain the grass (mowing) at Springs Stevens Hatchery.

Performed routine maintenance at all 18 State Lakes (i.e., grass cutting, litter control, fisherman trail maintenance, and terrestrial weed spraying). Performed additional aquatic weed spraying at Lake Ashwood, Lake Warren, and Lancaster Reservoir.

“Fresh Eyes” Program

Fresh Eyes Coordinator was assigned as interim point of contact for Spring Stevens to bring the hatchery back up to expectations until a new Hatchery Manager is hired.

Conducted routine care and additional maintenance at Spring Stevens facility.

All monthly paperwork assigned completed.

Outreach and Training

The August Fish Disease Training was cancelled due to the increase in COVID-19 cases and to facilitate COVID-19 safety practices.

Hatchery Managers attended a budget meeting at Cohen Campbell.

Administration

Cohen Campbell Hatchery, Dennis Wildlife Center, Cheraw Hatchery, Walhalla, and Spring Stephens Hatchery executed all COVID-19 safety protocols.

Weekly trout stocking reports continue to be updated on the SCDNR website.

Diadromous

Activities—Summary

Efforts this month included: downloading acoustic receivers and manual tracking in Charleston Harbor, Lake Marion, the Rediversion and Diversion Canals, and the Congaree, Wateree, Cooper, Santee, Edisto, Waccamaw, Great Pee Dee, and Savannah Rivers; gillnetting for Atlantic and shortnose sturgeon in the Great Pee Dee, Waccamaw, Black, Sampit, Edisto, and Savannah Rivers; monitoring elver ingress at Goose Creek Reservoir and St. Stephen Dam; fulfilling telemetry data requests; maintaining the comprehensive telemetry database and cleaning up false detections and duplicate station names; submitting telemetry data to the FACT network; submitting monthly, quarterly, and annual reports to fulfill obligations such as the annual ASMFC American Eel Compliance Report.

Breakdown of Project Activities

Great Pee River Sturgeon Project

This month's efforts were concentrated on maintaining the Winyah Bay System's receiver array. Six trips were made to download receivers, completing the third quarter's maintenance schedule. Water temperatures were too high to sample; therefore, two days were spent manual tracking to prepare for shortnose sturgeon sampling in September and October. Three days were spent assisting Clemson University with their side scan efforts on the Great Pee Dee River.

Winyah Bay Juvenile Sturgeon Project

There were no sampling trips conducted this month due to high water temperatures. The boat was taken in to have the motor serviced and fiberglass work completed on the floor and hull. Six new set nets were built for the upcoming sampling months: 2 x 2 inch mesh, 2 x 2.5 inch mesh, and 2 x 3 inch mesh nets.

Savannah River Sturgeon Egg Project

The Savannah Egg project made one trip to the Augusta area of the Savannah River to manually track for Atlantic sturgeon exhibiting spawning behavior. Two Atlantic sturgeon were identified and located at river kilometer 301 and 298. Project personnel assisted with Savannah Harbor Expansion Project netting for sturgeon on 4 days. Staff also completed downloading the lower Santee River and Santee-Cooper Lakes telemetry arrays. Maintenance was performed on two boats.

Savannah Harbor Expansion Project (SHEP)

Savannah Harbor Expansion Project fished for adult Atlantic sturgeon with a 14 inch stretch mesh net for 14 days (161 net hours) at river kilometer 300, however no sturgeon were captured. Netting at New Savannah Bluff Lock and Dam netting was difficult and unsuccessful due to high flows and massive Brazilian Elodea grass mats.

Atlantic Coastal Fisheries Cooperative Management Act (ACFCMA)

This month, project ACFCMA completed six sturgeon sampling trips to the Edisto River. Fish were PIT tagged, measured, and genetic fin clip samples were collected. The Bateau project boat was taken into the shop for a minor motor issue which resulted in the loss of one sampling day. Sampling continued using the McKee boat. Additionally, regular boat trailer and field equipment maintenance was conducted. The eel ramp at Goose Creek Reservoir was monitored twice a week, every week this month.

Santee Accord Juvenile American Shad Study

Electrofishing surveys targeting juvenile American shad (AMS) continued in August. A total of 452 AMS were collected in the Santee Basin. Two trips to the Diversion Canal were made however no AMS were caught. Three trips to the Congaree and Santee Rivers were made with 96 AMS and 344 AMS captured respectively. One trip was made to the Wateree River with 16 AMS captured. All juvenile AMS were collected from total catch and fin clips were taken for genetic analysis.

Electrofishing for the AMS and blueback herring (BLH) sustainable fisheries plan began with surveys of three sites each on the Savannah and Great Pee Dee Rivers. Two trips were made to the Savannah with 9 AMS and 12 BLH captured. Two trips to the GPD with 93 AMS captured, however one site was not sampled on the first trip due to boat battery issues.

Rediversion Project

American eel passage at the St. Stephen dam continued without pause this month, totaling 157 eels measured and passed upstream. Eels were stocked directly into Lake Moultrie (n = 119), aside from 38 eels, which were transported to the Wateree River, and stocked by Duke Energy staff in the tailrace below the spillway. To date, 199 eels have been stocked into the Wateree System, and 386 eels have been stocked into Lake Moultrie (n = 573). St. Stephen Dam discharge exhibited short periods of peak discharge (~1 to 6 hours) bookended by no-flow conditions. This cycle has been repeated daily since mid-August, and less frequent in early August. Downstream water levels have fluctuated between 7 and 20 feet, and mean dissolved oxygen concentrations have remained near saturation, given water temperatures have fluctuated around 30°C.

Project staff aided other Diadromous programs this month, including juvenile shad electrofishing, and remote sensing with Clemson University. Staff continued to work towards improving the digital library and associated literature database, and completed various data management and analysis tasks for sections of the annual report. Additional effort was applied to state truck maintenance, planning upcoming vehicle transfers, and disposal of nonrepairable equipment at Styx. Project focus remains concerned with effective communications with our partner agencies, and providing useful analyses, graphics, and written descriptions to all those involved.

Administrative

Interviews were conducted for an hourly technician at MRD and hiring paperwork was submitted. Fresh Water Fisheries interns from Region IV and Diadromous were transferred to Diadromous hourly technician positions in Bonneau and Fort Johnson.

Meetings and Outreach

Staff participated multiple meetings and conference calls regarding:

- River herring steering committee meeting,
- SC Aquatic Connectivity Team Project Managers meeting,
- ASMFC Atlantic sturgeon ageing workshop planning,
- Edisto River shad sampling plans with FWS,
- Project update and planning meeting with partners from Clemson University,
- USACE Savannah District plans for SHEP sediment basin work,
- USACE Charleston District St. Stephen Fish Lift Project issues,
- Preliminary meeting with SCDOT regarding Hwy 301 demolition in the Savannah River,
- Internal discussion regarding NSBLD fish passage designs,
- Discussion with Santee-Cooper regarding future sturgeon plans.

Mussels

General

Staff attended a 4 hour drivers' training course.
 Staff attended Haile Gold Mine Property Tour.
 Staff attended Clemson Carolina Heelsplitter Collaborator Meeting.
 Staff continued work on potential safe harbor agreement.
 Staff continued to work on "Best Management Practices for Freshwater Mussels".
 Staff continued construction of mussel silos for use in Carolina Heelsplitter stocking study.
 Staff continued work on landowner contact database.
 Staff attended Brook Floater Working Group Meeting.
 Staff assisted in two tagging events at ONFH.
 Staff communicated with Master's student under Arnold School for Public Health about potential toxicology study with Unionid mussels.
 Staff communicated with USFWS about Carolina Heelsplitter surveys for the 2022 season.
 Staff communicated with USFWS- Orangeburg about upcoming stocking site selection and stocking permit process.

Outreach

Volunteer continued maintenance of mussels in the classroom program example tanks.

Mussel Culture

Staff continued stage 2 culture of *Alasmidonta varicosa* cohort 2103AvA-O.
 Staff moved half of cohort 2106VdA into stage 2 culture.
 Staff continued stage 1 culture of *Villosa delumbis* cohort 2106VdA and *Utterbackia imbecillis* cohort 2106UiA.
 Staff continued pond culture of *V. delumbis* and *U. imbecillis* cohort 2019VdA and 2019UiA and long-term residents of mussel rack.

Field

Staff sent 6 landowner contact letters.
 Staff completed 4 CPUE surveys: PEE041- Lynches River, PEE038- Lynches River, SAV009-Cyper Creek, CAT030- South Fork Fishing Creek.
 Staff assisted in Duke Energy Survey in the Catawba River.

Aquatic Education

Family Fishing Clinics & Certified DNR Fishing Instructors

Continued communicating schedule changes to volunteers and the public
 Held 3 clinics open to the public: High Falls County Park, Chau Ram County Park and South Cove County Park
 Held 2 clinics for closed group: Boy Scouts at Table Rock State Park and Outdoor Afro at Cohen Campbell Fish Hatchery

Fishing Rodeos

On-going participant survey data collection
 Responding to inquires about schedule

Fishing Tackle Loaner Program

Site user logs collected for data collected for input
 Collecting follow up surveys from participants
 Provided new equipment to: Lake Greenwood State Park, Anderson County Libraries, and Paris Mountain State Park

Gear loaned out of Dennis Building

Trout in the Classroom (TIC)

Receiving inquiries and applications for upcoming school year

Updating program materials to reflect new protocols

Planning for 3 teacher workshops

Soliciting new applications

Youth Bass Fishing Club

Continued to field questions and provide assistance to schools creating clubs for the first time

Solidified date and location for April 23, 2022 tournament at John C. Land on Lake Marion

Black Bass Slam

Received 3 partial entries

Received 2 slam completions

Began developing outreach flyer materials

Planning for filming of promo video

Other

Summer intern, Hayden Bennett, finalized summer project and returned to school

Finalizing Fishing App data corrections and contributions from regional staff

Contributing to logistics and planning of Hispanic Heritage Day at NWTf

Completed EPMS

Submitted annual Federal Aid report

Attended initial AREA Diversity and Inclusion taskforce meeting

Will Mundhenke attended Wilderness First Aid course hosted by Land and Water

Outreach materials provided to: 8 members of the public and 9 phone interactions

WILDLIFE SECTION STATEWIDE PROGRAMS

Coordination and Administration

Participated in numerous meetings with Deputy Director Cope, Chief Dukes and Assistant Chiefs Swaynham and Chappelle on various topics including, coordinating staff work schedules, activities, field operations, implementation of regulations, and budgets. Supervision of Statewide Programs staff continued. Participated in interviews for Assistant Chief of Wildlife. Worked with staff to conduct deer lottery hunt and to prepare for waterfowl lottery. Assisted staff with the fulfillment and troubleshooting of alligator tags. Spent considerable time and effort on preparing and delivering EPMS and planning stages to supervised staff and reviewing EPMS for their supervisees. Attended multiple meetings including, SCDNR Waterfowl Staff, WFF Senior Staff meeting, SC Rabbit Task Force, Annual SCDNR Biologists' Meeting in Columbia, SC Wildlife Partnership Board meeting in Orangeburg, Pintail Partners in Columbia, and the SCDNR Board Meeting. Participated in a site visit to Bobwhite Hills with SCDNR staff and partners.

Big Game Program

General Activities

Responded to 71 phone calls and 62 emails from the public related to new or proposed hunting regulations, deer/turkey tagging, sick or nuisance animals, urban deer, and other general deer, turkey, and black bear related topics.

Law Enforcement related activities involved answering questions from the public concerning legal issues related to deer, turkey, bears, hogs, weapons, and hunting (14 calls and 11 e-mails approximately 3 hours). Consulted directly with field officers (7) related to sick deer, deer depredation, sick raccoon, legal weapons, and tame deer.

Represented (virtually) the agency at the annual Southeastern Cooperative Wildlife Disease Study (SCWDS) Steering Committee Meeting. SCWDS staff presented summaries of diagnostic, research, and other matters that were undertaken during the past year.

Participated in the Wildlife Section Biologist's Meeting and provided an update on Big Game Program activities.

Attended (virtually) a meeting with Brandt who is the new customer service enterprise portal provider for the agency. This meeting was related to electronic harvest reporting for big game and involved information sharing as we transition to a new vendor and system.

Provided information and feedback to Brandt related to big game species, tagging, and other info for the development of a harvest reporting system.

Worked with Procurement to develop a request for bids related to data entry services that the Big Game Program utilizes related to the various surveys it conducts.

Coordinated with OMO on news releases, social media posts, mass emails, etc. related to CWD messaging and deer season topics.

Mileage logs/receipts were scanned and forwarded to appropriate staff. PCard statements/receipts were scanned and forwarded to the PCard email address.

Provided 2 public speaking engagement with 60 in attendance.

Participated in 3 interviews with the media.

Completed 1 survey from other agencies/entities.

Deer Research and Management Project

The Deer Quota Program (DQP) required effort related to ongoing data entry and update from the application/renewal process that began in May. Approximately 110 applications were entered during the month bringing the total to 1,369 entered to date. Applications were forwarded to DQP biologists for their action in setting quotas. Permits and tags are being printed and mailed in-house at this point.

Continued working with Cornell University on a project to develop a Chronic Wasting Disease Risk Assessment and Surveillance Plan. A virtual meeting was held to discuss progress on the plan. Deer processor and taxidermist surveys were forwarded to Cornell to be incorporated into the surveillance model.

Participated (virtually) in a seminar related to Surveillance Optimization Project for Chronic Wasting Disease hosted by Cornell University and the CWD Alliance. This seminar outlined CWD surveillance tools that are becoming available to states to assist in statistically based surveillance for CWD.

Work on the cooperative deer and coyote study with Clemson University Department of Forestry and Environmental Conservation was ongoing during the month. Field work on this 3-year project ended during the month. Overall, 83 does were captured during the study leading to the capture of 94 fawns. Overall fawn survival during the study has been approximately 30 percent. Additional details of this study will be forthcoming as data analysis is ongoing.

Continued coordination and communication with the PhD student from University of Georgia on the cooperative research project entitled "Use of fecal genotyping and spatial capture-recapture modeling to investigate coyote abundance in South Carolina. Field work on this 3-year study recently concluded. DNA extractions for species identification is ongoing.

Deer Depredation Permits were entered as they were received. To date 575 permits have been recorded.

Measured 2 sets of antlers in the office by appointment.

Wild Turkey Research and Management Project

The 2021 Turkey Hunter Survey required ongoing effort. The nonresponse bias telephone survey was completed by Southwick Associates. Statistical analysis of both the initial survey and nonresponse survey was conducted. Preliminary analysis indicates that approximately 13,032 adult gobblers and 1,033 jakes were taken during the spring 2021 season totaling 14,065 turkeys. This represents no change from 2020 (14,044 turkeys). Final analysis and generation of the annual report will follow in September.

At month's end the Summer Turkey Survey ended requiring reminder notices for cooperators to report be sent to approximately 400 individuals. Additionally, steps were taken to remind cooperators by email and social media.

Continued work on the new South Carolina Wild Turkey Public Lands Habitat Enhancement Program. This included compiling, scoring and ranking proposals. This process was completed in a joint effort with NWTFS and our NWTFS Regional Biologist. Funding awards and projects will be announced in September.

The wild turkey gobbling chronology study with Clemson University Department of Forestry and Environmental Conservation continued during the month. Field work on this 3-year study ended during the month with all Autonomous Recording Units (ARUs) that were deployed in March being retrieved. Data analysis from the 2019-2021 field seasons is ongoing.

Continued coordination and communication related to the study entitled "Reproductive Ecology of Wild Turkeys in an Un-hunted Population." This is a cooperative study between SCDNR, USDA Forest Service-Southern Research Station, University of Georgia, Louisiana State University, and University of Missouri. The objectives focus on determining reproductive parameters in turkeys that are not hunted. To date, 116 birds (62 females, 54 males) have been captured and banded. 80 of these birds were marked with GPS transmitters. This project will continue until 2024 and findings will be provided as they become available.

Provided a summary of recent and ongoing wild turkey research in SC for the development of a document for the SEWTWG at the request of the WRC and SEAFWA Directors.

Black Bear Research and Management Project

Upstate - Staff handled 42 bear complaint calls/sightings. Bears are very active right now and regularly getting into bird feeders and trash or outdoor food sources. There were 5 road kills this month. 3 bait survey lines were set and checked in the mountains. Staff started hard mast surveys this month. There are 10 mast survey lines conducted in Region 1 to give an index of oak mast production and food availability for wildlife. Staff assisted 2 landowners with putting up electric fence to keep bears off chicken coop and other livestock. 3 depredation permits were issued for nuisance bear problems in August.

Furbearer and Alligator Program

Furbearer Project

Responded to nineteen nuisance wildlife complaints. One hundred-twelve other technical assistance contacts were also made during this time via phone and email.

Continued work on a streamlined version of draft wildlife possession and rehabilitation legislation with new input from the Legal section.

A fox that died from mange and in the possession of an upstate rehabilitator was picked up by a representative from SCWDS.

Assisted with additional support for a seized wildlife case related to a wildlife rehabilitator in Chesterfield County from late June.

Fur harvest data collection reports were discussed with the new license vendor for establishing on-line reporting, and testing began on the vendor's test site.

Participated in the Red Wolf Recovery team's online meeting to discuss strategies and issues related to red wolf recovery efforts.

A site visit was made to a Richland County community at the request of the county to inspect potential beaver damage at a pond the county is responsible for maintaining. Old damage was present, but the current dam damage appears to be from potential old beaver dens collapsing and general erosion in certain locations of the dam.

An update on wildlife possession and rehabilitation issues, with detailed information about the Lee County animal hoarding case, was given at the annual biologists' meeting in Columbia.

An update of coyote harvest trends and the coyote harvest incentive program was presented at the DNR Board meeting this month.

Information was provided for the annual accountability report.

Alligator Project

Alligator surveys continued this month with six additional routes run. To date, twenty-one survey routes have been completed.

Public lands alligator tags sales began this month for successful lottery applicants.

Biologist Hart Activity

General Activities and Accomplishments

- Monitored movement of GPS tagged alligators.
- Issued two transport permits
- Building and troubleshooting Access database for all non-public hunt alligator permits
- Debugging final Access database for Captive alligator permits
- Coordinating regularly with Clemson researchers regarding alligator movements
- Ongoing permitting website and data management improvements
- Conducted five overnight Alligator eyeshine surveys in eight waterways
- Tested and improved Survey 123 electronic data collection platform for eyeshine surveys
- Managed Alligator program intern
- Working on harvest summaries and reports for all types of harvest.
- Organizing and entering private lands harvest data
- Issuing invoices and processing applications for Private Lands alligator hunting
- Issued and mailed 45 Private lands permits

Alligator Program Biologist Accomplishments

- Display/Transport Permits - 0
- Private Lands Permit Packages approved - 45
- Nuisance Calls - 65
- Nuisance Permits- 28
- Media Inquiries- 2
- Presentations- 2

Permitting and Lottery Hunt Program

While Biologist Kears is out on extended leave, administrative specialist Trista Bishop continued to review, and process permits. These permits consisted of 20 field trial permits, 4 falconry permits, 2 scientific collection permits, 22 Canada goose depredation permits, 3 predator management permits, 6 furbearer depredation permits, 3 Tegu possession permits, and any fox/coyote enclosure permits that arrived.

The Multi-site and Webb Deer Lottery Hunts closed on August 15th, and notifications of the drawing's completion were sent out via email on August 30th. Some initial concerns regarding team preference points were resolved as the output spreadsheets did not correctly display the teams pre-draw preference points.

Final preparations were made for the Multi-site Waterfowl Hunt and the Youth-only Multi-site Waterfowl Hunt, and these were set up in the online system. Email messages were created and scheduled to be sent out on September 1, the opening date of the waterfowl lottery application period.

Met with representatives of the Pintail Partners program to discuss strategies to get more youth waterfowl hunters to opt-in to the program when applying for DNR youth waterfowl hunts. The new license vendor can allow opt-ins at the application level when someone applies for a hunt. Currently, they are required to go to a Google form to agree to provide Pintail Partners with their contact information.

Assistance was provided by email or phone concerning lottery hunts, permits, and other general wildlife questions

Other

Continued to meet with the new licensing vendor on multiple occasions to discuss lottery hunts, tag issuance, harvest reporting, and wildlife permitting. Initial testing began with the new system.

Herpetology Conservation Program

General Activities and Accomplishments

- Attended SCDNR Biologist Meeting (Virtual)
 - Herpetology Program Update
- Attended USFWS/SCDNR Coordination meeting (Virtual)
- Gopher Tortoise Council Business Meeting
- NatureServe Review of Gopher Tortoise habitat predictor model

McCrary Herpetological Surveys

- McCrary surveys continuing
- McCrary Report Submitted to McCrary Training Center Staff

Catawba-Wateree Herp Surveys

- Surveys underway at Liberty Hill, Wateree, and Carolina Sandhills NWR

River Frog Survey and Genetics

- Processed Froglogger data from Bonneau Ferry, Santee Canal Park and Woodbury WMA

Multi-State Sandhills Restoration Project – Tillman – No activity during the month

Multi-State Wetland Restoration Project – Webb

- Pre-treatment vegetation surveys underway
- Three wetland perimeters flagged for restoration work
- Contract awarded for restoration of 3 wetlands on Webb

Gopher Frog Population Augmentation and Headstarting

- 144 metamorphs reared at Riverbanks Zoo released at the Webb Center – 8/27/2021 – Total Released = 196
- SCDNR Press Release Gopher Frog Headstart Project with Riverbanks
- Social Media “Ask the expert – Gopher Frog interview/Questions from the public”

Camera Fence Surveys

Processed photos from the Aiken GTHP and a Private Property in Aiken (3315 Photos)

Exotic Species

- Participated in National Horizon Scan Exotic/Invasive Species Monthly Meeting
 - Rapid Assessment for 27 non native species with invasive potential
- Documented 3 more black and white tegus in Columbia, SC (2-both removed) and Myrtle Beach (1-not removed)
 - Total is now 15 confirmed; 10 removed
 - Tegu necropsy
- SCDNR media post Black and White tegus – new sightings, new laws, register your tegus
- Sun News Follow up interview questions – Tegus in Horry county
- ABC 15 News Follow up interview questions – Tegus in Darlington county
- Channel 13 News Follow up interview questions – Tegus in Darlington county
- SCETV “Making it Grow” - Interview on Tegus in SC
- SCETV “Making it Grow” – Interview on nesting turtles
- SCE Public Radio Interview on Tegus in SC

Gopher Tortoise Population Augmentation with Waifs – Aiken Gopher Tortoise HP

- Nest searching – 2 nests found, 12 eggs total – 3 August 2021 – Total = 7 nests, 42 eggs
- Nest Searching Slater Tortoise Preserve – 2 nests found, 17 total eggs – 9 August 2021
- Nest Searching – 1 nest found, 7 eggs – 11 August 2021
- Total = 8 nests, 49 eggs (AGTHP), 2 nests, 17 eggs (Slater)
- Submitted Gopher Tortoise MOU Annual Report to Florida FWC

State Wildlife Grant – Conservation of Coastal Reptiles and Amphibians

- Presented to Region 3 Law Enforcement – New herp laws, Illegal collection, Species of interest
 - 8/19/2021 - Orangeburg
- Presented to Region 1 Law Enforcement – New herp laws, Illegal collection, Species of interest
 - 8/17/2021 - Clemson

Green Salamander Population Assessment across Forest Disturbance Gradient (Clemson)

- Genetics samples being processed and analyzed

Patchnose Salamander Environmental DNA (Clemson)

- Field surveys being conducted by Clemson

Pine Snake Movements Lewis Ocean Bay (Coastal Carolina)

- Currently tracking 4 adult snakes – 2 females/2 males

Box Turtle Movements (Savannah River Ecology Lab, University of Georgia)

- Currently tracking 24 of the 2019 Chester Co Seized turtles, 10 wild turtles from the area and an additional 24 long term captives to compare habitat use, movements, and effects of hard vs. soft release

Statewide Bat Program

Summer bat netting project finished at Wateree SP, and for the season. Maria set out acoustic devices at Great Pee Dee HP. Ky finished NABat data entry into excel, processed metadata. Temp positions for Cara and Ky wrapped up, equipment returned, exit checklists completed. Received WNS grant funding for WNS and NABat projects. Site visit to SCDOT bridge near Camden to attempt to relocate Rafinesque’s big-eared bats. Ran SC Bat Working Group meeting on statewide planning for Bat Week.

Statewide Bat Monitoring (Bat Biologist, Jennifer Kindel, WNS and SWG grants)

- Aug 4: assisted with netting Wateree SP.
- Aug 5: WNS call, presented at virtual ESA meeting.
- Aug 6: oil change and drop off intern vehicle at Clemson office with Cooper Butfiloski.
- Aug 9: Site visit to SCDOT bridge near Camden to attempt to relocate Rafinesque’s big-eared bats. Only able to move 1 of 4. Rest should be ok given bridge demo process and the fact they can all fly/aren’t pups.
- Aug 11: Attempted to conduct Hwy 11 bridge emergence count with crew, but needed to assist Maria with 2 flat tires instead.
- Aug 12: Interview with Garden & Gun
- Aug 13: Call with Susan Loeb re: NABat and other projects. Met with Cara for exit paperwork.
- Aug 16: Biologist meeting
- Aug 17: NABat data meeting w/Ky and Susan, Hampton Planation bat meeting.

- Aug 18: FWS DNR virtual meeting
- Aug 19: WNS call
- Aug 23: NABat metadata meeting w/Ky and Susan. Bat emergence count at Hwy 11 bridge with Ray Long for gray bats. No luck.
- Aug 24: Ran the SCBWG meeting, took notes, scheduled next bat week planning meeting. Returned to pick up Anabat from Hwy 11 bridge.
- Aug 31: Technician discussion
- Managed NABat project data entry and processing. Transferred KPro license to Ky so they could process. Prepping for manual vetting of calls and submission to online NABat database.
- Sent term PTRs for Ky and Cara. Met each for equipment transfer and exit paperwork.
- Received WNS funding to pay for temp tech to run NABat gain next year, looking to expand volunteer base, will ask around for volunteers for statewide hubs.
- Updated Clemson subrecipient agreement to match FWS extension and sent for approval. Communicated with Susan and David about final SWG NABat project plans.
- Managed multiple FR and travel requests for Maria.
- Assisted Taxa Team for River Forks.
- Working with President of Roper Mountain Astronomers and SCPRT to potentially designate a dark sky site at upstate state park; bat species at risk are affected by light pollution.
- Updated and submitted SCDOT bat culvert surveys budget.
- Beginning to assist with SBDN meeting planned for Hilton Head 2023.
- Managed account charges and paperwork on and between all projects.
- Referred contractors with questions about Northern long-eared bats to OEP for project reviews.
- Responded to bat nuisance and information calls.

Hourly technician, Maria Monarchino

- Conducted 4 mist-net surveys at Wateree State Park each lasting 5 hours.
- Yielded a total of 14 bats this month at Wateree State Park including 4 eastern red bats, 3 big brown bats, 5 evening bats, and 2 Brazilian free-tailed bats.
- Radio-tracked post-lactating female tricolor bat to 4 roosting locations and took a suite of habitat measurements at each site.
- Inventoried and cleaned all equipment post summer mist-net season.
- Began summarizing winter 2020/2021 and summer 2021 data for various reports.
- Deployed 16 acoustic detectors over a two-week period at Great Pee Dee HP/WMA.
- Attended South Carolina Bat Working Group planning meeting for Bat Week 2021.

Temp hourly technician, Cara Rogers

- Conducted 4 mist-net surveys at Wateree State Park each lasting 5 hours.
- Radio-tracked post-lactating female tricolor bat to 4 roosting locations and took a suite of habitat measurements at each site.
- Conducted Hwy 11 bridge emergence count with Ray Long – no bats.
- Inventoried and cleaned all equipment post summer mist-net season.
- Met with Jen to transfer equipment and completed exit paperwork.

Temp hourly technician, Ky Miller

- Completed data entry
- Began metadata processing; reached reasonable stopping point for end of position.
- Met with Jen to transfer equipment and completed exit paperwork.

SWG: NABat Project (Clemson MS student/Dr. Susan Loeb)

- Dr. Susan Loeb continues to manually vet bat calls and submit data to NABat online.
- Received 1- yr FWS extension to completed data analysis and reporting.

Small Game Program

General Small Game Program Activities and Accomplishments

Responded to a minimum of 15 phone calls and numerous emails requesting technical assistance.

Program Leader Small participated in the monthly GIS webinar.

Program Leader Hook and Assistant Leader Small participated in two virtual SC Rabbit Hemorrhagic Disease Virus Task Force meetings to discuss RHDV-2 cases in nearby states.

Assistant Leader Small completed the Annual Rabbit Hunter Survey Report and distributed it to cooperators and made it available on the SCDNR webpage.

All Small Game Program Staff attended the annual WFF Biologists Meeting in Columbia, SC.

All Small Game Program Staff participated the Annual USFWS/SCDNR Coordination meeting held virtually. Hook and Refuge Manager Askins presented information on the collaborative bobwhite quail work being completed on the Carolina Sandhills National Wildlife Refuge.

Mileage logs/receipts were scanned and forwarded to Lindsay Wood. PCard Statements were scanned and forwarded to the PCard email address.

Approximately 400 turkey/quail brood data reminders were forwarded to cooperators.

Issued 1 new bird dog training area licenses and 7 shooting preserve licenses. All preserve harvest data entered into the database.

Received and processed two new shooting preserve applications. Safety inspection requests were forwarded to the designated regional captains.

The 2020 Fox Squirrel Survey Report was distributed to approximately 135 cooperators.

Travel reimbursements were processed in SCEIS for Biologists Hook, Small, Peeples, Krieg and Bennett.

Posted 1 social media post on SCDNR Facebook page: Migratory Bird Seasons (8/31). Posted 1 social media post on SCDNR Instagram feed: Migratory Bird Seasons (8/31). Conducted two interviews for traditional print media.

Mourning Dove Project

Assistant Leader Small updated mourning dove band recovery information from bi-weekly reports.

Assistant Leader Small continued to coordinate state-wide initiation of Mourning Dove banding program including receiving and entering banding data and preparing it for submission to the Bird Banding Laboratory. A total of 1,337 bands were placed on doves across the state. 120 of these bands were included in a 3-year USFWS Reward Band study to examine the reporting rate for the new web-based band reporting system.

Program Leader Hook and Assistant Leader Small participated in the Eastern Management Unit Dove Technical Committee virtual meeting.

Program Leader Hook banded 50 morning doves at his trap site for the 2021 banding period.

Bobwhite Quail Project

Program Leader Hook, Assistant Leader Small, and SCBI biologist Carmichael participated the monthly Indian Creek Technical Committee meeting.

Program Leader Hook, Assistant Leader Small, Farm Bill Biologist Krieg, and Farm Bill Biologist Peeples attended the 2021 National Bobwhite Technical Committee meeting in Bentonville, AR. Program Leader Hook served as the NBTC Chair Elect during this meeting.

Assistant Program Leader Small met with Region II staff and inspected the Landsford Canal WMA Public Bird Dog Training Area.

Assistant Leader Small reviewed and edited an article for the Indian Creek Cooperative Program Newsletter.

Program Leader Hook and SCBI Biologist Carmichael met virtually with DNR, US Forest Service and Quail Forever staff to discuss proposed quail hunting regulations for the Indian Creek Focal Area.

Program Leader Hook and SCBI Biologist Carmichael assisted in presenting a hybrid in person/virtual SC Bobwhite Funding Partnership Event at the offices of Kirk Commercial Construction in Columbia, SC. Thirty-four people attended in person and approximately 12 attended virtually.

Program Leader Hook and SCBI Biologist Carmichael met with Region III staff to inspect the White Plains Ranch property in Laurens County that will soon come into DNR ownership.

Program Leader Hook, SCBI Biologist Carmichael and Assistant Leader Small met with other DNR staff, and Quail Forever staff and volunteers to inspect a tract in Sumter and Lee counties for possible potential DNR ownership in the future.

SCBI Biologist Carmichael met with an Orangeburg County landowner to provide technical assistance and management recommendation for 2,000 acres.

SCBI Biologist Carmichael participated in several meetings at the Enoree Ranger District to oversee Good Neighbor Authority work.

SCBI Biologist Carmichael made two trips to the USFS Enoree Ranger District in Newberry and Union counties were made to follow up on Good Neighbor Authority work.

All Small Game Program Staff met virtually with Association of Fish and Wildlife Agencies (AFWA) Agriculture Policy Coordinator Pilchak to discuss AFWA's draft platform containing recommendations to Congress for the 2023 Farm Bill.

Farm Bill/Ag Liaison Activities

Farm Bill Biologist Krieg completed 1 site visit in Lee County and wrote 3 management plans for potential EQIP and CSP applicants.

Farm Bill Biologist Krieg met virtually with members of the South Carolina Bobwhite Funding Partnership.

Farm Bill Biologist Krieg met with CSNWR staff and interns in Chesterfield County to discuss current management of McBee WMA.

Farm Bill Biologist Krieg attended the National Bobwhite Technical Committee Meeting in Bentonville, AR.

Farm Bill Biologist Krieg attended the week long CD/CART virtual training session hosted by local NRCS staff.

Farm Bill Biologist Peeples assisted Calhoun, Clarendon, Richland, Sumter, and Orangeburg County Natural Resources Conservation Service with Environmental Quality Incentive Program, Conservation Stewardship Program, and Conservation Reserve Program applications, contracts, certifications, and modifications for private landowners.

Biologist Peeples attended the National Bobwhite Technical Committee annual meeting to review quail management activities across its range.

Nongame Bird Conservation Program

Migratory Landbird Project

Collaborated with Coastal Carolina University on project researching reproductive success and survivorship of loggerhead shrike in coastal SC as part of an international work group efforts to conserve the species.

Collaborated with Clemson University project researching high elevation early successional bird communities.

Organized and hosted virtual meetings to help determine Atlantic Flyway landbird priorities and compiled solar resources from Atlantic Flyway states as chair of the Landbird Committee.

Worked with heritage database staff to update the bald eagle nest reporting form and develop a loggerhead shrike survey123 monitoring form.

Assisted the National Partners in Flight coordinator with developing work priorities for his seasonal staff.

Attended virtual meetings to develop a logistical plan to host the next Atlantic Flyway Meeting.

Worked with furniture stores to purchase furniture for new offices.

Worked with the new RCW Bio II who began employment to help her become oriented.

Reviewed and provided comments on recommendation to support an Eastern Partners in Flight Conservation Delivery Specialist position.

Approved 1 permits to further bird research in South Carolina.

Provided technical assistance on 3 bald eagle nests.

Assisted LE on 1 potential bald eagle violation.

Reviewed tracts of land in Florence County and provided information on potential bird species that could use those properties.

Helped edit draft regulation changes.

Participated in virtual Crab Bank meeting to discuss logistics for celebration events.

Completed 4 EPMS's and reviewed 2 for people under my supervision.

Attended SCDNR board meeting.

Attended virtual Atlantic Flyway meeting and also helped host the event. Served as the SC nongame technical committee representative and chair of the landbird committee. Presented update on landbird priority development to the committee.

Visited Deveau Bank with SCDNR any other agencies.

Attended SCDNR biologist meeting.

Began entering breeding bird survey data.

Conducted 1 falconry facilities inspection.

Monitored loggerhead shrike on 20 days to contribute to a full annual cycle model to help determine conservation priorities for the species.

Participated in International Loggerhead Shrike Working Group calls.

Continue monitoring/resighting Loggerhead Shrikes at Springdale Race Track, in Camden and Sandhills Research & Education Center, in Columbia. Six birds resighted during 10 observation days.

Continued MAPS bird banding project for SC Army National Guard McCrady Training Center. Conducted final banding session for the season and netted 9 species & 14 birds; 10 banded, 2 recaptures & 2 unbanded. Total birds netted for the season were 29 species & 189 birds; 120 banded, 48 recaptured & 21 unbanded. Forty five species noted on site. Banding highlights included first time banding Red-headed Woodpecker & Brown-headed Cowbird at this site.

Began fall bird banding at SC Army National Guard McCrady Training Center. Conducted 4 banding sessions and netted 22 species & 160 birds; 97 banded, 58 recaptured & unbanded.

Continued developing a more efficient way to organize and maintain past and future landbird data sets. Made changes to the relational database, began creating a spreadsheet to more easily import data from different databases, and submitted banding data to the Bird USGS Bird Banding Lab.

Conducted routine activities for the Atlantic Coast Joint Venture, Partners in Flight, Atlantic Flyway, and other committees.

Directed activities of landbird, wading bird, marshbird, shorebird, and seabird SCDNR

staff by providing guidance on projects, developing grant proposals, and managing budgets.

Answered over 200 calls and emails related to technical assistance and other bird conservation efforts.

Red-cockaded Woodpecker Project

Participated in/assisted USFWS in hosting the 2021 virtual Southern Range Translocation Cooperative (SRTC) meeting.

Attended annual DNR Biologist meeting in Columbia.

Attended annual SCDNR/USFWS coordination meeting (virtually).

Attended virtual meeting regarding the future of the Great Dismal Swamp NWR RCW project and potential for continued translocations from South Carolina.

Participated in conference call regarding coordination of 2021 NFWF grant-funded RCW translocations

Met with board of directors for Safe Harbor property in Aiken County to discuss the Safe Harbor Program, associated responsibilities and current progress.

Conducted artificial cavity insert inspections at Donnelley WMA to inform replacement strategy.

Visited 4 SCDNR RCW properties as a part of orientation for our new Assistant RCW Biologist.

Conducted annual site visits to two properties enrolled in the Safe Harbor Program: 1 in Colleton County, 1 in Georgetown County.

Conducted initial site visits to two properties in Lee County that are interested in Safe Harbor enrollment.

Revised and submitted 2 draft Safe Harbor Agreements for landowner review.

22 phone calls and 46 emails were received and responded to regarding Safe Harbor and wildlife assistance and information.

Waterbird Project

Monitored and maintained water level loggers on two SCDNR properties in wetlands occupied by Black Rails to facilitate prompt management actions when appropriate. Collected water level and rainfall data in wetlands where Black Rails have been consistently detected during recent surveys. Communicated with biologists and property managers when water levels in impoundments managed for Black Rails deviated from target ranges. Water control structures were adjusted to allow water to flow out of occupied impoundments more quickly following heavy rainfall.

Maintained arrays of research equipment including ARUs (autonomous recording units) and camera traps for Black Rail monitoring on two SCDNR properties. Reviewed and updated IDs for camera trap photos. Conducted call-playback surveys for Black Rails within research equipment arrays. These data will be used to compare detection methods and ensure future Black Rail monitoring is as efficient and effective as possible.

Manually reviewed audio files collected using ARUs to evaluate the effectiveness of automated recognizers. SCDNR's extensive ARU dataset from wetlands occupied by Black Rails is being used for testing the capabilities of two types of automated call recognizers (BirdNET/Cornell and MATLAB/Adam Smith, USFWS I&M). If the recognizers produce accurate results, they may be used to analyze past and future recordings to determine site occupancy and improve the accuracy and efficiency of Black Rail monitoring.

Maintained experimental solar-powered irrigation system in potential Black Rail habitat with the goal of determining if this approach could be used to increase Black Rail breeding success during dry conditions. If grant

proposal (multi-state Competitive State Wildlife Grant) is funded, SCDNR will test the feasibility and effectiveness of using irrigation to enhance habitat quality at the Tom Yawkey Wildlife Center during 2022.

Maintained water level loggers, ARUs, and cameras to collect pre-treatment data at the ACE Basin NWR. SCDNR has been awarded funding from the State of the Birds program to study and assist with fine-scale management for Black Rails on the refuge during 2022-2024. This funding will also support work with private landowners and a new stewardship project.

Prepared for aerial application of herbicide to reduce invasive Chinese Tallow trees in potential Black Rail habitat on a SCDNR property. Created shapefile to guide treatment. This project is supported by funding from the USFWS Coastal Program.

Assisted colleagues in other states who have initiated or are planning projects to monitor Black Rails. Advised colleagues about equipment SCDNR uses to study and monitor Black Rails: automated playback unit design, autonomous recording unit models and scheduling, and camera models and techniques.

Participated in monthly virtual meeting for the Firebird Project (Gulf Coast rails), which included the discussion of survey protocols and acoustic sampling. Shared protocols used by SCDNR's Black Rail Project.

Responded to data requests. Provided rookery and stork banding data to other natural resource professionals.

Corresponded with USDA-Natural Resources Conservation Service biologists about management recommendations for Black Rails.

Assisted in USC research project on movement patterns of Whimbrel at Deveaux Bank. Helped replace batteries in equipment and download data from 2 towers on the island. The research project is a collaboration with University of South Carolina that is investigating movement patterns of this declining shorebird while they are in South Carolina and during their migratory journeys to the Arctic and South America.

Attended the annual SCDNR Biologist Meeting. This meeting was a one day in person event with a virtual option.

Attended the annual SC Cooperators Meeting with USFWS staff and SCDNR Biologists. This meeting was held virtually via Microsoft Teams.

Compiled banding data and entered records into Bird Banding Lab database as well as shorebird resight database at Bandedbirds.org .

Removed remote cameras from Deveaux Bank Seabird Sanctuary. These cameras captured nesting footage of Black Skimmers and Gull-billed Terns in a closed area of the island.

Switched out nesting area signs with winter closure signs at Hunting Island State Park and Harbor Island community with help from USFWS and Audubon South Carolina.

Removed nesting area signs from Lighthouse Inlet at Folly Beach.

Site visit to Bird Key Seabird Sanctuary to assess status of signage and Brown Pelican nesting. Bird Key is closed to public access during the breeding season and signs assist the public in following this regulation.

Completed removal of all nesting season signs from Capers Bar and assessed the site for roosting shorebirds.

Continued to educate the public using Deveaux Bank on weekends about birds and sanctuary rules. Prevented boat landing in closed areas and presence of dogs. Large nesting colonies of Brown Pelicans, Black Skimmers, and Terns are still present, and stewarding minimizes disturbance. Collected information regarding numbers of dogs, visitors, boats, and activities at these sites to inform future management for seabirds and shorebirds.

Educated the public about shorebirds on Lighthouse Island. A group of 36 adults and 14 children were interested in learning about shorebirds and seabirds. Spent several hours walking the beach with the group and using the spotting scope to show the group birds. Later found out that among this group were a couple of donors to the SC Coastal Bird Conservation fund.

Educated people at the Bull Hall boat ramp parking lot about shorebirds. A majority of the boaters are aware dogs are not allowed within Cape Romain NWR, but many are not aware of Refuge boundaries.

Placed additional "NO DOGS ALLOWED" signs in Cape Romain NWR to help minimize disturbance to shorebirds.

Removed shade materials from Berkeley High School and Goer Drive roofs; both sites support nesting Least Terns and pallets on these roofs provide shade for adults and chicks. Removed materials from Pier Romeo, another site that supports nesting Least Terns.

Downloaded data from Bulls Island MOTUS tower and uploaded to central site. MOTUS tracks various birds, including shorebirds, on migration along SC's coast.

Assisted with tour of Deveau Bank Seabird Sanctuary by providing boat operation and information as needed.

Met with Audubon SC staff, Coastal Birds Project members, and USFWS to discuss educational signage for Crab Bank Seabird Sanctuary; restoration of Crab Bank is a multi-partner effort and signs addressing its purpose and birdlife are important for public support.

Retrieved a dead Loggerhead sea turtle from Two Sisters Creek just south of Morris Island. The animal had been struck by a boat propeller and SCDNR technicians were able to take samples, measurements, and process the animal.

Continued with boat maintenance to 2019 Pioneer and 1992 Boston Whaler.
Attended a SCDNR board meeting in Columbia.

WILDLIFE SECTION

Regional Operations Activity Summary

Wildlife technical guidance was provided to 362 contacts along with 18 technical guidance site visits. Two (2) hunt club data analyses were conducted. Sixteen (16) management plans were written. Other agencies were assisted on 70 occasions requiring 62 person-days. Three hundred thirty-two (332) nuisance wildlife complaints (including 82 bear and 127 alligator calls) were handled. Twenty-seven (27) nuisance site visits were made and 4 alligator site visits were made. Field studies required 83 person-days and data analysis required 73.5 person-days. Twenty-one (21) quail surveys, 3 bear surveys, 5 mast surveys, 1 shorebird/seabird survey, 50 bat surveys, and 38 other surveys were conducted. Four hundred eight (408) woodducks were banded, 41 mottled ducks were banded, 207 doves were banded, 107 other birds were banded and 1 bat was banded. Fifteen (15) programs/presentations were given with 699 people in attendance. Fourteen (14) antlers were scored. One hundred fifty (150) woodduck boxes were checked. Six (6) news releases were submitted, 9 interviews were granted and 8 environmental review were conducted. There were a total of 80 water level management days.

Heritage Preserve (HP) Habitat Management Summary

Heritage Preserve staff conducted 322 site visits. Prescribed burning occurred on 2619 forest acres. Exotic control occurred on nine (9) heritage preserves covering 7 acres. Forest herbicide occurred on 4 acres. Fifty-four (54) miles of trails were maintained, 3 miles of firelanes were disced, 41 miles of roads were mowed, and 13 miles of roads were scraped. Sixty-seven (67) acres were mowed/bushhogged.

Wildlife Management Area Habitat Management Summary

Field agricultural activities on WMAs included 869 acres mowed/bushhogged, and 459 field/agriculture acres were disced. Fifty-one miles (51) miles of roads were scraped, 222 miles of roads were mowed and 1 mile of road was graveled. Prescribed burning occurred on 82 agricultural acres. Agricultural herbicide occurred on 938 acres and forest herbicide occurred on 530 acres. Thirty-two (32) miles of trails were mowed, 64 miles of dikes were mowed and 2 miles of dikes were re-topped. Ninety-seven (97) acres of annuals were planted. Two (2) water control structures were installed. Two hundred ninety-two (292) WMA signs, 92 WMA boundary signs and 49 other signs were posted. Ten (10) gates were refurbished or installed. Four hundred eighty-eight (488) WMA phone calls were answered.

WMA Hunts and Visitation

Marsh WMA – 8 visitors, of which 6 were fishing and 2 were scouting.

Woodbury WMA – 23 visitors, of which 18 were fishing, camping or riding. 5 visitors were scouting.

Pee Dee Station Site – No activity

Great Pee Dee HP – 35 visitors (16 fishing, 11 sightseeing, 5 scouting, 1 coon hunting, 1 conducting research?)

McBee WMA - 3 visitors, including 2 scouting and 1 hiking.

Draper WMA – No activity

Worth Mtn. WMA – No activity

Broad River WMA – No activity

Liberty Hill WMA - 53 visitors, including 13 hiking, 18 scouting, 7 fishing, 12 sightseeing, 1 birding and 2 biking.

Landsford Canal FLA Bird Dog Training Area - No visitors

Angelus Bird Dog Training Area - No visitors

Hamilton Ridge/Palachicola/Webb WMA - Hog Hunt with Dogs- 3 days, 14 hunter days, 8 hogs were harvested.

Wildlife Regional Operations – Chief

Meetings attended during the month included the monthly DNR Board meeting, the quarterly Heritage Trust Advisory Board meeting, the Atlantic Flyway Council's summer meeting, a DNR/USFWS Coordination meeting, a

ribbon cutting for the London Creek WMA in Cherokee County, a Wildlife Section Biologists' meeting, a Wildlife Section waterfowl staff meeting, a meeting with Bird Conservation Program staff, a meeting of the AFWA Duck Stamp Modernization Task Force, and numerous meetings with Deputy Director, Assistant Chiefs, and staff to discuss administrative, budget and personnel issues.

Conducted interviews for vacant Assistant Chief of Wildlife for Regional Operations, resulting in the hiring of Willie Simmons as the new Assistant Chief for Regions 1 and 3.

Conducted a site visit and infrastructure evaluation of Beaverdam Creek Waterfowl Area in Anderson County to assess drainage issues and infrastructure deficiencies and plan for maintenance, renovation, and enhancement.

Participated in a Congressional Sportsmen's Foundation webinar on developing alternative funding sources for state wildlife agencies.

Conducted 15 EPMS Evaluation and Planning Stage reviews, and completed 5 EPMS Evaluations and Planning stages.

Responded to a minimum of 18 miscellaneous technical guidance calls during the month.

Administrative duties related to the migratory bird program and maintaining agency bird banding permit included: Distribution of band recovery records to appropriate banding personnel and assisting the Bird Banding Lab with data requests.

Regions 1 & 3 Assistant Chief Activities

Position vacant during the month of August

Regions 2 & 4 Assistant Chief Activities

Met with and/or conducted multiple conference calls with Chief Dukes, Deputy Director Cope and assistant Chiefs Swaynham and Dillman on various topics. Attended WFF senior staff meeting in Columbia. Met with Scott Speares on various topics. Met with Regional Coordinators Farrell and Stokes to discuss topics of interest. Attended three funerals of staff's family members or former DNR staff. Met with Biologist Atkinson and Moss to discuss topics at Webb Center and tour the properties. Attended a meeting at Wateree River shooting range concerning kiosks and posting of the Statewide Waterfowl position. Attended Biologist meeting in Columbia. Attended the DNR/USF&WS virtual cooperative meeting. Met with Ducks Unlimited and DNR staff concerning NAWCA project on Murphy Island.

Continued baiting and trapping fox squirrels for relocation. Attended defensive driver training at Ft Johnson. Assisted with banding of wood ducks via airboat and rocket net. Finalized a wilderness safety class to be held for staff in September. Submitted suggested changes to WMA generic regulations to Chief Dukes. Conducted EPMS evaluations with staff in Region's 2 & 4. Commented on multiple (5) DNR property management plans. Submitted paperwork for hiring on various vacant positions. Inspected Samworth impoundments with Biologists Kneece, Treptow and Regional Coordinator Farrell then met afterwards to discuss upcoming management strategies and helicopter spraying needs on Upper Coastal Waterfowl Project. Inspected Pee Dee Station dove field in Region 2; Canal, Palachucola, and Samworth dove fields in Region 4. Assisted with disking on Bonneau Ferry WMA. Commented on multiple MBI documents and mitigation plans. Commented on gas line proposal on Lewis Ocean Bay Heritage Preserve. Compiled and submitted annual budget report to Santee Cooper. Participated in conference calls concerning Haile Gold mine and French Quarter Creek mitigation tract. Conducted an alligator nuisance site visit in Pawleys Island. Proofed lottery waterfowl hunt language and e-mails.

Wildlife Region 1

Summary

Met with Director Boyles and senior wildlife section staff at Beaverdam WMA to discuss ongoing water control issues. Facilitated and advised the development of a Friends of Bald Rock group and met with DNR LE in Clemson to discuss signage and strategies to deter illegal activities. Submitted the Cliff Pitts WMA and James L. Mason WMA Management Plan updates. Conducted 2 days of interviews and made a recommendation for the vacant administrative assistant position at the Clemson Regional Office. Met with Statewide Forester at Cliff Pitts WMA to plan improvements for multiple timber stands. Marked the boundary of the recently added "Grassy Knob" tract in Pickens County. Met with SCDNR assistant botanist and Milliken Forestry representatives to tour and assess Abbeville County property for potential acquisition. Completed summer turkey and quail brood surveys. Completed and submitted annual EPMS reviews.

Region 1 Coordinator

Completed administrative activities including budgeting, purchasing, personnel actions, correspondence, special use permits, and staff status reports. Reviewed and submitted the Cliff Pitts WMA and James L. Mason WMA Management Plan updates. Met with DNR LE and Region 1 HP manager in Clemson to discuss vandalism at Bald Rock HP. Attended the wildlife section biologist meeting in Columbia, a waterfowl management meeting at Wateree Range, and a virtual USFWS/DNR coordination meeting. Conducted a site visit with Unit 1B biologist and the assistant botanist to evaluate a property in Abbeville County for potential acquisition. Viewed a tractor and equipment safety webinar hosted by Clemson Extension. Completed and submitted annual EPMS reviews. Participated in the Clemson University Animal Care and Use Committee meeting and reviewed 2 research protocols. Checked WMAs including Beaverdam, Fant's Grove, Jocassee Gorges, and Sumter National Forest. Checked Ashmore HP.

Nuisance Wildlife Activities

Conducted 43 nuisance wildlife investigations, made 8 site visits, and issued three depredation permits. Checked and maintained hog trapping sites on WMAs. Assisted landowners with complaints on deer damage, coyotes, bats, and an owl.

Upstate Bear Report

Staff handled 74 bear complaint calls/sightings, five road kills, and issued three depredation permits. Finalized the bear scent line survey and began the annual hard mast survey. Staff assisted 2 landowners with installing electric fences to protect livestock. Participated in a phone call with the Deputy Director and the director of the Humane Society of SC concerning a nuisance bear in the Rocky Bottom community.

Unit 1A (Anderson, Greenville, Oconee & Pickens)

Met with Director Boyles and senior wildlife section staff at Beaverdam WMA to discuss ongoing water control issues. Assisted with interviews for the vacant administrative assistant position at the Clemson office. Marked the boundary of the recently added "Grassy Knob" tract in Pickens County. Significant time was spent preparing dove fields for opening day hunts. Attended a planning meeting for Women Owning Woodlands workshop to be hosted by Clemson Extension in September.

Property Management Activities:

Beaverdam Waterfowl Area – Worked on maintaining proper water levels and stabilizing dikes. Repaired water pump. Met with Director Boyles and senior wildlife section staff onsite. Trapped and banded wood ducks.

Caesars Head WMA – Checked boundaries on WMA and reposted signs as needed.

Clemson Waterfowl Area – Monitored water levels and removed beaver dams. Installed grate system to prevent beavers from damming inside of the riser.

Fant's Grove WMA – Monitored wildlife food plot conditions and checked road conditions. Trapped and removed 10 pigs from dove fields. Removed electric fence from dove fields and prepared fields for opening day hunt.

Gravelly WMA – Posted "Grassy Knob" addition.

Long Creek Tracts WMA – Set trap to remove pigs. Prepared dove fields for opening day hunt.

Pickens Rifle Range Dove Field – Mowed parking area. Removed electric fence from dove fields and prepared fields for opening day hunt.

Ross Mountain Dove Field – Set trap to remove pigs. Proposed constructing a permanent exclusion fence to the USFS to prevent future pig damage. Prepared dove fields for opening day hunt.

Sumter NF - Andrew Pickens WMA – Began hard mast survey.

Tall Pines WMA – Mowed parking areas. Rocked dam along roadside. Removed beaver dams from spillway several times. Cleared vegetation from roadside/dam. Prepared dove fields for opening day hunt.

Unit 1B (Abbeville, Edgefield, Greenwood & McCormick)

Considerable time was spent banding mourning doves, wood ducks, and prepping dove fields. Met with Region 1 Wildlife Coordinator, SCDNR botanist and Milliken Forestry representatives to tour and assess Abbeville County property for potential acquisition. Attended wildlife biologist meeting in Columbia, virtual USFWS/SCDNR coordination meeting, and Clemson Extension Tractor and Equipment Safety webinar. Completed and submitted James L. Mason Tract WMA Management Plan update. Completed and submitted EPMS evaluations. Michaela Rowland began employment with SCDNR as an administrative specialist for the Abbeville Field Office.

Property Management Activities:

Bordeaux Dove Field – Applied herbicide, mowed, maintained electric fences, and spread milorganite. Banded 33 doves and 7 wood ducks.

Calhoun Falls WMA – Repaired gate.

James L. Mason WMA – Contractor began understory mastication.

Parksville Dove Field – Applied herbicide, maintained electric fences, mowed, burned, removed downed trees, and improved field access.

Plum Branch Dove Field – Applied herbicide, maintained electric fences, mowed, and burned.

Russell Creek Waterfowl Area – Monitored water levels.

USACE-owned “unnamed” WMA – Applied herbicide at “Torchia’s Store”. Applied herbicide at “Hester’s Point”. Applied herbicide at “Patterson Branch”. Applied herbicide and scraped roads at “Greenoaks”. Applied herbicide and scraped roads at “Old Augusta”. Applied herbicide to understory at “Bordeaux”.

Unit 1C (Cherokee, Laurens, Spartanburg, Union)

Coordinated with USFS and Quail Forever to finalize regulation recommendations for Indian Creek Bobwhite Focal Area. Met with USFS staff to coordinate good neighbor authority agreement work to be done on King’s Creek. Met with Statewide Forester to plan stand improvements for multiple timber stands on Cliff Pitts WMA. Conducted EPMS meetings with employees and completed EPMS documents. Attended the 2021 wildlife section biologist’s meeting in Columbia. Completed banding doves and ducks in Unit 1C. Completed summer turkey and quail brood surveys.

Property Management Activities:

Cliff Pitts WMA – Worked to complete grading of areas adjacent to dove field. Planted millet, installed silt fence, and installed double-net straw mats on newly graded areas.

Gaffney Dove Field – Mowed strips of standing crops and applied herbicide for final burn down in preparation for opening of dove season.

Gray Court Dove Field – Mowed strips of standing crops and applied herbicide for final burn down in preparation for opening of dove season.

Herbert Dove Field – Mowed strips of standing crops and applied herbicide for final burn down in preparation for opening of dove season.

Santee Cooper Dove Field – Applied herbicide for final burn down in preparation for opening of dove season.

Sedalia Dove Field – Mowed strips of standing crops and applied herbicide for final burn down in preparation for opening of dove season.

Sumter NF - Tyger WMA – Applied herbicide to control noxious weeds.

Thurmond Tract Dove Field – Mowed strips of standing crops and applied herbicide for final burn down in preparation for opening of dove season.

Thurmond Tract WMA – Continued stumping around dove field from timber thinning operations.

Turkey Demonstration Area – Mowed wildlife openings in preparation for cool season plantings.

Unit 1D (Jocassee Gorges – Oconee, Pickens)

Completed administrative activities including personnel, correspondence and purchasing. Responded to 47 email and telephone inquiries. Attended the Wildlife Biologist meeting in Columbia and a tractor and equipment safety webinar through Clemson Extension. Assisted with interviews for the vacant administrative assistant position at the Clemson office. Spent two days assisting Unit 1A mow dikes at Beaverdam WMA. Attended a meeting with a gravel contractor in Sapphire, NC and contacted paving contractors for Sassafras. Hired Kaylyn Gruber to fill the vacant part-time technician position at Sassafras and conducted interviews and selected a candidate for the vacant Jocassee technician position. Assisted Vineyards FD with removal of a hazard from Lake Keowee.

Conducted maintenance on vehicles, a boat and equipment. Procured supplies for Sassafras and the Jocassee work center.

Property Management Activities:

Jocassee WMA – Conducted feral hog trapping. None captured. 8 miles of roads have been scraped and regraded. Approximately 1 mile of roadsides were mowed. 187 tons of gravel were spread on Dawkins Flat Road. Removed several fallen trees from the roads on the property.

Sassafras Tower – Mowed and graded the mobility impaired trail. Repaired bathrooms. Investigated security camera issues.

Heritage Preserve Activities

Completed and submitted the Brasstown Creek Heritage Preserve Management Plan update. Submitted paperwork to hire an additional HP technician. Met with the state botanist and the assistant botanist to survey historical mountain sweet pitcher plant sites on Greenville County Heritage Preserves. Completed and submitted annual EPMS reviews. Facilitated and advised the development of a Friends of Bald Rock group. Discussed signage and strategies to deter illegal activities at Bald Rock HP with DNR LE. Attended the annual biologist meeting in Columbia and a virtual USFS/DNR co-op meeting. Assisted Region 1 staff with wood duck banding.

Property Management Activities:

Ashmore HP – Picked up trash. Checked gates and trails. Located historical pitcher plant sites.

Bald Rock HP – Removed litter twice.

Blackwell HP – Mowed trails.

Brasstown Creek HP – Hand-pulled kudzu and cut mimosa. Picked up trash. Spread rip rap on erosion-sensitive areas along management roads. Spoke with adjacent landowner about gate lock on easement road.

Buzzard Roost HP – Inspected trails.
Bunched Arrowhead HP – Mowed parking area and trails. Removed litter.
Chandler HP – Checked gate.
Chestnut Ridge HP – Inspected gates, trails, and management roads. Cleared downed trees off trails.
Eastatoe Creek HP – Removed down trees from trail.
Laurel Fork HP – Inspected management roads.
Stumphouse HP – Inspected trails and cleared downed trees. Checked the gate on Turnip Top.
Wadakoe Mountain HP – Checked road and trails.
Watson-Cooper HP – Checked gates. Removed downed trees and debris from road and trail

Wildlife Region 2

Summary

Staff continued extensive work on dove fields throughout the region in preparation for the upcoming dove season. Staff adhered to SCDNR C-19 emergency protocols in field work and office work, following social distancing and sanitation measures. The department has continued to provide personal protective equipment and sanitation supplies to staff to help us work safely and productively. Staff checked and reposted leased unnamed WMAs in Unit C, replacing 109 signs along 75 miles of road frontage. Heritage Preserve management staff worked on endangered species and ecosystem monitoring, restoration, and management; on longleaf and shortleaf pine, piedmont savanna and prescribed fire management, outreach, policy and education; on management plans; on conservation planning, and on maintaining and improving access and other preserve attributes. Savannah Hebler began her full-time job as heritage preserve management technician.

Regional Operations Activities

Unit 2A

Biologist Oates attended the Biologist Meeting in Columbia. Biologist Oates continued to monitor and bait two duck banding sites in Marion County and one site in Florence County. Biologist Oates worked on the updated management plan for Woodbury WMA and submitted it for further review. Biologist Oates had one landowner assistance visit in Florence County. Coordinator Stokes and biologist Oates evaluated a Florence County parcel for possible acquisition. Coordinator Stokes, biologist Cockman, and biologist Oates evaluated a Marlboro County property as possible SCDNR acquisition. Biologist Oates with assistance from biologist Brantley removed a nuisance bear from a fox pen in Marion County. Biologist Oates inspected 12 unnamed WMAs in Marlboro County and installed 18 cooperating with landowner boundary signs. Biologist Oates assisted technician Lowder with office construction at McBee WMA. Biologist Oates completed the EPMS documents for the technicians under his supervision. Technicians Alston and Parsons planted 26 acres of food plots at Marsh WMA. Technician Fitts sprayed 30 acres of herbicide at Lake Wallace dove field and 20 acres of herbicide at Pee Dee Station dove field. Technician Parsons mowed parking areas and around dove fields at Lake Wallace and Pee Dee Station. Technician Parsons mowed 20 acres of the Pee Dee Station dove field to prepare the field and attract doves. Technician Parsons mowed 20 acres of corn and sunflowers at Lake Wallace to attract doves. Unit A technicians worked on extensively on equipment maintenance and repair. Technician Fitts had one landowner assistance visit. Region staff had 123 technical assistance contacts (mostly phone calls) pertaining to wildlife, regulations, and WMA lands and 16 nuisance calls.

Unit 2B

Unit 2B staff continued preparations of WMA public dove fields in York, and Chester County for planting. Unit 2B staff maintained agricultural equipment for planting, and field maintenance. Technician Smith, Technician Scales, and Biologist Kesler monitored water levels, and beaver activity in ditches and water control structures at BRWMA. 6 days were spent pumping to drain ditches. Unit 2B staff performed road maintenance and improvements at Broad River WMA, Draper WMA, and Worth Mountain WMA. Unit 2 B staff worked to maintain wood duck banding sites and conduct banding operations (40 WODU) on multiple areas across the unit. Technicians Scales and Wyatt trapped and banded doves at established sites.

Unit 2C

Biologist Cockman completed EPMS paperwork. Biologist Cockman processed a Deer Quota Permit during the month and scored one deer head at the Camden office. Biologist Cockman attended the annual Biologists' meeting on August 16 in Columbia. Biologist Cockman attended the virtual SCDNR/US Fish and Wildlife Service annual coordination meeting on August 18. Biologist Cockman attended a SC Bobwhite Funding Partnership Meeting in Columbia on August 23. Staff continued collecting turkey and quail recruitment survey data during the month. Staff opened gates for the upcoming hunting season at Liberty Hill WMA on Aug 31. The land clearing contract at McBee WMA commenced August 2 and continued thru the month. The contract is approximately 30% finished.

Loggers completed the timber thinning on the Heritage West Tract of the Catawba River WMA. Staff continued work on the office portion of the McBee WMA shop during the month. Staff collected supplies and prepared for dove field hunter and bird data collection for the upcoming opening day on Sep 4. Technician Lowder banded 3 doves in Sumter County, bringing his total to 25 birds banded. Technician Lowder mowed 2 acres at the equipment shed and kiosk parking areas, sprayed 8 acres of feed route and distributed 20 bushels of supplemental quail feed (August 13 and 26) at McBee WMA. Technician McManus mowed 4 acres at the shop and parking area, 6 miles of roads and 7 acres of wildlife openings at Liberty Hill WMA. Four miles of roads were graded/daylighted and 4 trees were removed from roadways.

Wildlife Management Area Management Summary

Throughout Region 2, staff mowed 197 acres, mowed 14 miles of roads, scraped 9 miles of roads, disked 61 acres, applied ag. herbicide to 176 acres applied 3 herbicide to 3 acres of forested lands, planted 40 acres of feed patches, burned 22 acres of ag fields,

Property Management Activities

Marsh WMA - Disked 30 acres of food plots. Planted 26 acres of peas. Mowed 5 acres at clubhouse, shooting range, and campground. Scraped 5 miles of roads. Mowed 6 miles of roads. Baited and monitored duck banding site. Updated kiosk information.

Woodbury WMA - Scraped 3 miles of roads. Hauled 5 loads of gravel. Performed maintenance on equipment. Updated kiosk information.

Pee Dee Station WMA - Mowed 30 acres around dove field and parking area. Mowed 15 acres of corn and sunflowers and 5 acres of browntop millet. Disked 6 acres within the field. Sprayed herbicide on 2 acres around fence. Sprayed 20 acres of herbicide on dove field. Updated kiosk information.

Lake Wallace DF - Sprayed 4 acres around fence. Sprayed herbicide on 30 acres of dove field. Mowed 40 acres around field and in parking area. Mowed 20 acres of corn and sunflowers. Disked and cultivated 5 acres of strips in the dove field.

McBee WMA - Continued land clearing contract for brood patches. Mowed 2 acres around compound and kiosk parking areas. Sprayed 8 acres of feed route. Fed 20 bushels of sorghum. Continued working on office portion of new shop.

Liberty Hill WMA - Cleaned and updated kiosks. Mowed 4 acres around compound and kiosk parking area. Mowed 6 miles of roads and 7 acres of openings. Graded 4 miles of roads and removed 4 trees from roadways.

Angelus BDTR - Inspected for trash.

Campbell's Crossroads WMA - Inspected for trash.

Catawba River WMA - Completed timber thinning on Heritage West Tract

Draper WMA - Performed general depot, and equipment maintenance. Scraped 3 miles of road. Disked 2 acres of dove fields. Sprayed 55 acres of dove fields for burndown. Mowed 31 acres of dove fields and wildlife openings. Sprayed invasive (autumn olive) on 1 acre. Prescribed burn on 12 acres of wheat in dove fields.

Worth Mtn. WMA - Performed general depot, and equipment maintenance. Sprayed 22 acres of dove fields for burndown. Disked 2 acres of open ground in dove fields. Mowed 2 miles of roadside. Prescribed fire on 5 acres of wheat in dove field. Mowed 11 acres in dove field and wildlife openings.

Broad River Waterfowl Management Area - Performed general equipment maintenance, and repair. Mowed 2 miles of dikes. Mowed 3 acres of wildlife openings. Disked 14 acres of impoundments. Performed 24 days of water level management. Planted 14 acres of golden/chiwapa millet in impoundments

Worthy Bottoms PDF - Fence maintenance at Worthy Bottoms Dove Field. Sprayed burndown on 11 acres in dove field. Mowed 4 acres in dove field. Disked 1 acre in dove field

Landsford Canal FLA - Sprayed 22 acres of dove fields for burndown. Mowed 20 acres in dove fields. Disked 1 acre in dove fields. Prescribed burn on 5 acres of wheat in dove fields.

Kirsch WMA - Sprayed invasives (Tree of Heaven and Mimosa) on 2 acres.

Heritage Preserve Management Activities

Heritage Preserve (HP) management staff worked on endangered species and ecosystem monitoring, restoration and management; on longleaf and shortleaf pine, piedmont savanna and prescribed fire management, outreach, policy and education; on management plans; on conservation planning, and on maintaining and improving access and other preserve attributes. Staff worked to close out FY2021 and administrative matters. Savanah Hebler began her full-time job as HP management technician on 17 August. Savanah began working in HP management as a volunteer during her spring break, then was allowed to work as a summer intern during the initial Covid-19 shutdown, and because of her high performance was kept on as part-time hourly in the fall while she completed her BS degree at Francis Marion University and then as full time hourly since graduation. Savanah has great potential as a career-long land manager. Her goal is to earn her master's degree while developing the experience, knowledge, skills and

abilities to become an SCDNR biologist. Retired Wildlife Section Chief Tim Ivey passed away. His devotion to the department resonates through those of us he trained, mentored, inspired and supported. Staff attended the 90th birthday party of Dr. Walter Cook with WFF Business Manager Denise Froehle. Dr. Cook is a SCDNR volunteer who designed and helped maintain hiking trails on many heritage preserves and WMAs in Regions 1, 2 and 3. Staff provided requested images to Valerie Shannon for potential use in SCDNR reports and other publications. Staff attended the annual Wildlife Section Biologist meeting. Staff reviewed the generic hunt regs and information on turkey hunting on Region 2 HP/WMAs. Staff provided budget requests for equipment for FY 2023. Staff wrote a news release, "Longleaf Pine Trees Are Shedding Needles," which was also posted on the department's social media. Former HTAB and SCDNR Board member Malloy McEachin and HP management staff were photo-featured in the America's Longleaf Restoration Initiative 2020 Range-wide Accomplishments, on a prescribed burn held on Malloy's farm. See Longleaf Scorecard: Key Accomplishments for FY 2020 at: <https://americaslongleaf.org/media/zcl21dp/2020-alri-accomplishment-report-final.pdf>. Staff applied herbicide to seven invasive exotic species on five HPS; this included discovery of new infestations after intensive surveying of vulnerable areas. Staff also applied herbicide to sweetgum and other invasive native species in targeted areas such as fire shadows near firebreaks where fire intensity is too low to control them. Staff worked on business for the SC Prescribed Fire Council, mostly on setting up the annual meeting to be held 15 September, virtually, and on business for the Board of Directors of the International Association of Wildland Fire. Staff provided USFWS with information about the Flat Creek floodplain of Forty Acre Rock HP/WMA for Biological Assessment related to the federally endangered Carolina heelsplitter (*Lasmigona decorata*). Staff drove Mr. Finley Faile, who has lived his entire life adjacent to FAR HP/WMA and has been a valuable neighbor since the preserve was established, out on The Rock on his 88th birthday and learned yet more from him about the history of the area. Mr. Faile for many decades walked from his home beside the upper parking area to The Rock and back, a one-mile trip, but has not been able to do so the last few months, although he still walks to the main gate every day. Staff spoke with Ben Zeigler, who is in the hunt club on the tract adjacent to Great Pee Dee River HP/WMA. This tract, which the preserve's sole access traverses, was recently sold by the Clanton Family. The SC National Guard Darlington Post held maneuvers, and SCDNR bat biologists installed monitoring audio loggers at the preserve. Staff assessed firebreaks, soil and water-table conditions, and fuels; cleared around RCW cavity trees as well as snags, cat-faced trees, gates, signs, utility poles and other hazards or sensitive elements; and worked on equipment and gathered supplies in preparation for prescribed fire. Staff maintained preserves by assisting the SCDNR LED with enforcement, by monitoring for abuse, by removing trash, by managing vegetation and by maintaining gates, trails, parking areas and boundaries.

Property Management Activities

Forty Acre Rock HP/WMA - Staff maintained the preserve by assisting game wardens with surveillance (SCDNR LED issued three tickets and four warnings) by monitoring for abuse, by removing trash and hazardous trees, by managing vegetation, and by maintaining gates, trails, parking areas and boundaries. Staff applied herbicide (via backpack application) to invasive exotic Japanese wisteria (*Wisteria floribunda*), spot-treating one acre. Staff drove Mr. Finley Faile, who has lived his entire life adjacent to the preserve and has been a valuable neighbor since the preserve was established, out on The Rock on his 88th birthday and learned yet more from him about the history of the area. Mr. Faile for many decades walked from his home beside the upper parking area to The Rock and back, a one-mile trip, but has not been able to do so the last few months, although he still walks to the main gate every day. Staff provided USFWS with information about the Flat Creek floodplain for a Biological Assessment related to the federally-endangered Carolina heelsplitter (*Lasmigona decorata*).

Great Pee Dee HP/WMA - Staff spoke with Ben Zeigler, who is in the hunt club on the tract adjacent to the preserve. This tract, which the preserve's sole access traverses, was recently sold by the Clanton Family. The SC National Guard Darlington Post held maneuvers, and SCDNR bat biologists installed monitoring audio loggers at the preserve. Staff cut a fallen tree out of preserve road and cut 4 dead hazardous roadside snags. Staff applied herbicide (via backpack sprayer) to vegetation encroaching on 1,300' of the preserve's access easement, cut grass around the kiosk and cleared vegetation around desirable oaks along the road in the kiosk clearcut.

Longleaf Pine HP/WMA - Staff surveyed for invasive bicolor lespedeza (*Lespedeza bicolor*) and began treating it with herbicide (via backpack sprayer)(spot-treating one acre); treated sweetgum (via backpack sprayer and hack-n-squirt application)(spot-treating one acre), sprayed vegetation around parking area and cut one hazardous roadside tree. Staff assessed firebreaks, soil and water-table and fuel conditions, and kept in close contact with HP neighbors to be ready to burn two units that we have been unable to burn for the past 3 years that are getting invaded with sweetgum, loblolly and pocosin.

Lynchburg Savanna HP/WMA - Staff surveyed for invasive bicolor lespedeza (*Lespedeza bicolor*) and began treating it with herbicide (via backpack sprayer)(spot-treating one acre). Staff found and applied herbicide to

invasive exotic Japanese climbing fern (*Lygodium japonicum*), spot-treating one plant. Staff treated sweetgum (via backpack sprayer and hack-n-squirt application)(spot-treating six acres), Rock Hill Blackjacks HP/WMA - Staff removed trash from parking area and checked Blackmon Road for dumping. After the last big clean-up by York County Waste Collection, the problem has lessened. Staff applied herbicide (via backpack sprayer) to invasive exotic carpetgrass (*Arthraxon hispidus*), spot-treating one-quarter acre in the exclosure protecting the federally-endangered Schweinitz's sunflower (*Helianthus schweinitzii*) in the Houk's Patch restoration site.

Woods Bay HP - Staff applied herbicide (via hack-n-squirt and backpack) to invasive exotic Japanese climbing fern, Chinese privet (*Ligustrum sinense*), mimosa (*Albizia julibrissin*) and Chinese tallow (*Triadica sebifera*)(spot treat approx. 2 acres) as well as sweetgum.

Segars-McKinnon - Staff kept watch on water levels in Black Creek to be ready to float the preserve boundary with SCDNR Engineers when water levels rise to assess boardwalk access situation.

Wildlife Region 3

Summary

Janson and Drafts kayaked up stream at Shealy's Pond Heritage Preserve to break apart the remnants of an old beaver dam at a narrowing within the pond. This was done to allow for more water flow downstream. Riverbanks Zoo released 1 pine snake and 3 coral snakes onto Aiken Gopher Tortoise Heritage Preserve. Drafts, Janson, and Summer Intern Butfiloski trapped and banded the final 4 mourning doves to bring the total number of banded doves to 100. The culvert replacement project at Shealy's Pond Heritage Preserve done by South Carolina Department of Transportation has been completed. Young met with Engineer Boyer and Region 3 Coordinator Simmons to discuss any concerns onsite to the contractors and South Carolina Department of Transportation on the project being done at Shealy's Pond Heritage Preserve. South Carolina Department of Transportation has seeded the right of way with Brown top millet and Rye grasses and built a berm running parallel to the road to reduce the impact of erosion into the pond. Boiling Springs Road, which runs adjacent to the preserve, has been repaved and reopened for travel. South Carolina Department of Transportation is saying that the next project that will take place out there will be to widen Boiling Springs Road by two feet on each side and add a guard rail along the road edge right next to the preserve.

Regional Coordinator

Assisted regional staff with purchase requisitions, receiving and inspection reports, and personnel transactions forms. Submitted purchase card summaries by email for Region 3 Staff on August 11 and 12. Issued 9 nuisance alligator permits with the region. Attended the Waterfowl Meeting at Wateree Rifle Range on August 4. Participated in the United States Forest Service Virtual Meeting on August 11. Attended a meeting at Shealy's Pond Heritage Preserve on August 12 to example the road work conducted by South Carolina Department of Transportation that will affect water levels in the pond on the heritage preserve. Attended the Biologist Meeting on August 16. Visited the following heritage preserves and wildlife management areas in Region 3; Belfast, Congaree Bluffs, Henderson, Hickory Top, Love Farm, Peachtree Rock, Shealy's Pond, Santee Cooper, Santee Dam and Wateree River.

Unit 3A

Regional staff spent a significant amount of their time trapping ducks and collecting data. Duck banding locations are still being monitored and baited as needed. Biologist Bennett attend the annual National Bobwhite Technical Committee meeting held at Bentonville, Arkansas August 1st-5th. Bennett attended the annual biologist meeting on August 16th.

Waterfowl impoundments are being monitored for hog intrusion daily at Wateree River Heritage Preserve Wildlife Management Area. The millet planted in the waterfowl impoundment are being monitored and sprayed as needed for army worms. Technician Kiker and Technician Flemming continued moving material and working on road maintenance in the river swamp. Several loads of class B riprap was used to build a water break along road going to Cook's Mountain waterfowl impoundment. Fences around the impoundments and water control structures were sprayed with herbicide. The green tree reservoir restoration area is still underway as staff is attempting to regain control of structures and dikes. The spill ways and pipes around the green tree area has been cleared of debris. Summer food plots have been planted fertilized. Hog trapping is a continuous battle, however staff trapped 12 hogs this month. Potholes were filled where needed along Goodwill Road. In preparation for upcoming archery season roads and several firelines were mowed on Wateree River Heritage Preserve Wildlife Management Area. Updated signage has been placed at main entrance and informational kiosk areas. The Goodwill Road gate has finally been diagnosed and repairs were made to control board.

The contractor is still in progress with the stumping/clearing of the dove field and shooting course at Love Wildlife Management Area. Technician Baldwin and other staff installed two new canal gate water control structures to allow for easier and more efficient water diversion. The dove field was sprayed, mowed, and disked for the upcoming Take One Make One hunt. Summer food plots were replanted due to crop failure. Army worms have been a constant issue and staff has spent a considerable amount of time keeping fields sprayed with pesticide. Hog traps are being baited and used throughout Love Wildlife Management Area. Bids for lime and fencing was secured for new dove field and impoundments.

A large portion of this month was spent preparing for the upcoming deer and dove seasons. In preparation for archery season roads and fire lines were mowed on Belfast Wildlife Management Area. Area dove fields have been mowed and electric fences removed for the dove opener. Seasonal signage was put up for Belfast Wildlife Management Area archery season and on area dove fields. Openings were disked in preparation for fall planting and seed and fertilizer bids were secured for these plantings. The Belfast archery range was mowed. An aerial herbicide application was sprayed on 400 acres of pine timber at Belfast Wildlife Management Area to control sweetgum and wisteria. Several equipment repairs were made as needed. Bennett met with small game project coordinators to discuss upcoming timber harvest and brood patches that were planted this past fall.

Unit 3B

Crackerneck Wildlife Management Area was closed to the public in August. Wildlife Biologist Forehand and Wildlife Technicians Chapman and Rinder completed trapping and banding doves and trapped and removed feral hogs from around the dove fields at Crackerneck. Technicians Rinder worked on equipment for 3 days, maintained and repaired the electric fence, baited hog traps, bushhogged and prepared Hallman Dove field to be burn and hunted, and mowed 20 miles of Crackerneck roads. Technician Chapman worked on equipment for 4 days, bushhogged and prepared Crackerneck Dove field, completed assigned Deputy Law Enforcement Officer training, applied herbicide to 10 acres, and mowed 5 miles of roads at Crackerneck. Biologist Forehand met with US Forest Service-Savannah River several times to discuss logging at Crackerneck, mulched 15 acres, worked on management plan, and mowed 5 miles of roads at Crackerneck. Biologist Forehand also made several visits for nuisance alligators across Unit 3B and with the assistances of Biologist Hunter Young and Technician Rikki Kiker burned Hallman Dove field in Lexington County.

Unit 3C

Staff began prepping all unit dove fields for the upcoming dove season, Dove fields showing lots of improvement over 2020 thanks to being fully staffed this year. Smith and Greenthaler began disking at Santee Dam Wildlife Management Area in preparation for fall wheat planting. Preparation began for on youth deer plots on Manchester. Mackay mowed all fire lines and roads on Santee Cooper Wildlife Management Area. Technician Clyde Smith and Biologist Shuler continued working on keeping the deer out of the Youth dove field on Santee Cooper Wildlife Management Area. Staff continued herbiciding fall deer plots. Shuler answered numerous Alligator calls, issued tags as needed and answered numerous Dove season and public Dove field questions. Staff ordered parts and repaired equipment as needed.

Heritage Preserves

Wildlife Biologist Young, Natural Resources Technician Kiker and Summer interns Janson and Drafts conducted multiple site visits to the Heritage Preserves and Wildlife Management Areas in Region 3. Janson and Drafts kayaked up stream at Shealy's Pond Heritage Preserve to break apart the remnants of an old beaver dam at a narrowing within the pond. This was done to allow for more water flow downstream. Janson, Drafts, and a local volunteer placed over 15 pieces total of tin and wooden cover boards for reptile and amphibian surveying on Aiken Gopher Tortoise Heritage Preserve. Young gave Herpetologist Grosse a tour of the preserve and discussed future plans for gopher tortoise habitat improvement and looked at future survey sites within the ponds on the preserve. Riverbanks Zoo released 1 pine snake and 3 coral snakes onto Aiken Gopher Tortoise Heritage Preserve. Young, Kiker, Drafts, and Janson relocated a deer stand at Congaree Bluffs Heritage Preserve for the upcoming youth deer hunts being held at the preserve. Drafts, Janson, and Summer Intern Butfiloski trapped and banded the final 4 mourning doves to bring the total number of banded doves to 100. Drafts and Janson completed their summer internship on August 6th. Kiker mowed the grass at the Styx Wildlife Office and at Congaree Bluffs Heritage Preserve. Young retrieved a gopher tortoise from a nearby homeowner that had wandered off Aiken Gopher Tortoise Heritage Preserve. Young attended the annual statewide biologists meeting held in Columbia. Young plowed the firebreaks at Congaree Bluffs Heritage Preserve. The culvert replacement project at Shealy's Pond Heritage Preserve done by South Carolina Department of Transportation has been completed. Young met with Engineer Boyer and Region 3 Coordinator Simmons to discuss any concerns onsite to the contractors and South Carolina Department of Transportation on the project being done at Shealy's Pond Heritage Preserve. South Carolina Department of Transportation has seeded the right of way with Brown top millet and Rye grasses and built a berm running parallel to the road to reduce the impact of erosion into

the pond. Boiling Springs Road, which runs adjacent to the preserve, has been repaved and reopened for travel. South Carolina Department of Transportation is saying that the next project that will take place out there will be to widen Boiling Springs Road by two feet on each side and add a guard rail along the road edge right next to the preserve. Young, Unit 3A Wildlife Biologist Bennett, and other various staff have continued to bait and trap wood ducks around region 3. During the month of August, we banded a total of 33 wood ducks; bringing the grand total to date, 42 wood ducks banded. Young completed the Henderson Heritage Preserve management plan and submitted it for edit. Young has begun to edit the Shealy's Pond Heritage Preserve management plan. Kiker has replaced the property sign on Long Cane Road to Aiken Gopher Tortoise Heritage Preserve, which was stolen earlier this year. Young and Kiker assisted Unit 3B Biologist Forehand in burning Hallman Dove Field prior to opening day. Kiker has continued to complete online fire training. Savannah River Bluffs Heritage Preserve parking lot continues to be an issue of concern for overparking and public use after hours. The parking lot and trail have experienced some erosion over the last few months from heavy rain events. Kiker has pressure washed the education center and surrounding sidewalks and picnic areas at Congaree Bluffs Heritage Preserve.

Wildlife Region 4

Highlights

Region 4 staff focused on management and preparations of Public Dove Fields, waterfowl impoundments, and wildlife openings in the month of August when field conditions allowed. Staff devoted significant time to banding of waterfowl and mourning doves. Multiple rounds of interviews for vacancies in Region 4 were conducted. Region 4 Biologists attended the annual Biologist's Meeting. Region 4 Technicians attended a virtual tractor safety workshop.

Regional Coordination

Regional Coordinator Farrell attended multiple meetings in the month of August, including the CAT 1 Waterfowl Area group meeting, annual Biologist's meeting, SCDNR/USFWS Coordination Meeting, and the weeklong Atlantic Flyway Council Technical Section. Routine WMA and HP site visits were conducted, and preparations for opening day on Region 4 Public Dove Fields was coordinated. Coordinator Farrell processed personnel paperwork to post and fill vacancies. Commentary was provided for Sunday hunting on WMAs, the renewal of the Managed Tidal Impoundment General Permit, and the external review of Samworth WMA. A nuisance wild turkey incident was monitored and multiple site visits to John's Island were conducted.

Assistant Regional Coordination

Assistant Regional Coordinator Hook continued to assist with the interview process for multiple positions in Region 4, with approximately five days spent on interviews and associated hiring paperwork. The annual Biologist's meeting and one meeting to discuss management of CAT 1 Waterfowl Areas were attended. A nuisance wild turkey situation on Maybank Highway was responded to on two evenings. Public Dove Fields and waterfowl impoundments were monitored throughout the month. Hook monitored high water conditions at Dungannon Heritage Preserve and attempted to pull boards from water control structures to avoid overtopping of spillway. High water levels precluded Hook from being able to remove stoplogs, plans are underway to modify water control structures for emergency removal of stoplogs. Hook provided commentary on the renewal of the Managed Tidal Impoundment General Permit. Significant time was spent on the development and submission of Post Construction Forms to the U.S. Army Corps of Engineers. In total, 13 completed projects in Region 4 were submitted to the USACE.

Unit 4A: Horry & Georgetown

Coastal Bear: Activity remained steady through July. There were 22 sightings and two roadkill's reported. One of the roadkill bears was the second in the Awendaw area within the last two months. In addition, three different sets of sows with cubs were identified from the sightings. Biologist Brantley assisted Biologist Oates with successfully trapping a bear and removing out of a fox pen. That trap site was monitored for 4 days.

Unit 4A Heritage Preserves: Heritage Preserves in Horry County were visited 16 times. Biologist Brantley continued assisting with Heritage Preserve matters. Brantley also spent one day with a film crew capturing footage of Sundews for an ETV program. In addition, Brantley assisted with getting Technician Tyler started and acquainted with general HP items. Staff mowed two RCW clusters for understory management on Lewis Ocean Bay HP.

Samworth WMA Uplands: Final Public Dove Field preparations took place as opening day approaches. Strips were mowed in corn and sunflowers, grass head rows were mowed, and field perimeters were kept clean. An updated management plan for the Samworth uplands was drafted and submitted. Samworth grounds were maintained. The summer internship ended, and a luncheon was held. Water was raised in the main Samworth upland pond. Staff

EPMS evaluation was completed and submitted. The one-day statewide biologist meeting was attended in Columbia. Brantley also participated in the virtual DNR/USFWS coordination meeting along with the Clemson extension tractor and equipment safety webinar. Technician Matthews suffered severe burns from a work-related injury and is currently in the hospital. He is expected to be out for a short time. Four bluebird boxes were replaced on Samworth WMA.

Unit 4B: Berkeley & Charleston

August activities were dominated by duck and dove banding and final preparations in Public Dove Fields and waterfowl impoundments.

Bonneau Ferry WMA: 61 general visitors utilized Bonneau Ferry. Millet was planted in Quarterman's Reserve Impoundment. Roads were graded. Staff baited, scouted, trapped, and banded wood ducks. Equipment was serviced and grounds cleaned and maintained.

Canal: Staff continue to work with COE personnel via weekly conference calls. Dove fields continue to be maintained. Strips and alleys are being rotovated on a rotation and strips of standing crops are being bush hogged. Doves were baited and banded until the 15th.

Sandy Beach, Cross and North Dike: Impoundments at Sandy Beach became dry enough to disc late in the month. These areas were sprayed and disced for planting millet. Fields were checked daily for army worms. Bait sites were maintained for potential duck banding. Hogs were scouted. Staff met with Ducks Unlimited personnel to discuss potential projects.

Francis Marion National Forest: A deer spotlight survey was completed at Waterhorn WMA. Wildlife openings were planted and fertilized on Waterhorn, Hellhole, and Santee WMAs. Hog trapping sites were maintained and monitored, and 11 hogs were destroyed. Closed Road signs were posted.

Other Unit activities: Old equipment was turned in at Styx compound. Staff attended a tractor safety webinar. Interviews were conducted for Tech II positions at Bonneau Ferry and Canal/Sandy Beach. Chain saws were sharpened and serviced. Staff fielded calls from dispatch regarding the Awendaw bear, and eventually advised Law Enforcement on putting it down after it was hit by a car. Staff participated virtually in the annual biologists meeting. Staff responded to nuisance wild turkey reports on Maybank Highway.

Unit 4 C: Colleton & Dorchester

Routine administrative and management duties were conducted for the month. Visits were made to WMAs within the unit to assess habitat conditions and other management items. Water levels in all impoundments on Donnelley and Bear Island were monitored and adjusted appropriately. All water control structures have been set to allow ample water flow through impoundments and to slightly raise water levels to promote healthy SAV growth. Public Dove Field management and preparation continued to keep staff busy across the unit as fence maintenance, herbicide application, mowing, and disking are continually taking place. Banding season continued this month with low success due to high rain totals increasing pond levels and dispersing ducks. Banding efforts will continue through September. The annual Wildlife Biologist's meeting was attended as well as a CAT I Waterfowl Area meeting. A presentation and hands on demonstration on baiting a dove field was given to the Region IV Law Enforcement Officers at their Regional meeting. Staff also worked with our social media crew to film waterfowl hunting activities, airboat usage as a management tool, drone usage as a management tool, and a pond topped out with wigeon grass to post short videos on our social media outlets. There was a minimum of 9,996 visitors for the month in Unit 4-C.

Bear Island WMA: Dike maintenance continued with the topping of Minkey Unit (1,720 linear feet). Retopping of Minkey Unit will be completed around Labor Day. Following completion of Minkey retopping, staff and equipment will move to Springfield unit for two jobs before we shut down for duck season. Garlon 3A is being applied as needed anywhere that woody vegetation is emerging along dikes, ditches, and roadsides. Approximately 36 miles of dikes were bush hogged. Agriculturally, fall plantings in wildlife openings were prepared by mowing and spraying, making them easier to disk in a couple of weeks. Ground's maintenance included mowing common areas and around dwellings. Structures, trunks, gates, and signs have grass and weed control through an as needed application of herbicide. Miscellaneous jobs addressed during the month include, JD6130 100-hour service, caulked and patched Trask impoundment trunk, aided Lisa Walters with drone mapping of dikes, and worked with IT to replace office equipment damaged by lightning. Construction/maintenance technician Armstrong started paperwork for repairs to Bear Island block house asbestos remediation and demolition project. All aged or defective smoke alarms in Donnelley lodge were replaced. Technician Armstrong continuously orchestrates with contractors and completes paperwork for present and future projects.

Botany Bay Plantation WMA: Staff was busy getting dove fields ready for September dove hunts. All fields were sprayed to kill any late weeds that emerged. Staff mowed strips of corn and sunflowers to make food available for

doves. Staff also burned strips of winter wheat to expose seed and get rid of excess vegetation. Staff worked on roads by grading and installing pipes. Several structures had plumbing, and construction projects fixed. Staff and volunteers cleared and cleaned up around the chimney in the Big Woods as well as mowed and weed eater the property. Site Technicians extended the main kiosk for more shade and rain cover. Outreach consisted of a 15-person bird walk led by Craig Watson; 55 species were counted. There are 374 turtle nests on Botany Bay as of August 30. Volunteer hours= 641 regular volunteer hours + 112 turtle hours for a total of 753 hours. There were 9,996 visitors with 3,206 vehicles. There were 2 horseback riding parties with 5 riders. There was 3.46" of rain for the month of August.

Donnelley WMA: Agriculturally, Public Dove Field preparation for our September 4th Public Dove Hunt took priority. Wet conditions hampered work and we've done what we could when we could. Corn and millet have been sprayed, strips bush hogged, and some strips disced. The electric fence continues to be sprayed and checked for proper operation. Wildlife openings that will be planted this fall have been bush hogged and sprayed. Dike and impoundment maintenance included applying Garlon 3A as needed along dikes to combat woody growth. Ground's maintenance included mowing common areas and around dwellings. Structures, trunks, gates, and signs have grass and weed control through an as needed application of herbicide. Several ditches are getting cleaned out with the mini excavator along main roads to improve drainage. Miscellaneous jobs addressed during the month included removing several trees and debris from roads, trouble shoot shop water pump issues, repaired shower in lodge, and gathered signs, buckets, shears, tables etc. for upcoming dove hunt.

Edisto River WMA: Staff hauled the mini excavator to ERWMA to address drainage issues. Some ditches were cleaned, washouts were repaired along roads, and two beaver deflectors were installed on pipe ends.

GIS/GPS/Miscellaneous: Maps were generated of herbicide sites to be sprayed on Donnelley WMA. Signs were printed for the upcoming dove hunt at Donnelley to assist the hunters. Signs and information were printed to assist the hunters on the adult/youth dove hunt at Botany Bay HP/WMA. Bear Island WMA exterior dike photo documentation using the UAV was completed. Assistance was provided with UAV flight video footage for the Office of Media and Outreach. Assistance was provided with mapping duck banding sites and band encounter sites. The Rules and Regulation information for the 2021-2022 hunting season for Edisto River WMA was updated and posted on the kiosks. Edisto River WMA public handout maps were updated for the 2021-2022 hunting season. Assistance was provided with water level monitoring at Dungannon HP. Miscellaneous GIS work was conducted. Miscellaneous supplies were picked up.

Unit 4D: Beaufort, Hampton, & Jasper

The work for this month was focused on getting the Webb, Hamilton Ridge, and Palachucola WMA properties ready for the upcoming deer season and dove hunts. Staff spent the majority of time prepping wildlife openings and Public Dove Fields through mowing, disking, and spraying. Significant time was spent doing grounds maintenance and mowing facilities around the Webb Center. Staff spent time with wood duck and mourning dove banding efforts. A total of 32 doves and 23 wood ducks were banded during the month. Staff continued to participate in annual turkey and quail brood surveys. 94 non-hunting users signed in to the 3 WMAs during the month with activities including: scouting for hunting, birding, wildlife viewing, archery range, fishing, paddling, and photography. Routine administrative and management duties were conducted within the unit. Biologist Atkinson made visits to all properties within the unit to assess habitat conditions and other management activities and worked on procuring bids and writing specifications for multiple projects for the unit. Atkinson submitted and edited wildlife management plan for Webb WMA and completed EPMS for staff under supervision. Atkinson scored two white-tailed deer and assisted Law Enforcement by utilizing chemical immobilization on a nuisance deer in Beaufort County. Timber operations were checked on Hamilton Ridge WMA. Atkinson and Biologist Moss attended the Biologist Meeting in Columbia. Atkinson and Moss attended the virtual USFWS/SCDNR Meeting. Moss gave an Alligator Presentation to Latitude Margaritaville in Hardeeville. Moss spent time conducting EPMS reviews with staff. Moss and Technician Klecan attended Chainsaw Safety Training in Monck's Corner. Klecan and Technician Bland attended the Women's Shotgun Clinic at Wateree Shooting Range. Atkinson, Moss, Technicians Tant, Wargo, Klinedinst, Pollock, Deloach, Klecan, and Mausteller attended the Tractor Safety Webinar. Lower Coastal Alligator activity for the month: issued 6 commercial permits with 18 tags, issued 3 individual permits with 8 tags, distributed 13 alligator signs, and received 22 nuisance calls. No meetings/events were hosted at the Webb Center. Monthly Totals: 94 Non-Consumptive WMA users, 348 range users. Grand total: 442

Habitat management: Significant time was spent mowing (91 acres) and disking (68 acres) wildlife openings for the upcoming deer season. Staff continued with Public Dove Field maintenance and spent significant time preparing for upcoming dove hunts. Time was spent rotary tilling, spraying, and bush-hogging Public Dove Fields to prepare for

upcoming hunts. Staff sprayed 4 acres to control bicolor lespedeza. Staff spent time controlling ~15 acres of woody vegetation with the Brown tree mower.

Facilities & Infrastructure Maintenance: Significant time was spent installing culvert pipes to repair a road. Significant time was spent mowing 80 miles of roads. Staff spent time spraying 5 miles of roads, and 15 miles of roads were graded. Staff also used the sidearm mower to control higher vegetation along 20 miles of roads. Check stations at Palachucola and Hamilton Ridge were cleaned and prepared for the hog hunt. Staff spent significant time preparing deer stands on Webb WMA. Significant time was also spent with kitchen repair in one of the Bluff Lake resident houses. Significant time was spent painting 200 yards of the Palachucola parking lot fence. Staff spent time doing grounds maintenance which included mowing grass and blowing off all structures. Staff conducted regular range maintenance at Palachucola WMA.

Equipment Maintenance: Significant time spent repairing the John Deere 10' rotary mower and the sidearm mower. Staff completed general equipment maintenance & repairs.

Wildlife Management Area Hunts:

Hog Hunt with Dogs- 3 days, 14 hunter days, 8 hogs were harvested.

Upper Coastal Waterfowl Project

Santee Coastal Reserve WMA

Upland: The avenue was raked for pine straw and then graded. The shop yard was graded and standing water was drained away from the lumber sheds. Eleven miles of trails were mowed. Invasive rattle box was hand pulled in upland wildlife openings and on dikes. The main office lawn was repeatedly mowed and maintained. Several roadsides and trails were mowed. A trunk was finished being built. All split rail fencing on the property was repaired. Wildlife openings were mowed and sprayed in preparation of fall planting.

The Cape: More than 12 miles of dikes were mowed. Weeds and overgrowth were cleared around all water control structures. Water levels were monitored, and adjustments were made as necessary. Salinities and water temperatures were measured and documented. Two nights were spent banding ducks with the airboat in all Cape impoundments.

Cedar Island: The repaired floating dock gangway was floated to Cedar Island and installed on the first dock. Water levels were monitored, and adjustments were made as necessary. Salinities and water temperatures were measured and documented.

Murphy Island: A new trunk and material was barged to the Thompson Creek impoundment. The amphibious long-reach excavator was barged to Thompson Creek to offload the barge. Almost 800 linear feet of setback dike was built with the amphibious long-reach excavator in the Thompson Creek impoundment towards the South Santee River. The mini excavator with cutting head was barged to the island. The mini excavator then side-cut .42 miles of dike edges. Water levels were monitored, and adjustments were made as necessary. Salinities and water temperatures were measured and documented.

Repairs: The amphibious long-reach excavator hydraulic leak was repaired. The air compressor was reinstalled on service truck. Three boats have been serviced, and two boats are currently being repaired.

Other Activities: A training class with a boat mechanic was held to train proper boat maintenance, service, and use. UCWP technicians attended a tractor safety class. 41 mottled ducks and 7 wood ducks were banded via airboat.

Heavy equipment operators were interviewed. The outside of office was landscaped and cleaned up. Both airboats were taken to be serviced. Treptow attended Cat I Waterfowl Area meeting at the Wateree Range and the Biologists Meeting in Columbia. Treptow watched a drone spray phragmites at a local Georgetown plantation. Treptow met a local native plants specialist to discuss proper pollinator field maintenance. Treptow had a conference call with Charleston County mosquito control regarding spraying on WMA lands.

Santee Delta WMA

A Tractor and bushhog were taken to the Delta WMAs. All dikes were mowed. Water levels were monitored.

Samworth WMA

This month considerable effort was expended on herbicide treatments. Approximately 1.25 miles of dike were treated on Backfield and Middle Carr to prevent further growth of tallow, willow, maple, sweetgum, and cherry trees on the shoulder and berms of dikes. Approximately 24 acres of white marsh were treated in the Big Carr Impoundment and an additional 0.75 acre were treated on Backfield. Treatments were applied for control of primrose, water hyacinth, and *Salvinia minima* in Mr. Sam's Pond (0.25 ac) and on Rabbit Island (5.5 ac). Additional spraying was conducted around trunks, bulkheads, and barge slips. Re-topping and canal cleanup progress continues on Rabbit Island (675 LF) with the amphibious excavator and on Backfield (610 LF) with a rental long reach excavator. Dikes on Rabbit Island, Backfield, and throughout the Carr Complex were mowed.

Approximately 6.25 acres were mowed in the Little Carr impoundment to reduce Whitemarsh density and to encourage growth of late season beneficial grasses. A wood duck trap site was set up in Big Carr.

Habitat Report: Moist soil habitat conditions look excellent in all impoundments with abundant Walter's millet, sedges, fall panic grass, and numerous species of smartweed. Sesbania is prevalent but should provide ample cover to buffer from human and avian disturbance this winter. Big Carr has been flooded following the white marsh spraying in effort to further control white marsh growth and to promote invertebrate production for the upcoming waterfowl season.

Repairs: Wilco Machinery sent two technicians to make considerable repairs to the fuel, hydraulic, and cooling systems on the Marsh Runner. Both front track idlers were also replaced. Numerous pieces of equipment were repaired this month including a tractor PTO, a fiberglass chemical tank, and a boat trailer. Numerous trips were made to pick up parts and have boats serviced.

Contractor Updates: Contractors continue to make progress on both Upper and Lower Middleton renovations. Re-topping continues on Lower Middleton. A trunk install was completed this month and two additional trunks were constructed. The final pass of material is being made on the setback dike along the Waccamaw River. On Upper Middleton, progress continues to be made with canal cleanout, re-topping, and construction of the setback dike along the Waccamaw River.

Heritage Preserves

Cartwheel Bay HP: Staff conducted property checks multiple times and all roads were bush hogged.

Crosby Oxypolis HP: A quick survey was conducted of the 2 best populations of Oxypolis. It was deemed to be a good season for the Oxypolis plant community.

Dungannon HP: Coordination with Assistant Regional Coordinator Hook and Technician Walters was conducted to monitor the water level and remove boards if needed. All roads including the dike were mowed along with removing litter from parking area. Communication and coordination with contractor for airboat herbicide application is underway.

Lewis Ocean Bay HP: Staff graded 12.8 miles of roads throughout the preserve. Biologist Brantley met with representative from ETV on site to get grab footage of Sundews. A second site visit will be needed to finish project. Brantley corresponded and monitored the progress of the new pole shed. The footers have been poured thus far. Staff monitored for litter.

Little Pee Dee HP: Herbicide was applied to parking areas prior to being mowed. Two mobility impaired permits have been issued for deer season. Routine property checks were conducted.

Tillman Sand Ridge HP: Technician Kalinowsky performed routine property checks and litter patrol. In addition, 40+ invasive trees (Tallow) were cut and treated.

Victoria Bluff HP: Technician Kalinowsky performed a routine property check and litter patrol. Kalinowsky also investigated 2 potential hazardous trees on the property line.

Waccamaw River HP: Significant time was spent moving equipment and mowing the Shultz, Ellis, Simpson Creek, Bridges and Loris Hunt Club in preparation for hunting season. Culverts were delivered and bridges are in the process of being replaced on Carter Stillely.

Miscellaneous: Technician Tyler started with the Heritage Preserve crew. Time was spent familiarizing himself with all the properties in Horry County. Technician Bell carried the side mower to Samworth and cut ditches prior to the first dove hunt. Staff reworked and repaired a trailer. One tractor was serviced. Staff participated in the virtual tractor and equipment webinar. Staff collectively made 75 site visits to 7 preserves this month including Tillman Sand Ridge, Crosby, Dungannon, Lewis Ocean Bay, Waccamaw River, Cartwheel Bay, and Little Pee Dee River HPs.

Tom Yawkey Wildlife Center

Habitat and Infrastructure Management

Water quality and levels were monitored for waterfowl food production. Two interns from Horry-Georgetown Technical College completed 165 hours of work this month. Seven employees missed time this month with either Covid-19 isolation or quarantine restrictions. Twelve miles of roads were graded and shaped, 6 miles of dikes were side-cut, and 25 miles of dike and roads were mowed. Work continued on shifting main roadbed to the top of the main dike along Upper and Lower Reserve on South Island. Three hundred additional feet was cleared. Staff constructed two rice trunks in preparation for their installation this fall. One rice trunk was installed in the Lower Goose Pasture managed wetland on Cat Island.

Education and Outreach

The education program conducted six socially distanced programs for 49 participants. Jamie Dozier served as Chairman of the Horry-Georgetown Technical College Forestry and Wildlife Program Curriculum Committee annual meeting.

Research and Survey

Staff conducted and assisted with numerous research and survey projects during the month. The monthly waterfowl and wading bird point counts detected waterfowl and wading birds. The monthly waterfowl and wading bird point counts detected 116 waterfowl and 401 wading birds. Loggerhead sea turtles laid 22 nests on YWC beaches.

Loggerhead nesting has slowed down dramatically as the season comes to an end. DNR staff located 13 nests on South Island and 4 on Sand Island. Volunteers located five nests on North Island. All nests were screened to help deter predation. The total nests to date at YWC are 632. Hatching is beginning to occur from nests laid earlier in the season. Sixty-two nests hatched this month.

Archaeologists with SCDNR Heritage Trust Program continue to work on-site daily cataloging the artifacts recovered from several research projects and the Hume site excavations. Staff spent considerable time this month working with various researchers. Clemson University graduate student Mikayla Thistle completed the second field season investigating Bachman's sparrow nesting ecology and habitat usage in the longleaf pine stands. She is currently writing her thesis and plans to be finished in December. Staff assisted University of Georgia PhD student Samantha Bock with two mark-recapture sessions of hatchling alligators on Cat Island. These animals are part of a long-term survival study and were marked out of the nest last fall. In addition, two clutches of hatchlings removed as eggs in May were released back into their natal areas. Staff assisted researchers Bonnie Ertel and Dr. John Weinstein from The Citadel on the South Island Beach. They are surveying various locations to determine plastic concentrations. Researchers from the Environmental Protection Agency surveyed two long term marsh plots on Cat Island. These plots are part of the nationwide wetlands inventory system. Staff met with Mississippi State University PhD student Stephen Clements to tour managed wetlands at YWC. He will be sampling various managed wetlands along the South Carolina coast to determine waterfowl food availability in the coming years. Clemson University faculty Dr. Thomas Rainwater and Dr. Cathy Jachowski brought students from the Clemson Creative Inquiry class to learn about wetland ecology at YWC. Dr. Stefanie Whitmire collected vegetation samples and multiple measurements at five alligator nests at YWC. This effort will augment similar data collected at YWC in 2019 and aid in calculating the amount of biomass moved by each female during nest construction. Nest construction is a significant driver in nutrient movement within the marsh ecosystem.

Statewide Forester

Continued working with the three local Longleaf Implementation Teams (LIT's) in SC, the State Longleaf Coordination Team, and the South Carolina Prescribed Fire Council (SCPFC). Continued various duties as SEAFWA representative to the regional Longleaf Partnership Council (LPC). Participated in quarterly virtual LPC meeting. Continued collaboration with Forest Stewards Guild, USFWS, and Clemson University (Dr. Stephen Peairs) on hardwood management demonstration/outreach area grants, including timber harvest planning at Hamilton Ridge WMA. Continued collaboration with USFS on Good Neighbor Authority project on the Enoree RD of the Sumter NF. Recently awarded timber sale (579 acres of loblolly pine thinning) has not yet commenced. Completed 493 acres of herbicide release and wisteria control at Belfast WMA. 80 acres of herbicide site prep at McBee WMA scheduled to commence soon. Put out for bid 100 acres of herbicide release work at Cliff Pitts WMA and longleaf seedlings for winter planting. Forestry mulching on Mason WMA commenced, Webb WC and Hamilton Ridge WMA to follow. Land clearing at Love Farms for dove field and shooting complex continued throughout the month, and made substantial progress, nearly complete. Contracted wetland restoration work on Webb WC (hand and mechanical brush/tree removal) scheduled to commence soon. Brood field clearing project at McBee WMA commenced and made progress throughout much of the month. Attended annual Biologists' Meeting in Columbia. Continued working with Milliken Forestry and DNR staff re: ongoing GIS timber stand database additions. Monitored and administered ongoing timber harvesting operations. Assisted Chief Dukes and Asst. Chiefs with timber budgets.

Harvesting operations remain suspended at Hamilton Ridge WMA (618 acres of plantation loblolly second thinning and 77 acres of clearcut), Woodbury WMA (792 acres of plantation loblolly first thinning and 28 acres of second thinning), but are very close to completion. Harvesting completed at Edisto River WMA (bird dog training area, 73 acres of planted loblolly second thins), close-out in progress. Harvesting operations on Bonneau Ferry WMA (784 acres of natural loblolly first thinning, 160 acres of planted loblolly and longleaf first and second thinning, and 80 acres of natural loblolly clearcut) are still delayed due to wet ground conditions. Harvesting operations on two timber sales at Hamilton Ridge WMA (521 and 504 acres of plantation loblolly first thinning) resumed mid-month and late month. Harvesting operations at Palachucola WMA (270 acres planted loblolly and slash marked thinnings and 138 acres clearcut for longleaf restoration) remain temporarily suspended. Contract expired and not renewed on timber sale at Jocassee Gorges (40 acres of white pine removal). Harvesting operations remain suspended at James L. Mason

WMA (408 acres natural loblolly marked thinnings). Completed harvesting operations at the South Heritage Tract (276 acres planted loblolly second thins), close-out in progress. Harvesting operations at Draper WMA (60 acres of oak woodland thinning, 57 acres of planted loblolly first thins) have yet to commence. Recently awarded timber sale at Belfast WMA (591 acres planted loblolly second/third thins) has yet to begin. Timber sale at Love Farms (64.5 acres planted loblolly pine for dove field expansion and shooting complex, 7.6 acres of thinning) has been completed, except for a few acres. Awarded timber sale at Santee Coastal Reserve timber sale (338 acres of marked natural mixed pine thinning, 81 acres of natural mixed pine clearcut) has yet to commence. Awarded timber sale at Woodbury WMA (1,132 acres planted longleaf and loblolly) has yet to commence. Continued working with staff on planning/preparation of numerous upcoming sales.

Law Enforcement

DIVISION SUMMARY – COL CHISOLM FRAMPTON

Officers issued 588 summonses and 1740 warnings with 794 cases clearing court with fines totaling \$114987.75 being assessed. A total of 3193 hours were spent on boating patrols resulting in 4327 boats being checked. Officers spent 191 hours on Homeland Security, 612 hours on litter patrols and a total of 261 hours were spent patrolling Heritage Trust Preserve properties. Officers also spent 1846 hours on night patrols. A total of 167 JEA hours were worked.

SEAHAWK – FSGT Gregg Brown

SeaHawk IOC Analysts assisted with 180 requests from 31 different agencies during the month of August 2021.

- FSGT Brown assisted Region 4 for Rockville Regatta.
- FSGT Brown and SeaHawk IOC personnel conducted a maritime patrol in three marinas, resulting in three charter vessels being inspected of which (2) inspected and (1) Six pack. One of the vessels was cited for insufficient flotation devices.
- SeaHawk IOC all hands multi-agency briefs and MASFOs were cancelled in August due to COVID.
- Armed Robbery – (Charleston PD) – IOC analysts saw a BOLO in LORCIC in reference to an Armed Robbery suspect they were trying to locate. IOC analysts ran the photo through facial recognition and were able to find a possible match. CPD was able to confirm that the information they received from the IOC was the suspect. Warrants were issued.

Partial Tag/ALPR Successes:

- **Illegal Dumping – (SCDNR)** – IOC analysts assisted SCDNR with locating a Chevrolet Suburban that illegally dumped a 20ft fiberglass boat, on private property, in Chester County. The vehicle was photographed by a trail camera. IOC analysts were able to run a list of possible suspect vehicles. The vehicle that was #1 on the list was the suspect vehicle. SCDNR made contact with the suspect who admitted to dumping the boat. Suspect was charged with \$1094 littering fine.

Threat Assessments:

- 2021 Cooper River Bridge Run September 25, 2021
- 2021 Kiawah Island Golf Resort Triathlon October 3, 2021

K9 TEAM – LTC JAMIE LANDRUM

K9 Team – LT Brady Branham

- K9 Teams were called out 13 times 3 were DNR related and 10 were other agency assist for a variety of reason to include locating a weapon used in a school shooting, locate a missing person, and track suspects who fled authorities on several different occasions.
- As hunting season began to open in parts of the state, K9 Teams began to get DNR related callouts. Several illegal hunting cases were made due to K9 assistance including one night hunting case.
- Handlers Welch, Urquhart, and Earhart completed their UTAH Post K9 Instructor certifications this month.

Community Relations, Officer Wellness, & Diversity Recruitment – CPT Henry Stackhouse

- Worked with Region 4 for the weekend for the Rockville Regatta.
- 3-Day ICISF Training for Peers by SCLEAP one in Lexington & one in Spartanburg

INVESTIGATIONS / REGION 4 – MAJ GARY SULLIVAN

Investigations – MAJ Sullivan/ LT Tony Spires

Thank you to INV Brittany English and the Dive Team for their hard work on a double fatality on the Savannah River!

Investigators issued 2 summons and 5 warnings, with 3 cases cleared. Investigators assisted with 1 case, inspected 15 boats, 5 motors, and accrued 158 boating hours. Investigators conducted 14 night patrol hours, 27 search and rescue hours, and 138 boating accident investigations hours. Section Investigators attended or assisted with 44 hours of training this month.

Aids to Navigation/Dive Team

- Aids to Navigation received 19 maintenance requests from the Charleston Office.
- The investigations office received 3 zoning requests this month.
- There were 289 hours of Aids to Navigation work.
- There were 2 dive assignment this month.
- There were 36 Marine Event Permits approved and the year to date total is 460.

Investigations/Marine Theft

- The investigations office received/processed 7 boating accident reports bringing the y-t-d date total to 134.
- We had 2 boating fatalities this month bringing us to 14 years to date.
- Investigators conducted 252 Marine Theft Investigations hours.

Region 4 – CPT Michael Paul Thomas

Officers issued 239 summonses and 533 warnings. 286 cases cleared court, with fines of \$40,989.00 being assessed. Officers checked 503 hunters and 2,193 fishermen, with a total of 1,254 hours spent on boating patrols resulting in 1,879 boats inspected. Officers spent 29 hours on Homeland Security, and 96 hours on litter patrols. A total of 142 hours were spent on patrol of the Heritage Trust Preserve properties. A total of 596 hours were spent on night patrols. Officers gave a total of 29 public presentations. Officers also spent 167 hours on JEA patrols. There were 8 hunting accident investigation hours and 151 boating accident investigation hours conducted. 4 BUI screenings were conducted, with 4 BUI cases written.

Captain's Spotlight

CO Correy Hemingway, while conducting Flounder gigging patrol, caught a subject from NC with 20 Flounder over the limit, 17 of which were undersize Flounder. The subject was issued numerous summonses and warnings.

Unit 4A (Horry) FSGT Kevin Pardue

- LCPL's Burton and Hering, and PFC Buckhannon made a simple night hunting case with three offenders who have past violations and one who was suspended from hunting. Numerous other charges were made.
- LCPL Hering and PFC Buckhannon investigated a poisoning wildlife complaint. They placed cameras and executed search warrants before conducting interviews. One subject was charged after being seen on camera and admitting to the placing of the poison. Clemson Investigators issued 3 additional charges stemming from our investigation.
- PFC Buckhannon charged a charter boat in state waters with No Charter License and Possession of Filets at Sea.

Unit 4B (Georgetown) FSGT Ryan Williams

- CO Hamblen worked Flounder gigging in Murrells Inlet and made 6 cases for Undersize Flounder.
- FSGT Williams caught 3 subjects with 4 Red Snapper Out of Season.
- LCPL's Capps and Kaminskas, while patrolling Pawleys Inlet made 6 cases for Harvesting Shellfish Out of Season, 2 cases for Undersize Flounder and 2 cases for Undersize Trout.
- PFC Dozier caught 2 subjects harvesting oysters out season.

Unit 4C (Charleston North) FSGT Huger McClellan

- LCPL Duncan wrote 12 undersized flounder cases.
- CO Cato conducted a commercial crab patrol resulting in 3 commercial citations.

Unit 4D (Berkeley) FSGT Brian Crawford

- PFC Courtney Angotti-Smith and other unit members worked a boat accident in the Wando River. Charges for Felony BUI are pending.
- PFCs Courtney Angotti-Smith and Savanna Bond worked a tip for over the limit of freshwater game fish. The subject was found in possession of illegal drugs to include 19 grams of Fentanyl. The BCSO office was called where charges were made by the BCSO for drugs.
- PFC Ellis found an untagged deer with a subject also having no hunting license on opening day of deer season.

Unit 4E (Charleston South) FSGT Greg Garner

- LCPL Whaley caught and charged a subject in possession of dozens of undersized crabs, 9 whole stone crabs, and harvesting shellfish out of season.
- LCPL Ladue caught and charged numerous members of an historically renegade hunting club with hunting too close to a residence as well as conspiracy to violate fish and game laws.
- Officers worked in plain clothes for 7 days on a charter fishing vs. homeowner dispute near Folly Beach in which both parties accused the other of impeding their right to fish. All parties were eventually confronted by LE and have had no complaints since then.
- FSGT Garner responded to a call regarding a jumper while working on the 39 Contender at Fort Johnson. Upon arrival at the scene, he and a CFD vessel made recovery of young female victim.

Unit 4F (Dorchester/ Colleton) FSGT JP Jones

- BSGT Richardson issued a citation for dog running at large.
- LCPL DeLoach and PFC Woodward made 3 cases for allowing dogs to run at large.
- Officers assisted Hampton PD to locate a marijuana grow.
- PFC Woodward cited a subject for littering in the marsh.
- PFC Woodward assisted the Jasper Unit with a double fatality boating accident. BSGT Gantt also assisted with AIR Dive Team.

Unit 4G (Beaufort) FSGT Adam Henderson

- This unit assisted Unit H and Investigations with a boat accident in the Savannah River which involved double fatalities.
- Unit G assisted BCSO with a missing person related to a drowning on Daufuskie Island.

- CO Willis apprehended and jailed a subject for a second offense stealing crabs from commercial crab traps. In addition to the charge of tampering with commercial crab gear the individual was charged with possession of undersize crabs and undersize flounder.
- CO Cooler and PFC Pritcher responded to a report of an aggressive male deer near a recreation trail in Beaufort. Investigation showed the deer had been fed and now as an adult was exhibiting aggressive behavior. With the help of SCDNR biologists the deer was captured and removed due to the danger it posed the public

Unit 4H (Jasper/ Hampton) FSGT Earl Pope

- Unit participated in Estill's Night Out. The Boating Simulator was used.
- PFC's DuPree and Wells worked a trespass call that resulted in multiple trespass and marijuana charges.
- LCPL Mills, PFC's Moore and Moskos worked a double fatality boat accident in the Savannah River.
- PFC Moskos investigated a call about construction workers harassing an alligator. PFC Moskos located a truck with an alligator taped up in the back of it. The alligator was still alive after being there for 8 hours. Two subjects were charged for molesting an alligator.

FIELD OPERATIONS REGIONS 1-3 – MAJ Mike Isaacs

Region 1 – CPT DJ Riley

Officers issued 151 summons and 628 warnings with 197 cases clearing court with fines totaling \$28040.00 being assessed. Officers checked 1256 fishermen, 11 hunters checked, and a total of 792 hours were spent on boating patrols resulting in 1042 boaters checked. Officers gave a total of 22 public presentations. Officers spent 93 hours on Homeland Security and, 253 hours on litter patrols. A total of 20 hours was spent patrolling Heritage Trust Preserve properties. A total of 44 hours was spent patrolling Jocassee Gorges resulting in 4 summons and 12 warnings being issued. Officers also spent 327 hours on night patrols. During the month, there 6 boating incidents.

Captain's Spotlight: LCPL Hanna, with the assistance of the Anderson Officers made several cases referring to Killing a Deer out of Season. The suspect had his wife drop him off while trespassing on August 15. Suspect killed a 9pt. buck in Velvet and had his wife and another suspect assist him with obtaining the deer. Officers recovered the rack from taxidermist and obtained statements from subjects involved with the incident admitting to the violations. There 3 charges on Conspiracy to commit wildlife Crimes, 3 charges on Hunting out of Season, and 1 charge for Intentional Trespass to Hunt 2nd.

Unit 1A (Oconee / Pickens) FSGT Ron Hedden

- SGT Busha received a tip of illegal jug fishing on Lake Hartwell. Upon further investigation he located several jugs, interviewed an informant, and contacted the jug owner which resulted in a citation for Jug fishing 1 hour after sunrise.
- PFC Caddell was working the Lawrence Bridge / Keowee River area of Lake Hartwell by boat. At approximately Midnight he observed a subject in a Jon boat using a cast net. PFC Caddell continued with his surveillance until he observed the subject keeping multiple game fish which resulted in a summons being issued for Taking Game Fish with a Non-Game Device.

Unit 1 B (Greenville / Spartanburg) FSGT Frank Jordan

- During the month of August, PFC Sherbert followed up on a tip relayed from LCPL Jay Harvey about a deer taken out of season in Spartanburg County. During the investigation a subject admitted to taking the deer and was issued one citation for hunting deer out of season.
- LCPLs Holliday and Miller followed up on a call that started off as property damage from a stray bullet. Upon further investigation, it was determined that an individual had been walking the perimeter of a tomato field shining and shooting deer at night without a permit. The subject admitted to the actions and was cited for hunting out of season and shining.

Unit 1C (Cherokee / Union) FSGT John McCraw

- Officer's Burnett and Irvin assisted with the two-day Harry Hampton Wildlife Banquet held at Spartanburg Memorial Auditorium.
- Unit C Officers attended the new London Creek WMA ribbon cutting ceremony in Cherokee County.

Unit 1D (Greenwood / Laurens) FSGT Travis Dudley

- While patrolling lake Greenwood, LCPL Ryan Abernathy heard two shots very close to him. Abernathy observed a guy who was still pointing his 9mm Shield at another boat that he thought had passed too close to him cutting his line. LCPL Abernathy made an arrest for firing a gun at a boat ramp and disorderly conduct with aggravating circumstances.
- Officers worked both Greenwood and Laurens County walking dove fields for possible bait.

Unit 1E (Abbeville / Anderson) FSGT Rhett Barwick

- LCPL Ginn made an illegal jugging case on Broadway Lake.

Unit 1F (Edgefield / McCormick) FSGT Michael Davis

- FSGT Rainwater, FSGT Davis, LCPL Henry, and PFC Rowland worked the heritage trailer at a back-to-school festival for the Edgefield County school district.

- LCPL Harvey, LCPL Winn, and PFC Rowland made 4 cases for litter while working WMA in McCormick County. 7 warnings were issued for various other violations.

Region 2 – CPT Matt McCaskill

Officers issued 103 summons and 255 warnings with 220 cases clearing court with fines of \$33,241.80 being assessed. Officers checked 20 hunters and 1,001 fishermen, and a total of 442 hours were spent on boating patrols resulting in 596 boats inspected. Officers spent 24 hours on Homeland Security and 134 hours on litter patrols, and a total of 73 hours were spent patrolling Heritage Trust Preserve properties. Officers gave a total of 19 public presentations. Officers also spent 497 hours on night patrols. There was 1 boating accident, 1 drowning, 8 BUI screenings, and 1 BUI.

Captain's Spotlight

Officers Owen, Ruff, and Santangelo received a tip on hunting deer out of season. One case was in York County and 1 case was in Chester County. The officers followed up on the tip and gathered evidence. Once the investigation was completed and statements gathered, officers issued the subjects summonses for taking doe out of season, attempting to take deer out of season, 2 cases for not having a license, and warnings for not having big game permits or deer tags.

Unit 2A (Chester, York) FSGT Jason Plemmons

- Officer Owen had a black and white photo of a suburban dumping a boat on the side of a road in Chester County. Officer Owen only had limited information to go on. He reached out to Officer Greg Brown @ Seahawk. They compiled a list of a couple hundred possible vehicles within 25 miles of the dump site. There were approximately 25 vehicles within 5 miles of the dump site. After a couple of days, Officer Owen was able to ID the vehicle by the rims and some other distinctive characteristics of the vehicle. Subject also had the empty boat trailer in his yard. Officer Owen was able to obtain a written statement from the subject admitting to dumping the boat. Subject was charged with littering more than 15 lbs.

Unit 2B (Fairfield, Lancaster) FSGT Will Coleman

- Unit Officers worked a fishing detail in the Sanctuary at Cedar Creek making a total of 18 cases.
- Officer Timmons made 2 littering cases while patrolling Springs Park in Lancaster County.

Unit 2C (Kershaw, Lee) FSGT JC Hough

- While patrolling the Wateree Tailrace, Officer Poeta noticed the tail of a striper sticking out from underneath a tarp. Upon further investigation, 13 total stripers were located underneath the tarp as well as in coolers. Three individuals were charged for taking striper out of season.
- Officer Bessinger issued 1 summons for undersized largemouth bass while patrolling Lake Wateree.

Unit 2D (Marlboro, Chesterfield, Dillon) FSGT John Hillian

- Officer Gallien made 1 PFD and 2 license cases. He also wrote 15 warnings while working along the Pee Dee River in Chesterfield and Marlboro Counties.
- Officers assisted the City of Bennettsville with the annual Beach Blast held at Lake Paul Wallace.

Unit 2E (Florence, Darlington) FSGT John A Perry

- Officer Stevens worked a dump site that had just under 1000 lbs. of shingles. A case was made for littering and the site was cleaned up.

Unit 2F (Williamsburg, Marion) FSGT William Huggins

- Officer David Tanner made an hours violation for set hooks.
- Officer Ethan McGiboney made 1 shining case.

Region 3 – CPT John Bedingfield

Officers issued 91 summons and 314 warnings with 88 cases clearing court with fines of \$12,717.75 being assessed. A total of 547 hours were spent on boating patrols resulting in 795 boaters checked. Officers spent 45 hours on Homeland Security, 129 hours on litter patrols and a total of 26 hour were spent patrolling Heritage Trust Preserve properties. Officers gave a total of 20 public presentations. Officers also spent 412 hours on night patrols. During the month there were 0 hours spent on hunting accident investigations and 104 hours spent on boating accident investigations.

Captain's Spotlight

FSGT Robinson, BSGT Morris, LCPL Baxley, and PFC Price worked a boat accident in Potato Creek on Lake Marion where two male subjects left a bar heavily intoxicated at night. The driver passed out while heading toward an island of woods. The boat went into trees causing damage to the boat and minor injuries to the subjects. The driver was screened and arrested for BUI by LCPL Baxley.

Unit 3A (Lexington) FSGT Hunter Robinson

- LCPL Johnson and FSGT Robinson investigated a hit and run boat crash on Lake Murray that took two days of interviews to be able to positively identify the operator. After originally giving a false written statement to Johnson and Robinson, the suspect obtained a lawyer and is asking for a plea deal after he was faced with the evidence from the witness statements.
- CO Barone, LCPL Johnson and FSGT Robinson assisted the Richland DNR Officers with a single boat crash into the woods on Lake Murray that required both occupants to be transported to the hospital. A search warrant was obtained, and blood results are pending.

Unit 3B (Richland) FSGT Hogan Tyler

- Officers worked 2 boat crashes on Lake Murray. 1 BUI charge has been made from one of the wrecks. The other wreck is still under investigation.
- Richland County officers made 8 illegal dumping cases this month.

Unit 3C (Newberry/ Saluda) FSGT Marcus Smith

- FSGT Smith and PFC Miller apprehended two subject's deer hunting out of season in Saluda County.
- LCPL Arnold conducted a river rescue where two adult females and two children were floating down the Saluda River and the raft, they were floating in was punctured and deflated.

Unit 3D (Aiken/ Barnwell) FSGT Steve Terry

- PFC Adair and CO Pierson spent the month focusing on litter around the county. Their hard work resulted in 3 cases for Illegal Dumping.
- PFC Boulware charged one individual for Negligent Operation of a Watercraft.

Unit 3E (Allendale/ Bamberg) LT Brian Corbett/FSGT Adrian Priester

- LCPL Nettles, Officer Cameron Baker, Officer Breland, and DLEO Breland worked a boat accident where 4 canoes turned over in rough water and had to be rescued.
- All officers worked are working dog hunting in Bamberg County.

Unit 3F (Calhoun/ Orangeburg) FSGT Eddie Lee

- Officers Pifer and Dantzler received a call about someone killing an alligator near Cat Head Landing. They were able to locate the subject and charge him with killing an American alligator.
- Officer Dantzler assisted the Orangeburg County Sheriff's Office with an active shooter at one of the local high schools. Three students were hit but had minor injuries. After an extensive search of the school, the suspect was located hiding in the restrooms by the football field. The DNR K9 was called to assist with locating the suspect's weapon. Within 30 minutes of being deployed, the weapon was located and secured for evidence.

Unit 3G (Clarendon/ Sumter) FSGT Cary Robinson

- FSGT Robinson, BSGT Morris, LCPL Baxley, and PFC Price worked a boat accident in Potato Creek on Lake Marion where two male subjects left a bar heavily intoxicated at night. The driver passed out while heading toward an island of woods. The boat went into trees causing damage to the boat and minor injuries to the subjects. The driver was screened and arrested for BUI by LCPL Baxley.
- LCPL Laney, PFC Price, and DLEO Lowder worked a night patrol of Manchester State Forest using unmarked truck and ATV's. They check on subject who gave conflicting stories about him and his buddy "fishing" The officer waited the second subject out and found that they had killed a hog. Two cases were made for Hunt/Take Hog Out of Season on WMA and one case for Loaded/Uncased Gun on WMA.

STAFF OPERATIONS – MAJ BILLY DOWNER**Education – CPT Steve Simpson**

Officers issued 2 summons and 5 warnings with 0 case clearing court with 00.00 in fines assessed. A total of 44 presentations were given to the public.

- 216 students certified in 13 Hunter Education classes; 904 students certified in Hunter Education Internet classes
- 71 students certified in 5 Boater Education classes; 271 students certified in Boater Education Internet classes.

Outreach Activity

- NASP held 2 Basic Archery Instructor classes that certified 30 new instructors.
- SCTS held one 4H Level I class that certified 8 new instructors/coaches.
- Women's shotgun clinic at Wateree had 18 participants.
- TOMO representatives attended each regional meeting to provide program information to Officers.
- Attended one TOMO trailer event with 500 participants.

Range Activity

- Pickens Range (Andy Emerson)896 Shooters
- Spartanburg Range (Brian Bailey)676 Shooters
- Wateree Shotgun Range (Richie Boykin)309 Shooters
- Wateree Rifle Range (Kyle Betterly)705 Shooters
- Twin Ponds Range (Ken Mikkelsen)819 Shooters
- Total for Manned Ranges3405 Shooters

Confiscations, Grants and Records & Technology – CPT Lee Ellis

- Welcome Lieutenant Raquel Salter to the Accreditation Unit.
- Summons entered – 893 Warnings entered – 3,812
- New Suspensions – 46 Suspensions closed – 18

- SCDNR Suspensions – 889 IWVC Current Suspensions – 56
- Pending Suspensions –131 IWVC Suspensions Reviewed – 0
- Issued 9 Points suspensions and 21 Statutory Suspensions

Accreditation & PowerDMS – LT Raquel Salter

- Audited SCCJA Class 3 Officer records
- Completed training in PowerDMS University
- Transitioned from Training Unit into LE Admin Unit

Training – LT Erik Martin

- Training New Hire Class: Marine LE School, Officer Water Survival, Ground Defense, Pre-Academy Block 1
- Completed optic installation on 150 Glock pistols
- Worked on the Glock 45 training itinerary and training plan
- Conducted and assisted SLED with Governors Detail and qualifications
- Mapped physical fitness challenge course for PT testing

OGT/Property Watch/ Special Projects/DLEO Program – FSGT Sidney Rainwater

- Coordinated OGT Wall of Shame Trailer at 2 events with over 7,100 visitors viewing the trailer.
- Property Watch: 24 new members adding 1,657 acres, collected \$1,648.00

Homeland Security/EMD – LT Charlotte McKee

- Darlington Race planning
- Motorola mapping meeting.
- ESF-9 WebEx call
- EPMS
- CAD meeting
- Inventory EMD items.

Aviation – Chief Pilot Owen Barker

- 14 sorties for 30.9 flight hours
- SCDNR Law Enforcement Flight – 15.2 flight hours
- SCDNR Training Flights – 11 flight hours
- SC Aeronautics Transport Flight- 3.7 hours
- SLED Marijuana Eradication Flight 1 hours

Equipment – Laken Riddle Williams

- Continued taking items to State Surplus for TID.
- Went to Charleston to pick up non road worthy equipment.
- Received and distributed Rules & Regulations books.

Supply – Hayley Mitchum

- Received quotes and submitted purchase requisitions for supply equipment/items needed.
- Received Glock 9mm's counted and preassigned equipment numbers.
- Issued out second box of uniforms for pre-certified new hires 2021 class.
- Moved safes and weapons from Supply into safe rooms (with assistance from Styx Compound)
- Submitted ballistic vest purchase order.

Communications – Toby Freeman

- Finished 800 radio upgrades.
- Initiated 800 radio channel updates.
- Motorola mapping meeting
- Working on satellite phone reissue.
- Working with ETV on updated tower contracts.
- Turned in for disposal old radio equipment.
- New Hire 800 presentation.
- Issued 800 walkies to new hires.
- Continued working on master inventory for radios.

Radio Communications Center – SSGT Jason Smith

- Interviews for new dispatchers.
- Calls for Service: General Information (163), Alligator Call (97), Assisting Other Agency (79)
- Warrants: Entered: 0 Arrest/1 Bench; Cleared: 0 Arrest/0 Bench
- Transmissions: 800: 3,537 (since August 24 due to channel change) Phones: 7,549 VHF: 2,326

July 20, 2021

South Carolina Wildlife staff has been hard at work planning and producing a new and improved wall calendar, which will be for sale as a separate product and no longer a part of the regular subscription price to create an additional revenue stream.

Also, the November-December issue is coming together and will go to press on time for normal delivery. This should be a great issue with popular themes for a holiday edition.

We are also working on a special issue for January-February 2022 dedicated to the 300th anniversary of Mark Catesby's visit to South Carolina. We are working in cooperation with the U of SC's Catesby Centre to make this issue memorable and educational.

Finally, the South Carolina State Library has begun creating the digital archive of SCW magazines beginning with the very first issue from 1954. Eventually, this complete set will be available online through the South Carolina State Library.

Please don't hesitate to contact me with any questions or suggestions.

Thanks,

Joey Frazier, editor

South Carolina Wildlife

LAND, WATER & CONSERVATION

STATE CLIMATE OFFICE

The SCO answered 13 data requests on various topics from the general public, law firms as well as various state and federal agencies. Two requests were certified.

Melissa is the primary point of contact for the State Climate Office service program answering 8 data requests. She drafted and posted five weekly weather summaries on the SC State Climate Office website. She presented with Maria Cox Lamm, South Carolina State NFIP Coordinator, on Understanding Hurricane Hazards and Resulting Damage to local floodplain managers (August 11). She attended the 2021 Georgia Climate Conference which provided presentations on various projects and research being done in Georgia and the Southeastern United States on minimizing risk due to climate variability and trends. Attending the conference will provide baseline groundwork and ideas for the future climate networking workshops that the State Climatology Office, in collaboration with the Carolina Integrated Science Assessment team, are proposing for 2022. Melissa prepared the American Association of State Climatologists (AASC) Impact Study Report, a grant requirement from AASC for a project on examining how state climate offices interact and provide climate services to different sectors/stakeholders. She worked with Mary Anna Mason, TOMO Program Administrator, to finalize three additional weather safety brochures for hunting focused severe weather and extreme temperatures. She helped analyze and prepared graphics on SC Climate Trends and Variability which Hope will present to the SC Office of Resilience staff on September 1. She attended the NIDIS Flash Drought Webinar, the Southeast Monthly Climate Webinar, the NWS Wilmington Tropical Integrated Warning Team Meeting, and a Training on how to complete Substantial Damage Estimates.

Elliot led the efforts of USDM input for SC for 5 weeks and wrote 5 drought narratives. He created 5 infographics to help explain and communicate weekly changes in USDM conditions that were released on social media and to the SCDNR Drought Listserv on GovDelivery. He conducted weekly calls with his USDM Team which consists of USGS, NRCS, Clemson Extension and SCDNR Hydrology. He participated in the North Carolina Drought Management Advisory Committee Weekly calls. He created weekly maps of the Palmer Drought Severity Index and the Crop Moisture Index. He takes the lead on updating the SC Drought Program website which includes at least seven weekly updates. He continued work on analyzing the climate normals data for South Carolina and on the local drought planning guide. He created the precipitation map for the Tropical Storm Fred report. He spent time researching and talking with outside experts on the best methods to follow for our climate trend analysis project. He gave a presentation on Climate Influences on SC Water Resources at the SC Fertilizer and Agrichemical Annual Conference (August 2) and attended the Edisto River Basin Meeting. He attended the Southeast Monthly Climate Webinar and the CISA Monthly Conference Call. Frank provided two customized forecasts. He issued six Weather Alerts, four were routine forecast updates and two were special alerts to deal with potential impacts from Tropical Storm Fred and Hurricane Ida. The WeatherAlert Subscriptions increased to 36,760. He attended the virtual National Weather Association's 2021 Annual Meeting (Aug 22-26th). The primary value was to see upcoming new technologies and forecast techniques from the National Weather Service. He also attended the SC Hurricane Task Force Meeting where he was introduced to the Team, the NWS Wilmington Tropical Integrated Warning Team meeting, the Hydrometportal Training, and a briefing for Tropical Storm Fred conducted by the Greenville-Spartanburg National Weather Service. He drafted an Open-File Report on Tropical Storm Fred which will be released in early September. He continued work on the SC Winter Weather Executive Summary.

Hope and Elliot reviewed and provided feedback on the Town of Clover's Drought Ordinance.

Hope answered calls from SCDNR staff and Law Enforcement about the potential impacts from Tropical Storm Fred. She attended the CISA monthly call (August 6). She conducted a Hydrometportal Training for SCDHEC Dam Safety Program (Aug 11). She attended the Strategic Statewide Resilience and Risk Reduction Plan Advisory Committee Meeting (Aug 12). She is serving as the SCDNR representative on the Advisory Committee. She provided a Weather and Climate Presentation at the SC DNR Board Meeting (Aug 19). She attended a meeting about the SC Firefighter Mobilization Project (Aug 30). She continued to work with SCDNR staff from Botany Bay and PAK Net on the cellular issues. She attended a meeting with them on August 18 at Botany Bay. She attended the National Outdoor Leadership Wilderness First Aid Training offered for SCDNR Staff (Aug 24-Aug 26). She provided guidance and revisions to the AASC Impact Study Report drafted by Melissa. She completed the State Climate Office Accountability Report. She helped analyze and prepare graphics on SC Climate Trends and Variability which she will present to the SC Office of Resilience staff on September 1. She completed EPMS reviews for Melissa, Maria, and Elliot. She provided regular guidance for office interns and staff.

Additional Information on Staff Activities:

- Melissa serves as a co-host with Valerie Shannon to help facilitate SCDNR and Harry Hampton virtual board meetings.
- Hope participated in one call with AASC leadership.

GEOGRAPHIC INFORMATION SYSTEMS

General

Work continued developing projects such as the Statewide Satellite Collection Quality Control project and the Black Scenic River Management Plan. A new project was started with the South Carolina Conservation Bank. Several continuing education and training tasks were completed. Detailed information below.

Training modules undertaken included a Strater and ArcHydro Demo given by Megan James. The SCEIS Security Awareness training was completed. Along with the SCEIS training, enrollment was completed to install and setup DUO multi-factor security on all devices. Also attended the first part of three webinars hosted by NASA's Applied Science group that analyzed the use of Remote Sensing in Coastal Environments.

Work was completed on the second Delivery Group (Darlington County) for the Statewide Satellite Collection QC project. A third Delivery Group was submitted for the Upstate and work will begin soon.

South Carolina Conservation Bank

Significant work was done in completing exhibits for the South Carolina Conservation Bank. Across the state 29 applicant sites have been selected for acquisition by the Conservation Bank group. For site, features were either imported and or created using county parcel data. Two maps were made for each site. One map showed protected lands that currently exist at or around each location. Protected lands consist of Federal, State, NGO, or Private conservation initiatives. The second map showed the conservation "priority" level around each site. This map provides context and understanding of the level of need that each site and its surrounding area is under. For instance, wetlands and prime riparian zones are classified as high priority while upland pastureland is considered low priority.

Scenic Rivers

Work on the final Black Scenic River Management Plan exhibits included minor additions to the protected-lands layer updating areas along the Black Scenic River corridor which have been recently put into conservation. Other minor edits were made to labeling, symbology, and cartographic design to prepare exhibits for final copy.

Earth Science Group (ESG)

Presentations were given by Megan James regarding the ArcHydro and Strater software used in creating subsurface hydrogeologic data. This data was used to create the Hydrogeologic Framework Dashboard, which was presented back in the Spring. Presentation and walk throughs were done to show the hydrology group, along with members of the geology group, how the software works and how to make changes. From this training several hydrologic cross-sections and well-borehole diagrams were corrected. These diagrams were uploaded and replaced in the Hydrogeologic Framework Dashboard.

Archaeology

Work with Archaeology group focused on developing a tool that would automate the backup of data collected at the Goodwill site on a regular basis. A geoprocessing tool was configured to run each night that would download a copy of the data collected each day. Backing up the data each night provides a "safety net" should data become corrupted and or lost.

State Climate Office

No GIS work this month.

Cultural Heritage Preserves

No GIS work this month.

Office of Environmental Programs

No GIS work this month.

RIVER CONSERVATION PROGRAM

River Conservation / Scenic Rivers:

- Ashley River: Staff submitted a letter of comments to Dorchester County Council requesting the Council to not amend county zoning to allow development of a gas station at Cooks Crossroads, a use that is inconsistent with current zoning and presents an undesired land use at the gateway to the historic district of Hwy 61 and the Ashley River Corridor. Staff developed a LIDAR map of the Cooks Crossroads area at the request of local partners to be used in discussing the flood prone nature of the area.
- Beach Sweep/River Sweep: Staff continue to assist volunteers with registration for the 2021 Sweep. Supply packages for site captains (volunteer leaders of cleanups) were assembled. Staff updated the webpages and continued developing a website for data input of trash collection results.
- Saluda River: Staff reported concerns to Lexington County regarding high sediment loads in Twelve-mile Creek and the potential negative effects on the fishery of the lower Saluda River and requested County attention to related stormwater and erosion control needs.
- Edisto River: Staff participated in Friends of the Edisto Board meeting on August 30 to address plans to convene a public meeting to discuss recreational users conflicts on the river in the vicinity of Givhans Ferry.
- SC Aquatic Connectivity Team: Staff met with this team on August 11 to address options for the management of dam removal projects in the state.

FERC Hydroelectric Projects:

- Saluda Hydroelectric Project: Staff addressed concerns with Dominion Energy's recent use of the Unit 5 turbine which can deplete the limited striped bass habitat (temperature and dissolved oxygen limited) within Lake Murray during the summer months.
- North Georgia Hydroelectric Project: Staff reviewed a turbine upgrade plan for Lake Tugaloo and potential fish entrainment effects.

Heritage Trust: Staff participated in the August 12 meeting of the Heritage Trust Advisory Board and presented proposed budgets for FY 2023. Participated in the ESRI "advantage program" meeting (August 10) to address the status and potential needs for GIS support services to the DNR and Heritage Trust program.

BOTANY AND PLANT CONSERVATION PROGRAM

Tracked Plant List Revision:

Major efforts to revise the Track Species List have continued through August. Keith Bradley has made efforts at an increased rate because of reduced field work due to an injury. The research conducted by the Assistant Botanist; Samantha Tessel has contributed to a more thorough understanding of the distributions of tracked species.

- Started mining of data from the Biota of North America Program's Floristic Synthesis Database
- Continued re-ranking of species already on tracked species list
- Worked with Joe Lemeris to update existing Element Occurrence records
- Samantha Tessel has conducted specimen evaluations at Furman University Herbarium, virtual specimen evaluations in the Southeast Regional Network of Expertise and Collections (SERNEC) and used specimen data and the Heritage Trust database to calculate proposed ranks using NatureServe's Rank Calculator. These efforts have centered on tracked species but have also included species being evaluated for addition to the tracked species list. In the process, she has been resolving taxonomic problems that affect ranking of tracked species. and has been learning the Tracked Species list, NatureServe ranking criteria, and the Heritage Trust database.
- Technicians (Csilla Czako, Celeste Gross) have made great progress in georeferencing and digitizing herbarium specimens of tracked plant species, and species under evaluation for tracking, at the University of South Carolina. This effort is now leading to a major improvement in the DNR tracked species database because of DNR's long-term history of the development of the SERNEC herbarium portal. The team is now incorporating on a weekly basis EO records of newly tracked plant species to the Heritage Trust database

Field Surveys and Monitoring:

- Conducted surveys of rare plants, invasive plants, and assessed management needs at Ashmore HP, Bald Rock HP, Belvue Springs HP, Blackwell HP, Bunched Arrowhead HP, Chestnut Ridge HP, Eastatoe Creek HP, Eva Russell Chandler HP, Mountain Bridge Wilderness Area, Peter's Creek HP, Shealey's Pond HP, Woods Ferry, Saluda Shoals Park, Sumter National Forest, and a Naturaland Trust property to be transferred to DNR in Greenville County ("Janie's Prairie" area).
- Processed data from 2021 field surveys and entered rare plant data into Heritage Trust database.

- Attempted relocation of two historical species records of *Pycnanthemum clinopodioides* and *Najas filifolia* in Pickens and Greenville Counties, respectively (neither was found)

Conservation Actions:

- Facilitated and conducted fruit collection of Rayner's blueberries (*Vaccinium sempervirens*) at Shealey's Pond HP, a project led by the North Carolina Botanical Garden to store seed as part of a long-term ex-situ conservation collection
- Provided summary of recent South Carolina plant conservation actions to the Southeastern Plant Conservation Alliance

Habitat Protection Committee:

- Surveyed potential acquisition site, 1,000 Oaks (Abbeville & Anderson counties)
- Surveyed potential acquisition site, Bobwhite Hills (Sumter & Kershaw counties)

Other:

- Attended Heritage Trust Advisory Board Meeting
- Studied and prepared for Federal Aviation Administration Certificated Remote Pilot exam, to become licensed to operate a drone to conduct vegetation mapping and rare plant surveys
- Reviewed Georgia Power FERC Tugalo Hydro Plant project
- Participated with partners (University of South Carolina, Furman University), on planning for implementation of a South Carolina Plant Atlas, and processed floristic data for the project
- Reviewed request for gas line installation at Lewis Ocean Bay HP
- Participated in steering committee conference calls with University of South Carolina A.C. Moore Herbarium
- Processed herbarium specimens collected in 2020/2021 for deposit at the University of South Carolina A.C. Moore Herbarium

CULTURAL PRESERVES PROGRAM

This past month Brian Long and his team have been working hard on some of the properties throughout our state. Along with their everyday management activities, they did more work on the stabilization of the bridge at Poinsett Bridge Heritage Preserve, as well as restoration work at Callahan Creek. There was some Horse Creek addition work done and work done on the Fort Lamar Heritage Preserve donation. They are filling Tech Positions in the upstate and Region IV.

CONSERVATION DISTRICTS

Statewide Projects

Staff attended/participated in:

- LWC Advisory Committee Meeting
- NCF-Envirothon Operating Committee Meeting
- SCDNR-Conservation Districts all staff meeting
- Southeast National Association of Conservation Districts (NACD) annual conference
- Southeast National Association of State Conservation Agencies (NASCA) annual meeting

Staff also:

- Continues virtual training sessions from *Amplos* (leadership training/coaching business in Greenville, SC) as part of PLEAF
- Publicized the NCF-Envirothon results statewide – SC Envirothon took 3rd overall out of 41 competing teams!
- Continued building SC Envirothon Training Trunks to be launched this Fall
- Submitted 2 articles to SC Wildlife magazine
- Planned for SCDNR-Conservation Districts Strategic Planning Session in October
- Planned for SC Conservation Districts Employees Association fall training session on Annual Reporting
- Attended Conservation District Meetings in Oconee and Anderson counties to discuss and sign MOA documents.

Watershed:

- Spoke with Ike Carter regarding flooding issues in the Bowman area and discussed possible solutions
- Collaborated with partners regarding multiple watershed endeavors in their areas to address concerns
- Gathered and shared information on easement issue.

- Met with SCDHEC and Oolenoy watershed members to discuss emergency management plans

Conservation Districts

Anderson District -staff re-opened the Seed Library at the Anderson Main with fall seeds on August 2nd. We also kicked-off our first Pop-up Seed Library at the Powdersville Branch. Each Thursday, we have been traveling to a different library branch in the county for Pop-ups. We've had a great response from the community about this project. A huge thank you to Duke Energy for sponsoring our Pop-Up Seed Libraries and for making this possible. Our Education Coordinator also went to speak about our Seed Library program at the Abbeville Soil & Water board meeting. We attended the Lake Hartwell Partner's meeting and Water Resource Meeting with the Chamber virtually this month as well. We also helped with an Adopt-A-Stream Training at Tri-County with Clemson Extension. We have also had 18 new pre-approvals for EQIP. We have been working on applications for obligation.

Beaufort District - staff attended the Keep Broad Creek Clean Festival on Hilton Head Island. We used our Marine Debris Display & game on how long it takes for trash to decompose. We had planned to participate in Port Royal Sound's STEAM Festival, but it was canceled. We prepared a Marine Debris Slide for their virtual presentation & provided 100 copies of "Marine Debris from Land and Sea" that shows trash decomposition times of commonly seen litter for their drive by pick up for local students. We also held our quarterly Together for Beaufort County Water Quality Coalition Meeting with Lowcounty Stormwater Partners. We also participated in a strategic planning meeting for the Together for Beaufort County's Coalitions. We helped judge Beaufort County School District's Teacher of the Year Candidates. Staff has also been busy preparing for the SCCDEA Annual Training Meeting being held in Beaufort September 20-21.

Chester District – published the 2021 Summer Newsletter & Annual Report. The final report for the Sythomer Grant was submitted on August 12. Our State Appropriations packet was completed, signed, and mailed on August 20. A letter was written to SCDHEC on behalf of a Chester County resident experiencing erosion and runoff issues from the clearing for a new subdivision. Our no-till seed drills were used on 31 acres.

Colleton District – we have mailed our 2020-2021 Annual Report. The Annual Report highlights the activities of the District and was sent to our partners, NRCS, SCDNR and Colleton County, our affiliate members, schoolteachers and principals, conservation districts and others interested in conservation. At the August Board Meeting, Secretary/Treasurer Cleveland Hiott presented the 2021-2022 Proposed Budget to the Board for approval. The 2022 State Appropriations packet has been completed and will be mailed to Tyler Brown, Conservation Districts Program Manager. Chairman Gary Herndon appointed committees to conduct the 2020-2021 Annual Audit and update the Annual Plan of Work. Commissioner Rev. Gerald Mabry will represent the CSWCD at the SCACD Policy Positions and Business Meeting on September 14, 2021.

Clarendon District – held our August board meeting. Mr. Tyler Brown attended and discussed the new MOA. District Manager, Samantha has been assisting NRCS with EQIP contracts, modifications, cancelations, as well as coordinating repairs in the office due to water damage and the ceiling falling in. The District learned that our current DC will be leaving next month.

Dorchester District - Dorchester SWCD held its annual board meeting August 17th at Reevesville Town Hall, all commissioners were in attendance. Tammi, Administrative Assistant, will attend the SCCDEA Fall Training session in Beaufort on September 21st & 22nd. The districts 2021/2022 school year outreach projects are ready to be launched. The first projects to be presented to the schools will be the photo contest and the scholarship applications. We are hoping that we will be able to get back into the schools this year so we can offer some educational presentations to help promote our poster contest.

Fairfield District - The contact information for the FSWCD and watersheds was completed and emailed to the State Ethics Committee. All requested information for our state allocation has been completed and mailed. The Tye No-Till Drill has been in use this month. Information has been sent to the schools regarding the Annual Photo Contest. We have also been in discussion with the Clemson Ext. 4-H Program Coordinator on possible collaborative programs. Staff has made field visits re: The Farm Bill Program as well as helping with the signing of contracts.

Greenville District – Greenville citizens have been seen burying their underwear outside in an effort to determine the health of their soil. Greenville Soil and Water teamed with the Greenville County Library system to host an 8-week virtual soil health class with four engaging experiments, ending August 26. A national program called Soil Your Undies teaches gardeners and farmers how to bury a pair of cotton underwear for 8 weeks to see if the microbes in the soil eat the organic matter (cotton). The more fabric eaten, the better the health of the soil. 38 participants had a grand time and learned about the role soil microbes have in helping to eliminate pesticides and herbicides. In August, 26 kids joined us

at Lake Robinson for a week of outdoor camp activities and learning. Working closely with many community partners, our campers created ecosystem models, learned all about stormwater pollution, held reptiles, practiced fishing, learned how to bird watch, and explored the natural world around them. The final day everyone learned how canoe, planted a pollinator garden at J. Verne Smith Park and cleaned up the beautiful space we enjoyed all week. The Greenville District also distributed Poop Fairy signs to 18 residents and wrote an article for Greenville Journal on storm drains and their importance. We updated the School Program Guide for classroom lessons on our website and presented to 46 middle school girls on stormwater games and gamification for Get IT Girls. We held five Pop-Up Seed Libraries at libraries across the county, giving out seeds and educating about wise use of pesticides, herbicides, and fertilizers. We completed an herbicide spraying program on the nine PL566 dams in the county and completed ten conceptual design and regulatory discussions with Greenville County citizens regarding erosion, streambanks, and flooding. Staff continues to work with Planning Division on fulfilling the ag/food security section of the Greenville County Comprehensive Plan.

Jasper District - has been working with Red Bluff Plantation, Hardeeville, SC, on their Red Bluff Mitigation Project. Tidal and freshwater restoration of this type and scale has rarely been attempted in South Carolina. Red bluff is a groundbreaking mitigation project that will be the first mitigation bank to offer three credit types: saltmarsh, freshwater, and stream. The mitigation project at Red Bluff will restore and enhance tidal and freshwater wetlands more effectively than ever before in the Charleston Corps of Engineers District. Combined with the restoration and enhancement efforts, a total of 5,515 acres will be germanely protected by the Red Bluff mitigation project. This is in addition to the 225 acres already preserved on the property through previous wetland protection efforts. We have assisted in the revision/updating of the Japer County litter ordinances. Keep Jasper County Beautiful completed their Keep America Beautiful annual report with extremely successful numbers for 2020-2021. As a new affiliate for Keep South Carolina Beautiful, we are very proud to announce a few of our successes: From July 2020-June 2021, we have collected over 59,000 lbs. of litter, 17,871 volunteer hours, 211 students reached, \$16,500 in grants awarded to the local community and an estimate of \$470,959,00 in cost avoidance to local government. We have worked closely with our SCDNR unit to target litter hot spots and they have written over 30 litter contacts from Jan. 2021-June 2021.

Lancaster District -- The Cane Creek Watershed Board and staff worked with a contractor to repair the basin at the Campbell Lake. The Cane Creek and Little Lynches Watershed Board and staff are working with a contactor to complete the fall mowing of the watershed dams. Staff has been meeting with new landowners at the sites as needed and helping the public with questions on watershed items. The Lancaster SWCD board and staff worked on the Local Work Group Meeting information as needed for NRCS. The Lancaster SWCD signed the MOA this month. Tyler Brown attended the Lancaster SWCD board meeting this month. We are promoting our scholarship and conservation education mini grant with the public and schools within our county. We are partnering with the Lancaster County Farm Bureau Committee again this year to sponsor the Book of the Month Program at our 13 elementary schools.

Laurens District – we are making a few additions at the Adair Outdoor Education Center. We now have a 5-month-old opossum as an educational ambassador. We named him Andrew Johnson, after the only president to have ever lived in Laurens, Andy for short. He was bottle raised after his mother was hit by a car and is not releasable to the wild, as he has grown far too attached to humans. We also now have a beehive. The Laurens County Beekeepers Association has donated this to us and volunteered to take care of the bees until we get the necessary training. Within the next couple weeks, we will break ground on the new pollinator garden. The Master Gardeners have created a wonderful design full of flowers native to South Carolina. We are having a hash fundraiser to assist with the cost of this project.

Newberry District –hosted a *Movie Night* - on the farm with Big Screen Picture- featured the animated film Barnyard- We had 45 in attendance; the free showing also had concessions to raised funds for the local FFA. Also mailed 325 copies of the Quarterly newsletter. Attended a Ribbon Cutting ceremony for the Newberry City Water tower. Staff earned certification at a PLT workshop at Harbison Forest in Columbia. Additionally, we started a Seed Library, which has flowers, veggies, and fruit seeds available to the public. Gardeners then return seeds they've collected from the harvest to keep the cycle going. We hosted the Local Working Group meeting on August 31st and were also featured in an article in the Newberry Observer on Rain Barrels.

Richland District – announced FY22 environmental education initiatives, including conservation education mini-grants, classroom presentations, and the Healthy Soils: Healthy Life youth poster contest. The District co-hosted a Midlands Meetup for 26 environmental educators, a field trip to Locklair Farms Food Forest for 19 environmental educators, an Environmental Education Association of SC (EEASC) board meeting for 14 participants, and a Midlands Local Food Collaborative meeting for 14 participants. District staff provided support to the boards of the SC Forage and Grazing Lands Coalition, Midlands Local Food Collaborative, Palmetto Environmental Education Certification Program Advisory Committee, EEASC, and the Southeastern Environmental Education Alliance. The District facilitated the adoption of an

EEASC Policy and Procedure Manual, FY22 budget, and bylaws amendments and assisted with planning the 2022 EEASC annual conference at the Savannah River Ecology Lab. The District provided 12 pollinator conservation education packets to the Richland Herb Society. More than 1,000 seed packets were distributed to residents through the Seed Sanctuary. The District's monthly e-newsletter reached >3,000 subscribers. The District prepared to announce Outstanding Youth Award winners in September.

Spartanburg District – We made the return to ZOOM for our Commissioner's Meeting. The *Into the Garden* video series is still going well. The garden itself is seeing the ravages of the summer heat but is doing well. It is regularly visited by several species of bees, wasps, butterflies, and beetles as well as the occasional hummingbird, goldfinch, and cardinal!

York District – Chasity completed a SC Dam ownership course through Clemson Extension that was free and very informative. YC Environmental Education Liaisons hosted a meet and greet which allowed me to connect with local teachers/staff. YSWCD should be participating in several Garden Series programs/Enviroscape presentations this school year.

EARTH SCIENCE GROUP

Earthquake Activity: Two (2) earthquakes in August: M1.8, 8/21; and M1.7, 8/26. Both were in the vicinity of Summerville, Dorchester County. No reports of damage.

Special Mentions: Robby Morrow organized and ran the Geologist II interviewing process.

South Carolina Geological Survey Geological Information

STATEMAP: Andy Wykel, Zach Zelaya, Megan James, and Brian Lockerbie scouted borehole locations, hand-auger locations, and OSL sample locations for FY21 STATEMAP in Marion and Horry Counties; 7 hand-auger holes were completed in Marion County to verify map relations. Andy Wykel continued drafting the Centenary, Fork, and Mullins maps (FY20) with advice and assistance from Will Doar; one result is the scarp-toe elevations for the Wicomico and Duplin formations are higher than expected from previous mapping. Robby Morrow working with Zach Zelaya, Jordan Suttles, and Brian Lockerbie completed 5 traverses in the southern half of Edgefield Quadrangle, Edgefield County. Mapping focused on filling data gaps in the southern portion of the quadrangle. Robby Morrow continued drafting the Geologic Map of the southern half of the Edgefield 7.5-Minute Quadrangle, Edgefield County, SC. Katie Luciano and Will Doar requested and received 3 bids for the OSL age-dating project. FY21 STATEMAP was awarded; grant started 9/1. Annual State Mapping Advisory Committee is scheduled for September 23rd.

Other Mapping including Outsource Mapping: Scott Howard gave Dr. Ron Counts' Horry County GPR data to Dr. Scott White, who is evaluating the data for processing.

Earth Mapping Resources Initiative: Brian Lockerbie, Zach Zelaya, and Robby Morrow recollected 12 samples to be processed for geochemistry from Gilbert, Barr Lake, and Steedman Quadrangles, Lexington, and Saluda Counties; initial samples did not contain enough material. Brian Lockerbie and Robby Morrow met with Dave Barbeau, USC, to discuss sample preparation for the U-Pb zircon samples. Brian Lockerbie and Jordan Suttles prepared 25 samples for USC Zircon analysis and 30 samples for SGS mineral analysis. Jordan Suttles and Robby Morrow collected radiometric K, U, and Th data of Earth MRI Sample localities in the Gilbert, Barr Lake, and Steedman quadrangles using USGS gamma ray spectrometer. Katie Luciano and Will Doar met with online with Dr. Anji Shaw (USGS) to review her sand-sample collection strategy for SC that she will use to calibrate her aeroradiometric datasets. Ms. Luciano and Dr. Doar assisted Dr. Shaw by collecting samples from Magnolia Beach, Georgetown County during a SET run. Will Doar and Robby Morrow coauthored a manuscript with Anji Shah, USGS, and Scott Harris, College of Charleston, on correlating radiometric thorium anomalies with heavy mineral sand deposits in the Lower Coastal Plain; it has been accepted by GSA Today and will be published in the next few months.

General: Revisions to FY23budget requests were submitted to business office, and data for the FY20-21 accountability report was provided to the business office. Scott Howard submitted comments from Lance Tully's (USC, Dr. Dave Barbeau, advisor) PhD proposal defense.

Staffing

Darby DeBruhl was hired as a Geologist I to work on the FY21 STATEMAP GeMS project. Senior staff submitted completed EPMS' to Business Office. Interviews for Geologist II began and will be completed after Labor Day. Will Doar assisted AASG Associates in compiling a survey to measure the capabilities of state geological surveys, which will aid in future cooperation. Jacky Steen and Robby Morrow completed a 3-day Outdoor Wilderness First Aid and CPR

training course. Training was provided by National Outdoor Leadership School (NOLS). Brian Lockerbie and Jordan Suttles completed State driving classes. Zach Zelaya started studying for the CDL test.

Drilling Services and Core Repository

No drilling took place in August. The drill rig went into protection mode and repairs to the DEF system are being made. Because of pandemic-related issues parts were on back order; the drill rig should be ready after Labor Day. A drilling support vehicle had its catalytic converter stolen; a report was made with Orangeburg County sheriff's department and repairs have been completed. The drill crew is looking for a more secure area to park field vehicles during work in Orangeburg County. Jacky Steen completed a SCDOT physical to retain his CDL. Jacky Steen made repairs to the geophysical logger truck, an electrical short was located and repaired, two new batteries were installed, and Styx completed paperwork for final property assignment to DNR and tags are being processed. Jacky Steen made repairs to the Core Repo lavatory, repaired foundation issues at back door, and made repairs to yard pavement cracks. Replaced batteries in F350 truck.

Digital Products and the Digital Information Program (DIP).

STATEMAP and Earth MRI: Taylor Turbyfill worked with geologists to remedy quad boundary issues that have been discovered over the past few months; she also updated the GeMS (Geologic Map Schema) for quadrangles with the correct contacts ensuring accuracy of maps and alleviating edge mapping issues. Zach Zelaya matched geologic contacts from old STATEMAP projects to the new and official map quadrangle boundaries with input and assistance from Taylor Turbyfill. Will Doar submitted a comparison and explanation of the SCGS's Nixonville description of map units to the USGS Lexicon to Taylor Turbyfill as part of the GeMS Level-1 compliance. Zach Zelaya, Megan James, and Andy Wykel finalized the Strater template for most coastal plain units.

Other Mapping including Outsource Mapping: Katie Luciano and Darby DeBruhl digitized shorelines from DOQQs for shoreline change project. Zach Zelaya, Brian Lockerbie, and Andy Wykel continued work on the structure contour map of the base of the quaternary for Horry and Georgetown Counties; mapping results will be shared with Josh Long (USGS) and Ashley Long (BOEM). Taylor Turbyfill created KML (Keyhole Markup Language) files for completed quadrangles so that they can be easily viewed in free applications like Google Earth providing the ability to view completed maps in the field.

Data Preservation:

Geologic Map Schema (GeMS): Megan James and Darby DeBruhl worked on the ArcGIS Pro Style for standardizing FGDC-GeMS symbology (specifically, lithologic patterns). A GeMS meeting with USGS (Dave Soller and Evan Thoms) discussed work to date on the style file and how to handle problem symbols; Megan James, Tanner Arrington, Darby DeBruhl, Taylor Turbyfill, Robert Clark, and Scott Howard attended. Darby DeBruhl tested GeMS script tools and made improvements.

General: Andy Wykel, Zach Zelaya, Taylor Turbyfill, and Megan James categorized map-unit colors that will translate to the borehole logs done in Strater and that will stay consistent between maps. Brian Lockerbie worked on the SC geology Story Map, writing descriptions, and adding sources. Robby Morrow, Tanner Arrington, Robert Clark, and Megan James discussed updates to the Piedmont Mapping data collection system. Taylor Turbyfill evaluated Geographic Imager, an Avenza software that pairs with Adobe Photoshop. This software can create map products with techniques like 3D shaded relief and have the potential to expand our inventory of map products.

Coastal Program (Ft. Johnson Satellite Office)

Coastal Vulnerability

Murrells Inlet to Capers Island Coastal Vulnerability Project: Katie Luciano continued digitizing 2020 imagery for Yawkey Nature Center (Georgetown County) – transitioned project from ArcGIS Desktop (ArcMap) to ArcGIS Pro, and digitized 13km of estuarine shoreline.

Surface Elevation Tables-SET

Katie Luciano and Dr. Will Doar measured SET eleven (11) stations and made GPS measurements at ten (10) SET stations. SET GPS data is collected no more than 5 years since the last measurement. Dr. Doar continued working on the SET manuscripts.

USACE-South Atlantic Coastal Study (SACS)

Botany Bay and Pockoy Island Projects

Will Doar and Ms. Luciano cooperating with researchers at Coastal Carolina University (Till Hanebuth) and the College of Charleston (Scott Harris) completed and submitted a proposal overview for a Holocene sea-level curve reconstruction project for LWC-Archaeology; a virtual meeting was held to finalize details for the document.

BOEM – Bureau of Ocean Energy Management

Katie Luciano and Scott Howard met with Tassos Grammatikopoulos (SGS Canada) to discuss a planned publication based on BOEM project mineralogy work.

General and Outreach

General: General information was provided to 20 customers; 4 meteorite ID; 0 gold RFI; 1 sinkhole inquiries; no requests for blue granite. Eight (8) map and publication orders.

Robby Morrow gave a presentation to the Batesburg-Leesville Rotary Club on the geology of the eastern Piedmont and Upper Coastal Plain. Members of the Rotary Club were concerned about recent earthquakes and whether they were related to blasting in the new Vulcan quarry. Mr. Morrow also met with Arthur Northrup, Edgefield Advertiser newspaper, to discuss SCGS's STATEMAP mapping efforts in Edgefield County and the Earth MRI project. Interview published in late August and resulted in a contact giving us permission to trespass property along Steven's and Gundy Creek. Katie Luciano and Will Doar participated in a roundtable meeting organized by the City of Folly Beach to discuss new changes to the Coastal Barrier Resources System (CBRS) in Charleston County with SC Congresswoman Nancy Mace. Dr. Doar and Ms. Luciano met with Chris Marsh, Executive Director of the Spring Island Trust and Lowcountry Institute, to discuss beach erosion on Spring Island and ongoing SCGS coastal projects. Katie Luciano and Will Doar assisted a professor and students from Grand Valley State University with collecting samples, and providing stratigraphic context, from exposures along the Intracoastal Waterway behind Myrtle Beach. The samples will be studied for paleoclimatology research. Dr. Doar addressed questions concerning the stratigraphic interpretations from consultants working with SCDOT on a bridge replacement project in Horry County; and he provided interpretations of Weems' geological map of the Summerville area, how the scarps and terraces were mapped, and the implications for possible tectonic uplift. Jacky Steen, Megan James, and Andy Wykel made a site visit to southern Lexington County to investigate a sinkhole; the hole was on a property about 15 feet away from a house; the hole appeared to be caused by accelerated erosion from rainwater run off after the property was cleared of timber and vegetation. SCDOT Engineer Office, Columbia, made a request for training in South Carolina geology. We are working on an outline to present to SCDOT.

Partnering:

USGS – Earth Surface Processes Team, NCGMP, Energy and Minerals	SCDHEC-OCRM	UGA-Skidaway Oceanographic Institute
USC-School of Earth, Ocean, and Environment	BOEM	MRD-NERR, MRRI
College of Charleston	SCDOT	USC-Civil and Mechanical Engineering
Coastal Carolina University	SGS Canada	

HYDROLOGY

Water Planning

Edisto River Basin Planning: Andy Wachob, Joe Gellici and Scott Harder attended an Edisto River Basin Council (RBC) meeting on August 18th. Priyanka More, Brooke Czwartacki and Alex Pellett attended the meeting virtually. Mr. Harder, Mr. Gellici and Mr. Wachob participated in Planning Team meetings on August 13th and August 27th to plan for the August and September RBC meetings. The Planning Team includes representatives from Clemson University, CDM Smith, Inc, SCDNR, the South Carolina Department of Health and Environmental Control (SCDHEC) and the United States Geological Survey (USGS). Mr. Harder periodically coordinated with the Planning Team members to prepare for the meetings and set the agendas.

Mr. Harder met with CDM Smith, Inc., The Nature Conservancy, and Clemson University to discuss the results of the South Carolina biologic flow study and its applicability to the Edisto River basin planning process.

Mr. Gellici began preparing a presentation on methods used to assess groundwater availability for the September RBC meeting. Mr. Harder, Mr. Gellici and Mr. Wachob met to discuss the presentation.

Broad River Basin Planning: Mr. Harder, Mr. Gellici and Mr. Wachob met with South Carolina Water Resource Center (SCWRC) staff on August 30th to continue preparing for river basin planning in the Broad basin. Mr. Harder began researching potential venues for hosting two public meetings scheduled for October 2021. Mr. Harder also began preparing meeting agendas, press releases, stakeholder informational letters, and website updates regarding the public meetings.

Savannah River Basin Planning: Mr. Harder met with Ken Rentiers, a contractor from Hazen and Sawyer, and several staff from the Georgia Environmental Protection Division to discuss regional water planning activities in Georgia's portion of the Savannah basin.

Surface Water Program

Surface Water Modeling: Ms. More completed a final review of the updated Saluda and Broad basin SWAM models sent by CDM Smith, Inc. and requested some additional edits.

Water-Demand Projections:

Drought Monitoring: Ms. More continued to prepare weekly drought status updates for streamflow, lake levels and groundwater levels for publication on the State drought website.

Ms. More continues to work on a process to automatically download monthly lake level data from the Duke Energy website for use in the monthly water summaries prepared by the Climate Office. Ms. More met with Climate Office staff on August 25th to discuss the monthly summaries, and Ms. More agreed to contribute to the writing of the reports.

Mr. Pellett continued to develop a groundwater monitoring app by testing different methods for interpolating water-level contours.

Streamflow Monitoring: Mr. Harder met with the USGS and SCDHEC to discuss a low flow study proposed by the USGS for South Carolina and North Carolina and to finalize the scope of work. Work is schedule to commence in the spring of 2022.

R-Program Training: Mr. Pellett continued to meet with Ms. More periodically for R-program training. A quality control of the individual tables and inter-tables in the SCDHEC water-use database was completed. Ms. More worked on applying the quality control process for new datasets. The goal is to apply this R-package on every updated SCDHEC database and compare the new dataset to the older version to keep track of changes in their dataset. Ms. More also is working on additional R-code to improve the overall process.

Outreach and Other Work

Mr. Harder responded to three public requests for information regarding surface water resources. Mr. Harder also met with a professor from Clemson University to discuss water resource monitoring equipment developed by Clemson and their potential use by the agency.

Ms. More and Mr. Pellett attended a GIS webinar hosted by Tanner Arrington on August 11th.

Groundwater Program

Groundwater Modeling

Ms. More provided a final set of SWB recharge rates for 2016 through 2020 derived from the Soil-Water-Balance (SWB) model to the USGS for use in the Coastal Plain groundwater flow model. Ms. More also completed calculation of recharge rates for the years 1979 through 2020 using the newer version of the SWB model. Mr. Pellett developed tests to ensure the SCDHEC water use data is acceptable for use as input to the GW model and formatted the most recent SCDHEC water use data and SCDNR water-demand projections for use as input to the groundwater flow model. Mr. Pellett modified the high-demand scenario projections for use in the groundwater model by removing the high-impact factors but keeping the high driver projections. The USGS began using the groundwater model to evaluate various water-use scenarios for the Edisto Basin water planning and will present results from several model runs at the September 15th Edisto RBC meeting.

Groundwater Monitoring Network

Josh Williams downloaded water-level data and recorded manual measurements from 16 wells in Aiken, Barnwell, Allendale, Dillon, Florence, Lexington, Marion, and Sumter Counties (Regions 2 and 3) and processed recently uploaded water-level data from 36 wells.

Mrs. Czwartacki prepared a Memorandum of Agreement with the Town of Hemingway (Williamsburg County, Region 2) allowing SCDNR to convert a recently drilled but unused public-supply well into a water-level monitoring well as part of the SCDNR network.

Mr. Wachob produced an updated map of the SCDNR groundwater monitoring network.

Saltwater Intrusion

Mrs. Czwartacki identified additional wells in Horry and Georgetown Counties (Region 4) open to the Crouch Branch and McQueen Branch aquifers for sampling. Three wells in Georgetown County and one well in Charleston County (Gordon aquifer) were sampled, and the water samples were delivered to Trident Labs Services for chemical analysis.

Geophysical Logging

Mr. Williams tested the recently repaired geophysical logging equipment and the recently purchased multi-parameter logging tool to ensure the logging system is fully operational. Mr. Williams also initiated repairs to two doors on the logging van.

Outreach and Other Work

Hydrology staff provided hydrologic and water-well information or other technical assistance to 5 groundwater customers. Mrs. Czwartacki attended the monthly IRT meeting via WebEx on August 4th and attended IRT training via

WebEx on August 6th. Mrs. Czwartacki reviewed and submitted comments to the Office of Environmental Programs regarding hydrology and model use for mitigation banks located in Marion County (Region 2) and Berkeley County (Region 4). Mr. Wachob began updating the electronic database of Coastal Plain well records, and Mr. Gellici began developing content describing South Carolina's hydrogeologic framework for part of the Hydrology Section's web site. Mr. Wachob and Mr. Gellici participated in a Western Capacity Use Stakeholder Workgroup meeting hosted by SCDHEC on August 9th.

FLOOD MITIGATION

All the Flood Mitigation Program staff continue to assisting communities with post disaster requirements pertaining to the October 2015 flood event, Hurricane Matthew, Hurricane Irma, Hurricane Florence, Hurricane Dorian, February 2020 flood event, April 2020 tornado outbreak, May 2020 riot damage, May 2020 flooding, Hurricane Isaias, Hurricane Sally, and the February 2021 flooding. The staff responded to 40 technical assistance requests. Laura Whittle has accepted the position of NFIP Specialist and Jessica Artz accepted the position of Mapping Specialist. Jessica and Laura conducted a CAV (8/11) and a CAC-T (8/17). Jessica provided assistance regarding the FMA grant program in regard to scope of work changes, quarterly reports, questions from sub-applicants and fielded questions from potential new applicants. Jessica attended the SCAHM conference committee call (8/25) and Monthly FEMA mitigation coordination call (8/12). Jessica attended training on Risk Rating 2.0 (8/12), FMA and BRIC RFIs and next steps (8/12) and FMA NOFO (8/19). Jessica and Laura conducted How to Do a Substantial Damage Assessment (8/24). Jessica and Maria attended the Monthly FEMA Mapping Status Call (8/17). Maria also taught the training: Flood Recovery and the NFIP (8/26). She also taught a portion of the training: Understanding Hurricane Hazards and Resulting Damages in SC (8/11). Maria is also working on the HMGP grant that is building the SC Flood IMPACT website. Maria is the Co-Chair of the Association of State Floodplain Managers Mapping and Engineering Policy Committee. As part of this committee Maria has been providing comments on FEMA's updates to the mapping guidance. Laura is studying for the CFM exam, reviewing Guidance for Conducting Community Assistance Contacts and Community Assistance Visits manual, updated the local Floodplain Managers contact list, scanning/filing annexations, LOMAs and LOMRs, and conducted the registration for 3 classes.

Handouts and Presentations