

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
June 16, 2022 10:00 am

Agenda

AGENDA

SC DEPARTMENT OF NATURAL RESOURCES BOARD

Rembert C. Dennis Building, RM 335
1000 Assembly Street
Columbia, SC
June 16, 2022 10:00 am

- I. Call to Order..... Norman Pulliam, Chairman, SC DNR Board
- II. Invocation
- III. Pledge of Allegiance..... Mike Hutchins, Vice Chairman, SC DNR Board
- IV. Chairman's Comments
- V. Introduction of Guests Angie Cassella, Deputy Director for Administration
- VI. Constituent Comments (Comments are limited to 5 minutes) Angie Cassella
- VII. Introduction of Staff
- VIII. Approval of Minutes from May 19, 2022 meeting
- IX. Presentations/Commendations
- X. Director's Briefings Robert H. Boyles, Jr., Director
- XI. Advisory Committee Reports
Wildlife and Freshwater Fisheries..... Mike Hutchins, Chairman
- XII. Item(s) for Board Information
 - A. Climate Update..... Hope Mizzell, Land, Water and Conservation Division
 - B. Botany and Plant Conservation Program..... Keith Bradley
Land, Water and Conservation Division
 - C. Personnel Item – Director Annual Review Eva Smith, Director, Human Resources
- XIII. Legislative Report Kevin R. Ryan, Director, Government Affairs
- XIV. Environmental Report..... Lorianne Riggin, Director, Office of Environmental Programs
- XV. Deputy Directors' Reports
 - A. Administration..... Angie Cassella
 - B. Land, Water and Conservation Ken Rentiers
 - C. Wildlife and Freshwater Fisheries..... Emily Cope
 - D. Law Enforcement COL Chisolm Frampton
 - E. Marine Resources Blaik Keppler
- XVI. Item(s) for Board Action
 - A. Contribution to Ducks Unlimited Canada Emily Cope
Deputy Director for Wildlife and Freshwater Fisheries
 - B. Approval of FY 23 Duck Stamp Budget Emily Cope

C. Use of Wildlife Endowment Fund.....Angie Cassella

D. Patriots Point Conservation Easement Proposal Ken Prosser
Assistant Deputy Director, Wildlife and Freshwater Fisheries

E. Marine Advisory Committee AppointmentsBlaik Keppler
Deputy Director for Marine Resources

XVII. Comments..... Board Members

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

XIX. Adjournment

Minutes

Minutes
Board of the South Carolina Department of Natural Resources
Rembert C. Dennis Building, RM 335
1000 Assembly Street
Columbia, SC
May 19, 2022 10:00 AM

The regular meeting of the Board of the South Carolina Department of Natural Resources was held at 10:00 a.m., May 19, 2022, in room 335 of the Rembert C. Dennis Building, 1000 Assembly Street, Columbia, SC. 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 (via telephone), 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**
Director Boyles offered the invocation.
- III. **Pledge of Allegiance**
Mr. Hutchins led the group in the Pledge of Allegiance.
- IV. **Introduction of Guests**
Blaik Keppler, Deputy Director for Marine Resources, introduced Ernie Wiggers and Travis Folk.
- V. **Constituent Comments**
Mrs. Keppler informed the Board that Mr. Wiggers and Mr. Folk have requested to make comments to the Board. All comments were regarding the Urban/Suburban Deer Management Program.
- VI. **Approval of Minutes**
Chairman Pulliam asked if there were any additions, deletions or corrections to the minutes of the March 25, 2022 Board meeting and April 21, 2022 Board workshop. *Mr. Hutchins made a motion that the Board approve the minutes of the March 25, 2022 Board meeting and April 21, 2022 Board workshop, as presented. Dr. Hartley seconded the motion and the motion carried unanimously.*
- VII. **Presentations/Commendations**
Director Boyles commended the 2021 Division Employees of the Year: Administration: Kim Joyner; Land, Water and Conservation: Brooke Czwartacki; Law Enforcement: Laken Williams; Executive: Chelsea McClain; Marine Resources: Fred Dockery, and Wildlife and Freshwater Fisheries: Jim Lee. The overall 2021 Employee of the Year is Land, Water and Conservation's Brooke Czwartacki.

Director Boyles commended the following staff on the Brandt transition team and involved with implementation of our Go Outdoors South Carolina app included with the new license system:

Julie Jarrett, Lara Backman, Mark Litz, Stephen Robinson, Deborah Green, QA/QC staff, Patty Epley, Brian Johnson, systems/network staff, Tejas Patel, database/programming staff, Holly Stevens, Help Desk staff, Angel Brown, Jay Butfiloski, Emily Kearse, Jay Cantrell, Charles Ruth, CPT Lee Ellis, LT Pat Rivers, Amanda Stroud, Kristin Coulter, Scott Speares, Donna Maples and Michelle Burks.

Director Boyles commended Division of Administration Procurement staff and Division Business Managers for years of continuous improvement with State Procurement as evidenced by our 40 years of membership in the National Institute of Governmental Purchasing (NIGP).

Director Boyles commended Joe Lemeris, GIS/Data Manager, Natural Heritage Program, Wildlife & Freshwater Fisheries on his selection to serve as the NatureServe US Section Council SE Representative.

Director Boyles commended Lorianne Riggin of the Executive Office/Environmental Programs and Felicia Sanders of Wildlife and Freshwater Fisheries and staff on their coordination of the Welcome Back the Birds Celebration and Ribbon Cutting ceremony with Governor Henry McMaster, Congresswoman Nancy Mace and DNR Board Member Dr. Mark Hartley in attendance on April 5 at Alhambra Hall in Mount Pleasant.

Director Boyles commended Dr. Marcel Reichert and Marine Division staff for their efforts involved as the Reef fish survey celebrates 50 years of marine research that started in 1972.

Director Boyles commended Law Enforcement Lt. Colonel Jamie Landrum on his selection to participate in the Furman University, Riley Institute's Diversity Leaders Initiative (DLI) for the upstate.

Director Boyles commended Law Enforcement 1st SGT L. Dwayne Rogers II and the Dive Team for their efforts in supporting a grieving family following the loss of their son in a drowning event.

Director Boyles commended Law Enforcement 1st SGT Adrian Priester on his efforts assisting a homeowner following a tornado that touched down in Allendale County.

Director Boyles commended Brooke Myres for her work with the recently held Envirothon competition. Director Boyles announced that Spartanburg High School placed first in the State Competition.

VIII. Director's Briefings

Director Boyles informed the Board that he will be traveling May 31 through June 3, 2022 to Canada to review US states' investments in Canadian waterfowl habitat. This trip has been put together by the Association of Fish and Wildlife Agencies and Ducks Unlimited Canada.

Director Boyles reminded the Board with the passage of Act 147, there is a Board member appointment necessary for the Waterfowl Advisory Committee.

Director Boyles mentioned that the Yawkey Foundation Trustees will be in South Carolina for the dedication of the Blackout Tract on South Island on June 13.

Director Boyles reported that staff are continuing to work with the landlord and architect for the new headquarters building.

IX. Advisory Committee Reports

A. Law Enforcement

Chairman Pulliam reported that the Law Enforcement Advisory Committee met March 29-30, 2022 at the Wampee Conference Center in Pinopolis. COL Chisolm Frampton, Deputy Director for Law Enforcement, reported that the Advisory Committee received a presentation on Region 4 activities. The Advisory Committee received updates on budget issues and legislative issues.

B. Marine Resources

Mrs. Keppler reported that the Marine Resources Advisory Committee met April 1, 2022 in Charleston. The Advisory Committee received presentations on Red Drum: Science and Management in South Carolina and Red Drum Angler Outreach Goals. The Advisory Committee received an overview of the MRRRI Coastal Research Section's Reef Fish Survey and Coastal Trawl Survey.

C. Saltwater Recreational Fisheries

Mrs. Keppler reported that the Saltwater Recreational Fisheries Advisory Committee met virtually on May 3, 2022. The Advisory Committee reviewed and approved the program proposals for FY 2023.

D. Heritage Trust

Mr. Rasor reported that the Heritage Trust Advisory Board met May 12, 2022 in the classroom at Styx compound in West Columbia. The Advisory Board received a presentation on the Botany and Plant Conservation Program and approved three property acquisitions that will be brought before the Board later in the meeting.

X. Items for Board Information

A. Climate Update

Hope Mizzell, Land, Water and Conservation Division, reported on the 2022 hurricane season forecast. Dr. Mizzell provided an update of drought conditions in the state. Dr. Mizzell provided rainfall totals, precipitation percentiles, streamflow, lake levels, groundwater monitoring wells around the state, precipitation forecast and temperature forecast.

B. Audit Update

Caleb-Scott Cohoon, Audits Manager, distributed and reviewed the Review of Mitigation Trust Fund Procedures and Transactions for the Bannister Tract.

C. Budget Update

Director Boyles reviewed the FY 2022-2023 Budget Requests that has been provided each Board member. Director Boyles noted that some of the items will be taken up by the Conference Committee.

XI. Legislative Report

Kevin Ryan, Director of Government Affairs, distributed and reviewed the Bill Tracking Report. Mr. Ryan reported that the Conference Committee is scheduled to meet on June 13 and 14, 2022. Mr. Ryan reviewed the status of S 2 – DHEC Restructuring, S 108 – former LiDAR Mapping, H 3055 – former Oversight: Cleanup – updating names and technical changes, H 3291 – Trespass: Marking Boundaries with purple paint, H 4177 – Waterfowl Program Manager, Advisory Committee, and Permit Fees and H 4986 – Prohibit Crab Traps in the General Trawl Zone and Furbearer Trapping Seasons.

XII. Environmental Report

Nothing further to report.

XIII. Deputy Directors' Reports

A. Marine Resources

Mrs. Keppler informed the Board that the Ft. Johnson/May Forest Master Plan Public Meeting will be held tonight at 5:00 pm.

B. Administration

Nothing further to report.

C. Land, Water and Conservation

Ken Rentiers, Deputy Director for Land, Water and Conservation, commended Brooke Myres for her efforts with the Envirothon and the Conservation Districts Annual Report.

D. Wildlife and Freshwater Fisheries

Emily Cope, Deputy Director for Wildlife and Freshwater Fisheries, distributed and reviewed the 2022 turkey season harvest report.

E. Law Enforcement

Nothing further to report.

XIV. Item(s) for Board Action

A. Heritage Preserve Tracts to be Committed to the Corpus of the Heritage Trust

1. Bennett's Bay HP – TNC Tracts I and II
2. Bunched Arrowhead HP – TNC II Tract
3. Cartwheel Bay HP
4. Deveaux Bank HP
5. Little Pee Dee River HP – Dargan Tract, Dargan III Tract, and Ward Tract
6. Savage Bay HP– Douglas / Rogers Tracts (3), Rodgers Tract, McPhatter Tract, and Trivett Tract
7. Stevens Creek HP – Majors Tract
8. Woods Bay HP – Anderson Tract

Ken Prosser, Assistant Deputy Director for Wildlife and Freshwater Fisheries, reviewed the Heritage Preserve Tracts to be Committed to the Corpus of the Heritage Trust, as included in the meeting packet.

Mr. Lee made a motion that the DNR Board accept the recommendation as approved by the Heritage Trust Advisory Board and commit the following tracts to the corpus of the SC Heritage Trust:

1. *Bennett's Bay HP- TNC Tracts I and II*
2. *Bunched Arrowhead HP - TNC II Tract*
3. *Cartwheel Bay HP*
4. *Deveaux Bank*
5. *Little Pee Dee HP- Dargan Tract, Dargan III Tract, and Ward Tract*
6. *Savage Bay HP- Douglas/Rogers Tracts (3), Rodgers Tract, McPhatter Tract, and Trivett Tract*
7. *Stevens Creek HP- Majors Tract*
8. *Woods Bay HP - Anderson Tract*

Mr. Rasor seconded the motion and the motion carried unanimously.

B. Tracts to be Dedicated as Heritage Preserves and Committed to the Corpus of the Heritage Trust

1. Cathedral Bay HP
2. Chandler HP – Coggin's Tract
3. Congaree Creek HP – SCANA (3 acre) and SCANA (14 acre)
4. Fort Lamar HP
5. Laurel Fork HP - Chinquapin Hollow Tract
6. Lewis Ocean Bay HP - Tiger Bay Tract and Tilly Swamp Tract
7. Little Pee Dee River HP - Tilghman II Tract
8. Peters Creek HP - Hough / Rogers Tract
9. Stoney Creek Battery HP
10. Victoria Bluff HP - Beaufort County Tract
11. Woods Bay HP – Travelers Insurance Tract

Mr. Prosser reviewed the Tracts to be Dedicated as Heritage Preserves and Committed to the Corpus of the Heritage Trust, as included in the meeting packet.

Mr. Rasor made a motion that the DNR Board accept the recommendation as approved by the Heritage Trust Advisory Board and dedicate the following tracts as heritage preserves and commit them to the corpus of the SC Heritage Trust:

1. *Cathedral Bay HP*
2. *Chandler HP- Coggins Tract*
3. *Congaree Creek HP- SCANA Tracts*
4. *Fort Lamar HP*
5. *Laurel Fork HP- Chinquapin Hollow Tract*
6. *Lewis Ocean Bay HP - Tiger Bay Tract and Tilly Swamp Tract*
7. *Little Pee Dee HP - Tilghman II Tract*
8. *Peters Creek HP- Hough/Rogers Tract*
9. *Stoney Creek Battery HP*
10. *Victoria Bluff HP- Beaufort County Tract*
11. *Woods Bay HP - Traveler's Insurance Tract*

that has been provided each Board member. *Mr. Hutchins seconded the motion and the motion carried unanimously.*

C. Approval of Comprehensive Permanent Improvement Plan

Angie Cassella, Deputy Director for Administration, reviewed the 2022 Comprehensive Permanent Improvement Plan that that has been provided each Board member. *Dr. Hartley made a motion that the DNR Board approve the 2022 Comprehensive Permanent Improvement Plan as submitted but also allowing for staff to make minor technical corrections as needed. Mr. Swygert seconded the motion and the motion carried unanimously.*

D. Telecommuting Policy

Eva Smith, Director of Human Resources, briefly reviewed the Telecommuting Policy, as included in the meeting packet. *Mr. Hutchins made a motion that the DNR Board approve the Telecommuting Policy as recommended by staff. Dr. Hartley seconded the motion and the motion carried unanimously.*

E. Request to Release Funds from Mitigation Trust Fund for the Carolina Heelsplitter Management Project

Lynn Quattro, Wildlife and Freshwater Fisheries Division, reviewed the Request to Release Funds from Mitigation Trust Fund for the Carolina Heelsplitter Management Project that has been provided each Board member. Mrs. Quattro noted that this information replaces what was included in the meeting packet. *Mr. Rasor made a motion that the DNR Board acting as the Board of Trustees for the Mitigation Trust Fund, pursuant to S.C. Code Section 50-1-310, authorize the use of \$350,000 from the Haile Gold Mine Mitigation – Mussel Conservation sub-fund as requested by staff for the purpose of conducting Carolina heelsplitter management and restoration including propagation, habitat restoration, habitat protection and species status surveys, as well as to assist in the construction of a freshwater mussel propagation building. Mr. Lee seconded the motion and the motion carried unanimously.*

F. Request to Release Funds from Mitigation Trust Fund for the Hartwell Fish Habitat Project

Ross Self, Wildlife and Freshwater Fisheries Division, reviewed the Request to Release Funds from Mitigation Trust Fund for the Hartwell Fish Habitat Project, as included in the meeting packet. *Mr. Hutchins made a motion that the DNR Board acting as the Board of Trustees for the Mitigation Trust Fund, pursuant to S.C. Code Section 50-1-310, authorize the use of \$330,000 from the Lake Hartwell Fish Habitat Enhancement sub-account to support ongoing operations of the Lake Hartwell Habitat Enhancement Project. Mr. Swygert seconded the motion and the motion carried unanimously.*

G. Request to Approve a Donation of Equipment from the Recreational Boating and Fishing Foundation

Mr. Self reviewed the Request to Approve a Donation of Equipment from the Recreational Boating and Fishing Foundation, as included in the meeting packet. *Mr. Hutchins made a motion that the DNR Board accept the donation of a Mobile First Catch Center trailer from Recreational Boating and Fishing Foundation to be*

used to support youth and beginner fishing events in South Carolina. Dr. Hartley seconded the motion and the motion carried unanimously.

H. Urban/Suburban Deer Management Program

The Board had a lengthy discussion about the Urban/Suburban Deer Management Program including comments received from constituents. Mr. Hutchins made a motion that DNR staff continue to manage the Urban/Suburban Deer Management Program as they have so long as a permit does not exceed 80 deer per permit cycle. In the event a property needs to remove more than 80 deer in any given cycle, staff will need to seek Board approval. Mr. Oxner seconded the motion and the motion carried unanimously.

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 discuss contractual matters and legal advice related to Item(s) for Board Action I, J and K and SC Code Section 30-4-70(A)(1) to discuss appointments related to Item(s) for Board Action L. Mr. Lee 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. Hutchins seconded the motion and the motion carried unanimously.

XVII. Item(s) for Board Action

H. Urban/Suburban Deer Management Program

Mr. Lee made a motion that staff modify the existing Urban/Suburban Deer Management Program to provide an alternative for deer relocation in addition to sharpshooting permits. All burdens and costs of any relocation efforts must be covered by the requesting community and any deer relocated as part of such effort must be released on Wildlife Management Areas approved by the Department. In the event Chronic Wasting Disease is documented in South Carolina or near its border, this option will be removed immediately. Mr. Oxner seconded the motion and the motion carried unanimously.

I. Property Acquisition in Horry County

Mr. Razor made a motion that the DNR Board accept the recommendation from the Heritage Trust Advisory Board, subject to standard due diligence, and grant final approval of the acquisition of approximately 418 acres adjoining Cartwheel Bay Heritage Preserve/WMA in Horry County that will be dedicated as a heritage preserve and placed into the corpus of the SC Heritage Trust, and the expenditure of \$610,000 in Heritage Trust funds for the purchase. Dr. Hartley seconded the motion and the motion carried unanimously.

J. Land Trade in Oconee County

Mr. Razor made a motion that the DNR Board accept the recommendation from the Heritage Trust Advisory Board, subject to standard due diligence, and grant final approval to trade 1.27 acres of SCDNR land at Stumphouse Mountain for 1.27 acres of privately-owned adjoining land. The 1.27-acre parcel obtained by

SCDNR will be dedicated as a heritage preserve and placed into the corpus of the SC Heritage Trust. Mr. Hutchins seconded the motion and the motion carried unanimously.

K. Potential Property Acquisition in Aiken County

Mr. Rasor made a motion that the DNR Board accept the recommendation from the Heritage Trust Advisory Board and grant preliminary approval to evaluate a potential property acquisition of approximately 2,304 acres in Aiken 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. Swygert seconded the motion and the motion carried unanimously.

L. Law Enforcement Advisory Committee Reappointments

Mr. Hutchins made a motion that the DNR Board reappoint the following Law Enforcement Advisory Committee members to their 3^d four-year term, as requested by LEAC Chairman, Foster McKissick.

Nickey Maxey, Bluffton – term: 7/1/21-6/30/25

Dwight Frierson, Orangeburg – term: 7/1/21 – 6/30/25

Mr. Oxner seconded the motion. The motion passed with Mr. Hutchins, Mr. Lee, Mr. Oxner and Mr. Rasor voting in favor of the motion and Dr. Hartley and Mr. Swygert voting against the motion.

Chairman Pulliam appointed Jerry Lee to serve on the Waterfowl Advisory Committee, as outlined in Act 147.

XVIII. Time and Location of Next Board Meeting

The Board's next meeting will be June 16, 2022 in Columbia.

XVI. Adjournment

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

Item(s) for Action

Duck Stamp Budget Requests FY23-Staff Recommendations

Description of Request	Amount
Statewide Wood Duck Box Project	\$110,000.00
Wood Duck Nest Box Recruitment Project, year 4 (per year for 3-5 years)	\$30,000.00
Development of Waterfowl Abundance and Habitat Quality Surveys	\$30,000.00
Migration Ecology and Demographics of E. Mallards (year 2 of 4)	\$6,000.00
Beaverdam WMA Renovation, NAWCA Match	\$68,563.00
Atlantic Flyway Council Banding Assessment and Dues	\$11,500.00

Habitat Mangement: Plantings, Maintenance, & Structures

<i>PIEDMONT HABITAT MGMT</i>	
Region I	
Beaverdam	\$15,500.00
Clemson	\$6,000.00
Russell Creek	\$41,700.00
Tyger River and Duncan Creek	\$6,000.00
Region II	
Broad River	\$10,500.00

Region III	
<i>MIDLANDS HABITAT MGMT --Enoree River</i>	\$10,000.00

<i>CONTROL OF UNDESIRABLE VEG</i>	
Hickory Top (Spraying, Year 2 of 3)	\$30,000.00
Santee Cooper WMA, Potato Creek (Spraying)	\$10,000.00

<i>COASTAL HABITAT MGMT</i>	
Planting, fertilizer (Donnelley, Bear Island)	\$15,000.00

Total Request for FY23	\$400,763.00
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AVAILABLE to budget (As of 4/8/2022)	\$535,559.00
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BALANCE	\$134,796.00
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Requested by Staff in FY22	\$353,563.00
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WILDLIFE ENDOWMENT FUND

The Natural Resources Board, acting in its capacity as the Board of Trustees for the Wildlife Endowment Fund of the Department of Natural Resources, in accordance with Section 50-3-750 of the 1976 SC Code of Laws as amended, and in finding these uses are furthering the conservation of wildlife resources and the efficient operation of the Department does hereby authorize the following:

For the purpose of funding personal services (*i.e.* - salaries and wages), employer contributions (*i.e.* - health insurance, taxes, etc.) and other operating expenditures of the Hunting and Fishing License Section and other operating expenditures of the Marine Resources Operations Office, an amount not to exceed three hundred five thousand dollars (\$305,000) of the income received and accruing from investments of the Wildlife Endowment Fund, may be expended during Fiscal Year 2022-2023.

Approved this 16th day of June 2022.
On behalf of the Board of Trustees.

Norman F. Pulliam
Chairman, Board of Trustees

Environmental Report



Office of Environmental Programs DNR Board Briefing – June 16, 2022

The following document highlights 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.**

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. **The USACE issued the permit for the project on May 12, 2022.** DNR project manager: Maggie Jamison

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 Environmental Impact Statement (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. In September 2017, NCDOT decided to utilize federal funds for this project and withdrew the Notice of Intent (NOI) to notify that they would be issuing a DEIS on the project. The Federal Highway Administration (FHWA) became the lead federal agency for the project. 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 at which point seven of eleven preliminary corridors (1, 1A, 2, 4, 4A, 7 and 8) were identified for detailed study. On October 7, 2021, a NOI to prepare an Environmental Impact Statement was public noticed by the FHWA. The study area continues to encompass parts of the WRHP and three of the alternatives (1, 1A and 2) directly impact tributaries downstream of the WRHP; staff provided comment on the NOI Nov 4, 2021, continuing to recommend these alternatives are eliminated. On Oct 18, 2021, a Concurrence 2A meeting was held; the objective of this meeting was to discuss proposed hydraulic structures for all potential alternatives. Following this meeting, staff reviewed additional information including the proposed structures and meeting notes to further provide feedback, comments dated October 26, 2021, on the preferred stream crossing structures to minimize impacts to natural resources. DNR comments to minimize wetlands to the greatest extent and to utilize bridges and arched/bottomless culverts were included in the 2A concurrence documents and DNR signed this concurrence document Dec 21, 2021. The finalized 2A concurrence with all agency signatures was received on February 7, 2022. **The Draft EIS approval and publication is expected to be published summer 2022.** DNR project manager: Maggie Jamison

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. PEL program public comment period ends Dec 1, 2021. **At the May 12, 2022 monthly DOT Agency Coordination Effort meeting, DOT informed the agencies**

that modifications at the Longpoint Road intersections will be needed and alternatives provided. DNR project manager: Maggie Jamison

a draft FEIS, ROD and final Section 4(f) Evaluation for this project. The DNR provided no additional comments or concerns regarding this document. Comments from the FHWA on the FEIS are currently under review and will be shared with the interagency team in summer 2022. DNR project manager: Maggie Jamison

Main Road Corridor Improvements Segment A, SAC-2020-00284, Charleston County. The proposed work will consist of constructing a new interchange at US 17 and Main Road, widening Main Road from US 17 to Bees Ferry Road, extending the West Ashley Greenway to Bees Ferry Road, constructing a shared-use path and bridge for pedestrians and bicyclists west of the existing Main Road bridge over the Stono River (the Limehouse Bridge), and reconfiguring the River Road/Chisolm Road intersection. The project additionally includes drainage improvements, including culvert/pipe replacements, to reduce occurrences and severity of roadway flooding and accommodate rising tides and a future sea level rise of 2 feet. The proposed facility includes a bridge that would span the Atlantic Intracoastal Waterway, AIWW, which is a Federal project and Federal navigation channel. The project will result in impacts to 9.84 acres and 135 linear feet of waters of the United States; including freshwater wetlands, open water, tidal wetland, and tidal creeks. **This project is the first segment of three proposed segments for the project. SCDNR staff provided comment on May 26, 2022.**

DNR project manager: Maggie Jamison

Main Road Corridor Improvements Segment C Alternative Analysis, Charleston County

The proposed project includes funding to improve Main Road in the 2016 Transportation Sales Tax ordinance. At that time, the ordinance listed the project as the US 17 at Main Road flyover and widening Main Road from Bees Ferry Road to Betsy Kerrison Parkway. To expedite improvements, the County has separated the project into three segments: Segment A, Segment B, and Segment C. Segment C includes the intersection of Bohicket Road and Maybank Highway and extends to Betsy Kerrison Parkway. There are six proposed alternatives including widening River Road and Bohicket Road, as well as constructing a new road across the island. The purpose of the proposed project is to enhance traffic operations by reducing congestion and increasing capacity on Main Road/ Bohicket Road from Maybank Highway to Betsy Kerrison Parkway. The secondary purpose of the proposed project is to provide opportunities for cyclists and pedestrians to safely travel through the project area. SCDNR staff submitted comment to Charleston County May 27, 2022. This project has not been public noticed; however, SCDNR staff participated early in the review process so that environmental concerns could be considered as they develop alternatives. DNR project manager: Maggie Jamison

Soilutions, LLC - Edge Road Mine, Horry County I-002375

The proposed project involves a proposed fill dirt mine in Horry County, SC that previously requested coverage under the NPDES General Permit for Discharges Associated with Nonmetal Mineral Mines (**SCG731593**) and General Mining Permit. 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 federally At-Risk species (ARS) and a SWAP species of high conservation priority. The project also had 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 drier 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 as noted in a Threatened and Endangered Species Assessment conducted on the property. Given the presence of this protected species on the project site, the DNR questioned the use and applicability of the General Mining Permit due to language regarding that mining projects under the GP should only be used if environmentally sensitive habitats or threatened or endangered species were not present. After further discussion with DHEC Mining staff, DNR agreed on September 9, 2021 that the project could move forward under the GP as long as 1) silt fencing was installed around the project area in the winter when herpetofauna would be dormant; 2) a monitoring plan was established to walk the perimeter of the silt fence daily the week prior to construction beginning to ensure any herps within the project footprint along the fencing would be moved outside the project area prior to any work taking place and then increasing that monitoring to weekly once construction began. Additionally, DNR requested further clarification be considered in future renewals of the Mining GP regarding the language for the use of the GP when environmentally sensitive habitats or threatened or endangered species were present.

During this process, it was discovered that the General Coastal Zone Consistency on the Mining General Permit had expired. The Edge Road Mine project was told to cease any construction activities until this GCZC was issued. However, on February 15, 2022 an Individual Mining Permit for this project was put on public notice with a larger and deeper mining footprint than before. DNR staff have reviewed the potential impacts of the mine to natural resources as well as to the adjacent Lewis Ocean Bay Heritage Preserve and a letter was submitted on the project to include recommendations to decrease the mine depth and size and increase wetland buffer widths, as well as recommending a hydrogeologic assessment to determine potential impact of mining operation on adjacent wetlands on LOBHP. **This project has also drawn attention from others in the conservation community because of its adjacency to LOBHP; therefore, DHEC has scheduled a public hearing for the project June 30, 2022.** DNR project manager: Maggie Jamison

Hydroelectric Energy Projects

Under the Federal Energy Regulatory Commission's (FERC or Commission) 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

Bad Creek Pumped Storage (FERC Project 2740). The licensee, Duke Energy Carolinas, Inc., filed a Notice of Application and Pre-Application Document (PAD) with the Commission on February 23, 2022. The licensee is currently assessing the feasibility of adding an additional powerhouse at the Bad Creek Project. SCDNR staff are reviewing the PAD anticipating the Commission's Scoping Documents. **Staff attended a relicensing stakeholder meeting hosted by Duke Energy in Greenville, SC on May 31, 2022. Since the licensee has chosen to use the Integrated Licensing Process, comments will be jointly submitted by SCDNR staff on the PAD and Scoping Document. Comments will be submitted by the June 23, 2022 deadline.**

Upper Pelzer (FERC Project No. 10254), Lower Pelzer (FERC Project No. 10253), and Piedmont (FERC Project No. 2428) hydroelectric projects. Enel Green Power North America, Inc. was granted approval by FERC on April 5, 2013 to begin a relicensing process for these 3 run-of-river hydro projects located on the Saluda River in Greenville and Anderson counties. Three Final License Applications were submitted to FERC by Enel in late November and December, and DNR staff reviewed the documents and submitted comments to FERC on January 28 and February 17, 2016, recommending additional studies to address information needs for these projects. DNR also submitted comments and recommendations to DHEC regarding Enel's applications for 401 Water Quality Certification for these three projects. FERC

issued a Ready for Environmental Analysis notice in November 2017 and is developing its Draft Environmental Assessment for the three projects. In January 2018, DNR submitted recommendations to FERC on licensing measures for protection, mitigation and enhancement of fish and wildlife resources affected by the Projects. FERC issued a Draft Environmental Assessment (DEA) on the three projects on July 16, 2019. DNR submitted comments to the Commission regarding their findings and recommendations in the DEA on August 30, 2019. The FERC reviewed DNR's comments and did not adopt any of DNR's 10j recommendations in the Final Environmental Assessment issued in October 2013. 10j under the Federal Power Act requires consideration of recommendations by fish and wildlife agencies for the protection, mitigation of damages to, and enhancement of fish and wildlife affected by the development, operation and management of a FERC project. The Piedmont Project license was issued on April 15, 2020. The Upper Pelzer Projects license was issued on June 30, 2020. The Lower Pelzer Project was issued a new license on August 6, 2020. Staff attended a site visit at the Piedmont Project on September 30, 2020 to review the draft Recreation Management Plan (RMP) for the Project. The licensee is required by Article 405 of their license to provide an informal fishing site and a canoe portage around the dam. Staff submitted comments on the draft Piedmont RMP on October 9, 2020, draft Upper Pelzer RMP on December 8, 2020, and draft Lower Pelzer RMP on March 31, 2021. The FERC issued three orders on October 4, 2021 modifying and approving the RMPs for all three hydro projects. The orders required the licensee to include certain criteria for each Project in consultation with resource agencies and other stakeholders, then resubmitted to the FERC for approval. **The licensee requested comments on the modified draft RMP for each Project on May 6, 2022. The SCDNR submitted comments on each of the RMPs on June 3, 2022, which addressed accessibility, parking, and general recreation concerns at each of the projects.**

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.

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 August 20, 2021. **A revised Draft MBI, dated December 2021, was reviewed and comments provided May 13, 2022.** 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). All stream restoration components from the mitigation plan were withdrawn by the applicant on March 30, 2022 due to concerns expressed by DNR and EPA related to constraints posed by utility easements. The revised plan is expected to restore or preserve 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. A revised DMBI was provided for agency review on September 9, 2021 and SCDNR submitted comments on March 18, 2022. DNR project manager: Tom Daniel

Monthly Division Reports

EXECUTIVE OFFICE

OFFICE OF THE DIRECTOR

MAY 2022 HIGHLIGHTS

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

Director Boyles and Kevin Ryan met with Representative Bill Hixon during May to discuss legislation and budget matters.

Director Boyles participated in the Deputy Directors-Senior Staff monthly meeting on May 3 and participated in the Deputy Directors Meeting on May 17 in preparation for the monthly Board Meeting.

Director Boyles and Chief Information Security Officer Tony D'Elia participated in the Governor's Cabinet Meeting for a presentation on cyber security and steps to protect against foreign actors.

Director Boyles met with Titling and Registration staff at the State Farmer's Market to encourage after the sudden death of one of their co-workers, Vanessa Calhoun.

Director Boyles participated in the 2021 Employee of the Year recognition luncheon at the Wateree Range in Eastover and recognized Brooke Czwartacki as our 2021 DNR Employee of the Year and recognized each of the 2021 Division Employees of the Year: Administration: Kim Joyner; Land, Water and Conservation: Brooke Czwartacki; Law Enforcement: Laken Williams; Executive: Chelsea McClain; Marine Resources: Fred Dockery, and Wildlife and Freshwater Fisheries: Jim Lee.

Director Boyles and Deputy Director Ken Rentiers attended the House Ways and Means Committee meeting for the discussion of the S.2 DHEC Restructuring bill.

Director Boyles, Deputy Director Angie Cassella, Deputy Director Emily Cope met with Bill Stern to discuss plans for the new Headquarters at the Farmer's Market. Director Boyles represented SCDNR at the Governor's Hurricane Seminar in preparation for hurricane session.

Director Boyles attended the Lexington County Soil and Water Annual Banquet at T&S Farms in Lexington at which time Dwight Davis was awarded Commissioner Emeritus in recognition of his years of service.

Director Boyles had a telephone meeting with Dr. Edward Simmer, DHEC Director, to discuss ongoing legislation and matters of mutual interest. Director Boyles was invited and spoke at the Winyah Indigo Society evening meeting in Georgetown.

Director Boyles and Kevin Ryan were in the office on the May 10th State Holiday to monitor the General Assembly during the last week of session.

Director Boyles and Kevin Ryan attended the House Agriculture, Natural Resources and Environmental Affairs Committee at which Representative Davey Hiott chaired his last meeting since he was elected House Majority Leader and Representative Bill Hixon was elected as Chairman of the House Agriculture, Natural Resources and Environmental Affairs Committee.

Director Boyles, Lorianne Riggan, Deanne Myrick and Joe Lemeris met with Scott Lynch of Blaze LLC at his request for a presentation about Berkeley Outdoor Life. Director Boyles attended the Headquarters Task Force meeting. Director Boyles met with Deputy Director Ken Rentiers and Tyler Brown to discuss the Natural Resources Conservation Service (NRCS) future plans.

Director Boyles and Kevin Ryan were in the office on May 12 for the last day of session of the General Assembly.

Director Boyles attended the Law Enforcement Basic Class Graduation Ceremony at the Criminal Justice Academy with three DNR graduates.

Director Boyles, Kevin Ryan, Deputy Director Cope, and Deputy Director Rentiers spoke at the Palmetto LEAF Leadership Group meeting organized by Tyler Brown of Land, Water & Conservation.

Director Boyles, Chairman Norman Pulliam and Vice-Chairman Mike Hutchins participated in Governor Henry McMaster's Press Conference with SCDNR, SC Wildlife Law Enforcement Officers Association, and Dominion Energy at the Lake Murray Public Park.

Director Boyles, Kevin Ryan and Lorraine Riggan met with John Tynan of the Conservation Voters of South Carolina at his request to discuss partnership opportunities.

Director Boyles met with Deputy Director Cassella, Scott Speares, Caleb Cohoon and Kevin Ryan to discuss boat titling and registration processes and plans.

Director Boyles participated in the DNR Board Meeting on May 19 in the DNR Board Room in Columbia. Later that evening, he participated in a May Forest Master Plan meeting at the Marine Center in Charleston with Senator Chip Campsen and Representative Spencer Wetmore in attendance along with DNR and PRT staff.

Director Boyles and Deputy Director Cope toured Samworth WMA with staff to review progress and discuss future plans. Director Boyles toured the Waddell Mariculture Center and various properties in the southern lowcountry.

Director Boyles attended the Wildlife and Freshwater Fisheries Advisory Committee meeting at the Wateree Range in Eastover.

Director Boyles met with Billy Dukes, Breck Carmichael and Michael Hook for an update on quail management in preparation for the June 7th Quail Council meeting hosted by Director Boyles.

Director Boyles and Scott Speares represented SCDNR at the Budget Conference Committee meeting on May 24.

Director Boyles had a telephone meeting with Maureen Bleday of the Yawkey Foundation to discuss future plans. Later, Director Boyles had a conference call meeting with Jamie Dozier and Amanda Stroud to discuss the upcoming Yawkey Trustees visit to South Carolina for the Blackout Tract donation.

Director Boyles represented SCDNR at the Law Enforcement Training Council Monthly Meeting at the Criminal Justice Academy. Director Boyles and Lorianne Riggan met with Deputy Chief of Staff Mark Plowden of the Governor's Office to discuss land protection. Director Boyles and Lorianne Riggan had a telephone meeting with Matthew Strickler, Deputy Assistant Secretary for Fish & Wildlife & Parks of the Department of the Interior and staff to discuss land protection.

Director Boyles met with a student at her request to discuss future career opportunities and higher education plans.

Director Boyles had a conference call meeting with the Southeast Conservation Adaptation Strategy (SECAS) Committee to discuss future plans.

On May 31, Director Boyles flew to Saskatoon, Canada, at the invitation of the Association of Fish and Wildlife Agencies (AFWA) and Ducks Unlimited Canada to review waterfowl breeding ground conservation, returning on June 3.

Marine Resources Division

Marine Resources Research Institute (MRRI)

Grant Proposals

Submitted: Distribution and abundance of microplastics in marine sediments and penaeid shrimp in South Carolina estuaries. SC Sea Grant Consortium Program Development Grant. Andrew Tweel (PI). \$10,000 requested, 1 year.

Submitted: Cobid stock enhancement and population assessment. FY23 Dingell-Johnson Federal Sport Fish Restoration. SCDNR Estuarine Finfish Research (EFR) Section. \$307,136 Federal (\$105,864 State Match). July 2nd, 2022 - July 1st, 2023.

Submitted: 2022 State and Interstate Aquatic Nuisance Species Management Plan (SINSMP) Grant Program Proposal to Address South Carolina's State Aquatic Nuisance Species Management Plan. Michael Kendrick, Peter Kingsley-Smith, Tanya Darden. (Federal ask: \$96,553; Match: \$38,579)

Submitted: Horizontal movements of Carolina Hammerheads (*Sphyrna gilberti*) in the western North Atlantic Ocean. Bryan Frazier, PI. Save our Seas Keystone Grant, \$87,500. Pre-proposal.

Awarded: Continuation of living shorelines monitoring. DHEC 309 programmatic funding. PI: Kingsley-Smith, P.R., April 1, 2022 - December 31, 2022, \$104,388 to the SCDNR.

Publications

Submitted: Sasson, D. A., C. C. Chabot, J. H. Mattei, M. R. Kendrick, J. F. Brunson, J. H. Huber, J.-M. E. Kasinak, P. T. Puckette, G. W. Sundin & P. R. Kingsley-Smith. The American horseshoe crab, *Limulus polyphemus*, spawns extensively in salt marshes. *Frontiers in Ecology and the Environment*.

Submitted: Sasson, D.A., Agali U., Brouk R., Hercules J., Kilmer J., Macchiano A., Ola-Ajose A., Fowler-Finn K. The potential for the evolution of thermally sensitive courtship activity in the treehopper, *Enchenopa binotata*. *Journal of Evolutionary Biology*.

Accepted: Liu, C.L., E. Dasi, A.M. Watson, A.R. Place, R. Jagus. eIF2 α phosphorylation in response to nutritional deficiency and stressors in the aquaculture fish, *Rachycentron canadum*. *Journal of Marine Science and Engineering*.

Published: Casu, F., D. Klett, J. Yost, M. R. Denson & A. M. Watson. An NMR-based metabolomics assessment of the effect of combinations of natural feed items in juvenile red drum, *Sciaenops ocellatus*. *Journal of Marine Science and Engineering*. <https://doi.org/10.3390/jmse10040547>

Re-submitted: Sheridan, J.A. & Kendrick, M.R. Relationships of primary productivity with anuran abundance, diversity, and community composition in tropical streams. *Ecography*.

Presentations

Lexi Mitchell, Michael Kendrick, Jeff Brunson, Graham Wagner & Peter Kingsley-Smith. Refining assessments of reproductive development in female white shrimp (*Penaeus setiferus*) in support of sustainable fisheries management. SC Sea Grant Symposium, May 11-12, 2022. Poster presentation. Approximately 70 attendees.

Greg Rothman, Michael Kendrick, Jackie Allen, Matt Walker, Daniel Sasson, Tanya Darden & Peter Kingsley-Smith. Investigating the potential transmission of white spot disease to native crustaceans. SC Sea Grant Symposium, May 11-12, 2022. Poster presentation. Approximately 70 attendees.

Andrew Tweel, Lloyd Hill, Sharleen Johnson, Denise Sanger. Linking land use, climate, and coastal ecosystems: a watershed perspective for a changing South Carolina Coast. SC Sea Grant Symposium, May 11-12, 2022. Oral presentation. Approximately 70 attendees.

Catharine Parker, Brian McHouell, Denise Sanger. Assessing Tidal Creek Health in Relation to Coastal Development Changes Over Time. SC Sea Grant Symposium, May 11-12, 2022. Oral presentation. Approximately 70 attendees.

Jason Broach presented a poster at the South Carolina Sea Grant Symposium on May 11 which was focused on the progress of the SCSG-funded tripletail project. (~80 attendees, technical audience).

Lenny Yong. Sex determination markers in cobia. EFR Discussion, 15 attendees, technical audience.

Gary Sundin. UAV Mapping by the Shellfish Research Section. Internal SCDNR GIS Webinar Series, May 19, 2022.

Michael Kendrick, Matt Walker, Tanya Darden, Elizabeth Underwood, Peter Kingsley-Smith. Genetic assessment of invasive crayfish dispersal in the coastal plain of the Pee Dee River Basin, U.S.A.. Joint Aquatic Sciences Meeting (JASM), May 15-20. Oral (recorded) presentation. Approximately 50 attendees.

Outreach

On April 25, Peter Kingsley-Smith provided a tour of the Marine Resources Division campus at Fort Johnson to the SCDNR HR and Legal team visiting the MRRI.

A tour was provided for Dick Stewart (PRSF Board) and Jesse Trimmer on May 6.

Fabio Casu participated in Ethan Johnson's (CofC Master's Student) Committee Meeting on April 26, 2022 and reviewed Augustus Snyder's thesis draft. Augustus successfully defended his thesis on May 13, 2022.

Jason Broach presented to the Hilton Head Plantation Fishing Club on April 27 on current cobia stock enhancement activities and planned research on southern flounder stock enhancement. (30 attendees, general audience).

Erin Levesque presented to the Sun City Fishing Club on May 2 on current cobia stock enhancement activities and planned research on southern flounder stock enhancement. (54 attendees, general audience).

Progress Report and Activities

Coastal Research Section

Section-wide: Tracey Smart participated in a call with The Nature Conservancy regarding the Wind Mapping project on May 4. This project is aimed at compiling scientific and biological information in the region to better inform placement of wind energy infrastructure offshore and identify potential use conflicts. Staff worked up 47 Yellowedge Grouper for life history and genetic samples obtained from a collaborating fisherman in McClellanville, SC on April 27.

Reef Fish Survey (RFS, MARMAP and SEAMAP-SA): The inaugural Leg of the 50th year of MARMAP sampling kicked off on April 26. Leg 1 was plagued by high winds and rough seas before having to return on April 28 due to the alternator on the main generator failing. Leg 1 was scheduled to continue through May 4 but the replacement alternator did not arrive in time to resume Leg 1. In total, 42 chevron traps with cameras and stereo-cameras and 7 CTDs were deployed. Leg 2 initially departed on the R/V Palmetto May 17th. However, the vessel had to return to Ft. Johnson after a day of sampling for repairs to the vessel's main generator. Technicians were on site the next day and were able to diagnose the issue, allowing Leg 2 to resume May 22nd. Leg 2 completed 144 chevron video trap deployments, 25 CTD deployments, and 14 hook and line deployments in SC and NC. Video and life history sample archiving are ongoing for Leg 2. Margaret Finch, Kevin Spanik, Wally Bubley, and Tracey Smart met on May 2 to discuss progress and next steps for the analysis of changes in abundance and spatial distribution over time for Black Sea Bass. Wally Bubley provided the SAFMC an update of SCDNR activities that could address regional fisheries issues. Wally Bubley met virtually with Nate Bacheler from the SEFSC Beaufort, NC lab and Jeremiah Blondeau from the SEFSC Fish Ecology Unit stationed in the US Virgin Islands to discuss a potential manuscript involving the disjunct population distribution of White Grunt in the region.

South Atlantic Deep-water Longline Survey (SADLS): Wally Bubley has been preparing the solicitation for cooperating commercial fishers for the 2022 sampling season that is awaiting release of funds prior to posting.

Short Bottom Longline MARFIN: Scoring of videos for bottom habitat continues with a few refinements having been made to the protocol. Gear swap on the R/V Lady Lisa began May 30th since the Coastal Trawl Survey was completed 2 weeks earlier than scheduled.

Gear Selectivity MARFIN: The first 14 stereo-camera collections for 2022 were deployed during Leg 1 of the Reef Fish Survey. Downloading, back-up, and QA/QC of these data were completed. Additional cameras and associated supplies were ordered as back-ups/replacements to ensure sufficient amounts to complete the three years of sampling which is beginning this summer. Leg 2 of the RFS deployed the year's first 5 sets of repetitive timed drop (standardized hook and line) and stand along underwater camera arrays to be paired with other stereo-camera deployments on chevron traps. Video downloads and archiving are ongoing. Several demonstration videos of sampling were also made during Leg 2.

Juvenile Survey MARFIN: Tracey Smart and Capt. Bo Von Harten met on May 2 to discuss in more detail cruise structure for the upcoming summer sampling.

Life History MARFIN: Sample readings continue as planned, with over 90% of age and reproductive readings complete.

South Atlantic Red Snapper Research Project: Wally Bubley met virtually on May 12 with collaborators to discuss progress, the phase II award, and the potential of additional funding.

Coastal Trawl Survey (CTS, SEAMAP-SA): The Coastal Trawl Survey docked on April 27 from a 6.5-day cruise to NC and northern SC, during which all stations north of Winyah Bay, SC were completed. The survey crew departed again on the R/V *Lady Lisa* on the evening of Monday, May 2, returned Tuesday evening and then departed again Wednesday evening; all remaining SC stations were completed. The Survey cast off again Monday, May 16 to head south to complete 31 remaining stations from Cumberland Island, SC down to Cape Canaveral, FL over the course of the week. The full Spring Cruise was completed and the *Lady Lisa* returned 5/21.

Data Management: Michelle Willis completed uploading of the 2019 RFS data into the online database. Jeanne Boylan and Amy Zimney drafted updates to CTS protocols for the website to highlight the change in protocol from processing both survey nets to processing a single net, which impacts calculations of abundance and biomass.

In-water sea turtle research: Data collection continues daily for one of two green sea turtles (NC cold stuns) outfitted with satellite transmitters on March 8, and a transmitter from the same production lot that only transmitted for 21 days last October was recovered on Wassaw Island, GA on May 17. Galley proofs are pending for the Kemp's ridley size structure manuscript (*Endangered Species Research*), and analysis for a companion loggerhead paper finally resumed in early May.

Characterization of shrimp fishing and ESA-species interactions: Four data loggers deployed on trawl gear for boats homeported in Charleston County were uploaded during the first half of May, representing 81 trawling events spanning 271 trawling hours; data collection (45-sec intervals) appears to be very clean and should require nominal QA/QC effort prior to analysis. Dates with appropriate tide stage for Job 2 eDNA water collection for July and August were provided to boat captains and scientific crew to begin planning a field schedule for pending sampling trips.

Coastal acoustic receivers (DJ): Four acoustic arrays (totaling 38 receivers) have been uploaded since the last meeting, bringing the spring upload cycle to nearly half complete. Most previously unseen transmitter codes provided to the manufacturer have also been recently identified.

Mitigation Reef Monitoring: July 2021 video catch up was completed and the updated 2021 Annual Report will be submitted to the USACE on May 4. On April 18 and 25, an acoustically tagged black sea bass was captured and reported by anglers participating in the Gamefish Tagging Program. Eight of 12 monitoring sites have now been surveyed under very favorable visibility conditions on 5 and 18 May, and we remain optimistic to finish by last week in May. All five acoustic receivers at MitReef were also uploaded; since February 21, > 210K detections were recorded across all 20 acoustically tagged black sea bass, all but five of which were still in detection range on the receiver upload dates.

Diamondback terrapin research: Eleven reports were received during the first three weeks of May, all but two of which pertained to live terrapins observed on land and which included two confirmed nesting reports including one nesting activity captured on video provided to the SCDNR.

Stock Assessment activities: Wally Bublely attended the SAFMC Science and Statistical Committee meeting on April 26-28. Topics included an update from a catch levels projection workgroup, potential addition of an Allowable Biological Catch for Goliath Grouper, approval of terms of reference and scopes of work for upcoming assessments, and release mortality reduction pertaining primarily to the Red Snapper fishery. Wally Bublely and Kevin Spanik attended a virtual meeting with NMFS collaborators at the SEFSC Beaufort, NC lab to discuss age estimates for Blueline Tilefish for an upcoming assessment and what can be done to ensure they are included in future assessments.

Personnel: Dr. Julie Vecchio accepted the Assistant Marine Scientist position with a planned start date of June 2.

Ecosystem Research Section

SCECAP: The biennial technical report (2019-2020) has been sent to Graphics for layout and collaborators at SCDHEC and NOAA for review. Benthic taxonomy, sediment analysis, and statistical analysis for the 2021 samples was recently completed. Preparation of gear for the 2022 sampling season is underway. Staff are discussing how best to summarize chlorophyll and nutrient data for the reporting period. Sites for the 2022 sampling season have been received and planning is underway.

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 at the MRRI), and other geomorphic attributes. Thirty seven fecal samples have been prepared for analysis of genetic fragments to identify prey species. All initial fecal samples have returned from the external sequencing lab, and staff are discussing how best to analyze the data. Melissa Chaplin and Janet Thibaux are helping to collect additional paired fecal-sediment samples as an initial exploration of ambient DNA and how it might contribute to noise in the fecal sample data. From this effort, seven samples have been received, representing both piping plovers and red knots.

Intertidal Genetics SWG: This project complements the ongoing shorebird habitat project. This project is targeting benthic specimens for genetic sequencing and additions to a global database. These efforts will benefit the shorebird habitat project by allowing for a more complete diet analysis. Twenty three species (56 specimens) have been photographed to document key identifying features and transferred to Population Genetics for processing.

Marsh and Periwinkle SWG: Staff deployed a series of snail-excluding and snail-including cages in salt marsh on James Island in an area with high abundances of periwinkle snails to explore the effects of snail abundance on marsh health. This area has experienced several acres of marsh loss since 2020, and snail abundances up to 600 per m² were observed.

Estuarine Drought Effects Project: Staff have begun compiling historical data at various ACE NERR water quality sites and the Edisto River. Two decades of SCECAP and marsh elevation data collected in the ACE NERR will be explored in the context of the Coastal Salinity Index, a coastal drought indicator developed locally by USGS.

Port Royal Sound Analysis: Historical SCECAP data are being analyzed to identify spatial and temporal patterns in environmental quality, focusing on benthic community, chemical contaminants, and water quality. Staff are merging these data with other spatial data such as coastal development metrics to explore these relationships. The final report was drafted and sent to the Port Royal Sound Foundation for review.

Kiawah Pond Project: The monthly sampling was conducted on May 16. Monthly routine sampling indicated that temperatures are continuing to rise. No blooms were observed but a high abundance of *Chattonella verruculosa* was observed in one pond. Fecal coliform concentrations indicated elevated levels (above regulatory criteria) in 48% and 61% of ponds for recreational and shellfish consumption thresholds, respectively, from the most recent bacterial sampling.

ACE Basin NERR: A new Wildlife Biologist I joined the ACE research team on May 2 - Samantha (Sam) Nowinski soon to be Kean. Staff are training her on lab safety and the various NERR protocols for water quality monitoring. Staff prepared and submitted the 2021 annual meteorological data and metadata submission. Staff prepared and submitted the 2022 quarter 1 water quality data from seven sites and meteorological data from one site and associated metadata documents. Staff are preparing the 2021 annual nutrient data and metadata submission which is due June 16. Staff conducted the water quality swaps, nutrient grabs, and tidal nutrient sampling on May 11-12, 2022. Staff responded to comments on the 312 review draft report from NOAA. Staff conducted an update to the Bennetts Point meteorological site with new sensors and a new telemetry system. Denise Sanger and Julie Binz spoke with the Director of Environmental Policy with the Navy on May 13 to discuss potential collaborations related to coastal resiliency and climate change. A second call is scheduled for May 25 with the Shellfish Management and Shellfish Research Sections participating. The final call for the SE NERR drone project was held on May 11 with presentations and discussion of applications and future efforts.

Miscellaneous: Staff attended the SC Regional Sediment Management working group on May 4, sharing lessons learned from a potential Thin Layer Placement project and learning about upcoming beneficial use projects. Andrew Tweel reviewed a manuscript for *Nature Sustainability*. Denise Sanger is continuing to work with the SC Beach Advocates Coastal Conservation group on a workshop for June.

Estuarine Finfish Research Section

Acoustic Receivers: The North Edisto acoustic array is scheduled to be downloaded next week, the exact day is to be determined. The Saint Helena and Port Royal Sound arrays were downloaded and received new batteries on April 26. A few receivers on the channel markers were missing and new receivers were added. Repairs to the equipment were made when necessary.

American eel: Staff completed reading 135 American eel samples for a project in coordination with Florida Fish and Wildlife Conservation Commission.

Atlantic Menhaden: An ASMFC stock-assessment subcommittee meeting in relation to the update assessment was held on April 29 and May 18. The update assessment is progressing and is scheduled for completion during the summer of 2022. Initial concerns center on the treatment of fisheries age composition data collected in 2020 and 2021 as there was reduced sampling due to the COVID-19 pandemic than generally seen and the terminal year age comps can have a significant impact on stock status.

ASMFC Activities: Dr. Ballenger participated in the ASMFC Assessment Science Committee Meeting held virtually on May 17. This meeting provided updates to all currently on-going assessments as well as presented the results of the Red Drum simulation assessment. Benchmark stock assessments for Red Drum and Cobia are scheduled for completion in 2024 and 2025, respectively. Other currently ongoing assessments pertinent to SCDNR include the ASFMC Bluefish, Atlantic Menhaden, Black Drum, Atlantic Croaker, and Spot assessments; these are scheduled for completion by the end of 2023.

COASTSPAN: Six May field days have been completed (4 in Bulls Bay, 1 in the ACE Basin, and 1 in the North Edisto) Two more days (1 in the ACE Basin and 1 in the North Edisto) in May

Dolphin Project: Crews completed one dolphin survey on May 6. The second survey day is scheduled for May 26.

Electrofishing Survey: The fourth and final day scheduled in April was completed successfully on April 26 (Upper Ashley). Two (Combahee River and Ashley River) of four scheduled strata have been sampled to date in May. The two additional strata are scheduled for sampling on May 24 (Edisto River) and May 25 (Winyah Bay).

Estuarine Trawl Survey: The May harbor trawl was completed on May 13.

NIR Spectroscopy and Fish Aging: The NIRS machine is down until further notice. Staff are currently working to replace the laser and the light source.

Red Drum Stock Assessment: The simulation assessment report and review panel report was presented to the ASMFC Sciaenids Board on May 2. Dr. Ballenger, as Chair of the ASMFC Red Drum Stock Assessment Subcommittee, presented the assessment report to the board. The board accepted the assessment as written. Work will now shift to conducting a benchmark stock assessment for Red Drum for presentation during 2024. The primary model for this assessment will be a stock synthesis integrated assessment model.

Reproductive Studies: Michelle Willis trained Maeghen Wedgeworth and Claire Benson on reading histological samples, and SEDAR updates incorporated into reading protocol.

Sheepshead: Staff participated in the Coastal Anglers Sheepshead Tournament weigh-in on April 30. Despite poor weather conditions, staff were able to collect life history information from ~30 sheepshead. Approximately 1/3 of registered anglers weighed-in a sheepshead.

Trammel Net Survey: The fifth and final day in April (ACE Basin) was completed successfully on April 29. All four scheduled strata (Wando River, Charleston Harbor, Port Royal Sound, Winyah Bay) for May have been sampled. June trammel net activities will begin on June 1.

Red Drum: Genetic processing of the 2020 YC Age 1 samples is ongoing to evaluate stocking contribution to the wild population.

Spotted seatrout: Genetic processing of the 2021 field collections to evaluate stocking contribution to the wild population is ongoing.

Cobia: Seven volitional spawns have been obtained from broodfish at Waddell. Eight ponds have been stocked with approximately 1.5 million larvae from three genetic families. Although zooplankton production has been low in ponds, growing larvae have been observed in both ponds and first harvests for stocking are planned for the last week of May. An additional 150,000 larvae are also being cultured intensively. Two tanks at the MRRI have been injected with a spawning hormone after the females were determined to have oocytes in the desired range. No spawn to date has occurred from these fish. The non-spawning tank at Waddell was injected on May 17 to induce spawning in an attempt to have larvae from a fourth genetic family and promote volitional spawning in weeks to come from that female. 2021 genetic field samples are being processed to evaluate stocking contribution to the wild population as well as add to our database for our upcoming stock structure evaluation. Staff are continuing to test and calibrate our new eDNA tool. Staff completed two of three field eDNA sampling trips in the Broad River. Since the end of April, we have collected and processed 26 donated cobia carcasses from the north end charter dock on Hilton Head Island. Staff continue to make and distribute fin clip kits to interested anglers. A satellite tag that was deployed last year has popped off and the tag only communicated with the satellite for a few days before going silent. The tag appears to have washed up on Kiawah Island and staff took a radio antenna to try and locate the tag, without success. This tag is likely the longest retained tag to date with a deployment of approximately 280 days. Three additional satellite tags are being prepared to go out in the coming weeks.

SCSG Tripletail: Tripletail broodstock collected from Florida last year were recently assessed for gonadal development. Flowing milt was observed in one male although no vitellogenic oocytes were obtained. Reassessment will occur again in three weeks to monitor their development. Hormone induction experiments will begin once vitellogenic oocytes are being observed.

Horseshoe Crab Hemolymph Metabolomics: Kerryanne Litzberg (CofC Master's student) completed the required NIST safety training to start her NMR metabolomic work on horseshoe crabs at HML. Hemolymph samples have been collected on a small number of individuals to test the metabolite extraction protocol in the coming weeks.

Weakfish ASMFC: Erin Levesque submitted comments on the revised Fish Habitats of Concern (FHOC) Weakfish document to the ASMFC.

Red knot diet: The Genetics team continues to assist the Shellfish Research team on field trips to optimize a collection protocol for red knot fecal samples for diet characterization with metabarcoding. No red knots were seen, but other field samples will be used to optimize lab protocols.

Zebra mussel eDNA tool: Native molluscs with which to test the eDNA tool have been identified.

Southern Flounder: Anglers continue to request fin clip kits. A live capture and release tournament in Murrells Inlet was attended by CRO staff who collected length/weight information and fin clips from all fish. This month, 29 flounder broodstock were provided to mariculture from a crustacean trawl, 8 flounder were provided to mariculture from the Inshore trammel net survey, and 4 flounder were captured by rod and reel by mariculture staff. Waddell staff have rearranged fish and cleared open tanks for more flounder collection in upcoming weeks. 31 flounder from the smaller isolation systems were individually weighed, measured, PIT tagged, fin clipped, and had a mucus sample taken prior to being transported and moved to a larger broodstock system for long-term photothermal conditioning. Purchasing is continuing for infrastructure improvements to the wetlabs at MRRI. Potential genetic marker screening is progressing. Fin clips from NC and GA fall 2021 field collections have been imported into the database.

Crayfish Genetics: Genotyping of field samples with the new microsatellite marker panel is completed. Analysis of population structure and dispersal is nearing completion.

SCSG Cobia Sex Identification Tool: Bioinformatic analyses are continuing to identify potential genetic markers to be incorporated into our existing cobia panel, with new markers currently being screened in the lab.

ROD marker development: Coordination with collaborators for ROD positive control tissues is underway.

Sandhills Chub: The initial set of field samples have been imported and labeled. Microsatellite markers from closely-related species are currently being tested in these samples.

Black bass genetics: Optimization of a SNP genotyping protocol utilizing the new MiSeq instrument at HML is underway.

Piping Plover: Processing of the remaining samples for amplicon sequencing is completed, with final data analysis to provide diet characterization provided to ERS collaborators.

Shortnose Sturgeon Genetic Tool Development: Additional primer development based on the new whole genome sequencing data is ongoing.

White Seabass Genetics: Staff have completed parentage analyses, and are now working on analyses of gene flow patterns and population genetic characterization.

Genetics Tissue Archive: Staff are continuing to curate and accession genetics sample sets.

CA OREHP Science Advisory Committee: Tanya Darden attended the first meeting of the California Department of Fish and Wildlife's Ocean Resources Enhancement and Hatchery Program (OREHP) Science Advisory Committee. HML Science Board: Aaron Watson and Tanya Darden attended the bi-weekly meeting.

Online Courses, Training, and Webinars: Several staff attended the Equal Employment Opportunity and SCEIS travel trainings.

South Carolina Sea Grant Research Symposium: Several staff across EFR attended the 2-day research symposium hosted by SC Sea Grant at the Citadel. This symposium was an opportunity for staff to hear about recent Sea Grant related research, learn about future Sea Grant priorities, and provided a professional development training opportunity to improve Diversity, Equity and Inclusion (DEI) in the workplace, our research, and interactions with the community.

WMC Facilities: Ten tanks donated to SCDNR by NOAA were transported from Fort Johnson to Waddell. These tanks will be used for replacements of aging systems as well as the addition of new systems. A preconstruction meeting for FEMA repair work to the WMC pumphouse was held on May 3. One contractor attended the meeting.

MRRRI Facilities: Staff were on hand when the power switch to transition to from the temporary power supply to permanent power source occurred to monitor water quality parameters and provided supplemental oxygen during this period. The blower on the tank pad, unfortunately, did not come back on and had to be replaced. Two new replacement blowers are on order.

Safety: HML April safety report for DNR spaces submitted. All showers and eyewashes were checked.

CofC GPMB: Section adjunct faculty members attended the spring faculty meetings. Katherine Silliman and Lenny Yong were approved as new adjunct faculty members.

Personnel: Applications for a new Biologist II position in the Genetics lab are being reviewed. Morgan Lattomus and Eric Wehmeyer were hired as Inshore Fisheries hourly. Bryan Frazier and Brock Renkas were re-classified as a Wildlife Biologist IV and Wildlife Biologist II, respectively. A candidate for the Maintenance Tech II position at the Waddell Mariculture Center visited from VA to tour the facility and meet with staff.

Shellfish Research Section

Dingell-Johnson (WSFR) / SRFAC funding: Staff prepared 14 shellfish permit maps. The DJ FY2023 proposal for oyster reef habitat mapping and restoration, as well as statewide oyster demographic assessments, was completed and formally submitted. The section is grateful to Nick Wallover for his assistance with this submission.

Living shorelines: Staff submitted an annual report on 2021 monitoring to SCDHEC in support of the 309-funded research; a follow up call to answer questions from DHEC is scheduled for May 23. With assistance from McKenzie Field Station staff and 10 students from a Clemson Biosystems Engineering Class, staff completed the installation of an experimental living shoreline at South Fenwick Island. Two 30-foot sections of coir logs fronted by manufactured wire reefs (MWRs) were installed and baseline monitoring was conducted. This is the first of three novel installations planned for completion in 2022 and funded by the recently renewed SCDHEC 309 funding. Staff completed annual monitoring of the NMFS Community-based Restoration project living shoreline installments at Big Bay, Shell Midden, and Fort Johnson sites. Staff have begun preparing presentation materials for a living shoreline contractor course that is under development in collaboration with SCDNR, SCDHEC-OCRM, Clemson University, South Carolina Sea Grant Consortium, and The Nature Conservancy. Staff worked on preparing recovered derelict crab pots for eventual deployment as living shoreline substrate.

On May 6, staff assisted collaborators from the Port Royal Sound Foundation Maritime Center in the collection of video and imagery highlighting the section's work in the Sound.

Unoccupied Aerial Vehicle (UAV) research: On May 4, staff led a UAV practice event for SCDNR staff at a local City Park. Staff were able to practice basic free-flight skills and try a 3-station version of the NIST Open Lane UAV course. Wildlife Biologist I Lauren Faulk has begun learning how to process raw GNSS and UAV data to create accurate GIS products and associated metadata and will be taking a major role in this process going forward. Staff mapped a 20-hectare section of oyster flats and fringing reef in State Ground S206E. At the request of wading bird biologists, staff mapped an approximately 20-acre impounded wetland at Nemours Plantation that is managed to provide Black Rail habitat.

Crab Bank monitoring project: Staff have processed data from the April 25 monitoring event. The orthomosaic and digital surface model (DSM) were similar in accuracy to previous products, indicating that the semi-permanent ground control stations set up in February are performing well as expected. Staff were accompanied by shorebird biologists and did not enter the high ground of the island during monitoring. No major changes in high ground morphology were noted. A few plants were visible in the imagery. The next monitoring event is scheduled for May 26. A no cost extension on the NFWF subaward from SC Audubon has been approved to continue this funding support until December 31, 2022, with a final report due by February 28, 2023.

NOAA Marine Debris project: Staff used the UAV to map an intertidal area of the lower Combahee River, completing about half of the proposed mapping area at this site. Staff finished developing a workflow and have begun using the sonar and UAV-derived GIS products to mark suspected subtidal derelict traps in the Ashley River.

Estuarine Trawl Survey (ETS): Monthly trawl sampling at six stations in the Charleston area (Upper Ashley River to Morris Island) was completed on May 13. Overall, the catch of white shrimp was below average, although shrimp were larger than normal, particularly at the Ashley River stations. Female white shrimp within the Charleston Harbor and Lower Ashley station generally had well developed ovaries, while those sampled in the nearshore waters off Morris Island generally had fully mature ovaries or appeared to have already spawned. The catch of brown shrimp was above average but their size varied by station. The catch of blue crabs was substantially higher than average and was primarily driven by a very high catch of crabs at the Lower Ashley station. The catch of horseshoe crabs was above average. The water temperature was lower than average while the salinity was higher than average.

Creek trawl survey: This month's creek trawls were completed on May 11 and 12 in the Wando and Ashley Rivers, respectively. No white shrimp were collected, which is typical up in the creeks for this time of year. Brown shrimp catch was below average, while length was above average. Similarly, the catch of blue crabs was also below average while width was above the long-term average. Temperature was below the long term average while salinity was above.

Horseshoe crab spawning habitats: As part of the internal SWG project to understand how horseshoe crab egg density and availability to shorebirds changes over the season, staff conducted egg surveys on May 3-4. These surveys will be conducted every other week after the full and new moons, when horseshoe crabs spawn in their greatest abundances.

Staff recently completed extended fieldwork for a project investigating how spawning habitat (beach or marsh) impacts horseshoe crab embryonic development in St. Helena Sound. Beach and marsh sites were surveyed for horseshoe crab nesting during high tides from April 28 - May 1 and between May 15 - May 18. A total of 100 nests in the beach and 132 nests in the marsh sites were flagged. Eggs from these nests will be unearthed after either 1 week or 3 weeks to compare developmental progress and success between beach and marsh sites. So far, 20 clutches have been recovered and brought back to MRRRI for staging. Additionally, staff are conducted *in vitro* fertilization (IVF) with 45 mating pairs, resulting in a total of 180 clutches of eggs. These clutches were buried in beach and marsh habitat and will be collected after two weeks to determine developmental progress and to measure the stress responses of embryos. So far, 29 of these clutches have been unburied and 143 embryos were preserved in RNA later for transcriptomic analyses.

Multiple staff attended an unexploded ordnance training required to conduct horseshoe crab research at Parris Island. Additionally, they buried HOBOLoggers at both beach and marsh sites that will track sediment temperatures over the nesting season.

Jeff Brunson provided updates for the Fish Habitats of Concern (FHOC) designations being considered by the ASMFC Habitat Committee. Updates focused on recent SCDNR research, published in 2021 and currently in review, on the importance of salt marsh habitats for horseshoe crab spawning.

Horseshoe crab metabolomics: Determination of metabolic rates and experimental bleeding of horseshoe crabs have begun for the project investigating how age impacts metabolism, blood chemistry, and mortality after bleeding. Additionally, male horseshoe crabs were obtained for the experiment from Grice Beach.

Shrimp reproductive phenology: Weekly collections of white shrimp near the Estuarine Trawl Survey sampling station at Fort Johnson are ongoing. Sampling on May 6 and May 13 indicated that 50% (15 of 30) and 41% (13 of 32), respectively, of female white shrimp had maturing ovaries. The other 50-60% had developing ovaries, or had recently spawned and had redeveloping ovaries.

Pre-season Commercial Shrimp Trawls: Staff conducted sampling aboard a smaller, outboard-powered shrimp trawler in the waters around Hilton Head on May 4. In collaboration with Office of Fisheries Management staff, sampling has continued in other areas along the coast this month. SRS staff conducted sampling off Sullivan's Island, Morris Island and Folly Beach on May 18, while OFM staff conducted sampling of Kiawah Island and out of Winyah Bay on May 17 and 18, respectively. In general, most sampled female white shrimp had maturing or mature ovaries and a substantial number showed evidence of having recently spawned. Data collected in this sampling is used to inform the decision on the opening date for the commercial trawl season in the General Trawl Zone (GTZ).

NERRS Science Collaborative Shrimp climate project: Staff continue to compile and analyze long-term shrimp and environmental data related to this project.

Blue Crab DJ Project: For this project juvenile blue crab traps are placed along transects from the subtidal zone to the inner salt marsh to assess use of the marsh platform during high tide. Prototype habitat traps are also deployed in the subtidal marsh to explore sampling techniques. Trawls are also pulled at each site to compare catches across gear types. Sampling of sites in the Ashley River was completed on May 16. Few crabs were collected in the pots, with three crabs collected in the subtidal area and one crab in the marsh interior, and no crabs were collected during the trawls. Sampling in Bulls Bay is scheduled for May 20 and this will be the last month of field sampling for this project. Staff also continue to analyze blue crab secondary production from the creek trawl surveys to assess growth and biomass patterns.

Ecology of *Distocambarus* crayfishes: Staff have obtained a list of all sites sampled by the West Liberty University field crew and are working to create a database of *Distocambarus* sites.

Roadside habitats and *Distocambarus* crayfishes: Staff have completed the majority of field sampling for this SCDOT-funded project that aims to investigate the importance of roadside ditches to *Distocambarus* crayfishes. Staff have

created a preliminary habitat model using ArcGIS software and are continuing to analyze documented site locations and newly-obtained negative occurrence data in conjunction with habitat variables to better predict additional site locations that may yield *Distocambarus* crayfishes. Genetic samples have been taken from the collected specimens and are being stored until analyses can be performed.

Invasive crayfish: Laboratory work to identify specimens associated with the sampling gear comparisons (*i.e.*, dip net vs. electrofishing) has been completed, and the corresponding data have been entered into the relevant databases. Staff are working to analyze the sampling gear collection data in relation to gear type, species diversity and richness, and other associated criteria in preparation for the project's final report which is due in July.

Crayfishes of the Savannah Basin: This project has officially ended. Staff are preparing to write the final report.

Juvenile portunid crabs: All juvenile portunid specimens from trawl surveys have been processed and staff are prioritizing samples to send to the Population Genetics section. Staff continue to opportunistically accept invasive portunid crab specimens (*e.g.*, *Callinectes exasperatus* and *C. bocourti*) reported by recreational and commercial crabbers. Staff will use the genetics results along with specimen photographs to develop a field guide to aid in the identification of juvenile portunids in the standardized sampling surveys, including enhancing abilities to differentiate native and non-native species in local waters.

White Spot Syndrome Virus (WSSV): Staff are currently developing SOPs, data sheets, and gathering materials for upcoming experimental trials. Wildlife Biologist I and College of Charleston EVSS Program MS student Greg Rothman had his research proposal approved by the EVSS Program as part of his graduate studies. Greg Rothman was awarded a Slocum-Lunz research grant for his graduate project in the amount of \$1,200 and has also applied for a research assistantship for fall and spring semesters.

Invasive species meetings: Peter Kingsley-Smith attended the virtual Regional Panel Principals Meeting on May 10, 2022, aimed at facilitating communication and coordination among panels. The spring 2022 meeting of the Gulf and South Atlantic Regional Panel (GSARP) on Invasive Species has been confirmed as an in-person meeting to take place at The Lodge at Gulf Shores, Alabama on June 28-29, 2022. Peter Kingsley-Smith will chair the meeting in Alabama. He is also preparing a presentation of GSARP updates to be given at the virtual Aquatic Nuisance Species Task Force (ANSTF) meeting on May 24-26, 2022.

Monarch butterflies: Staff are finalizing analysis of the long-term monarch butterfly tagging dataset documenting the life history of coastal monarch butterflies in SC. Staff continue to capture and tag monarch butterflies during their winter residency in coastal SC and to document locations of aquatic milkweed (*Asclepias perennis*), an important larval host plant and adult nectar plant for monarchs.

Biodiversity assessment of trawl data: Staff continue to work independently and with Estuarine Finfish Research Section graduate student Elizabeth Bullard to assess spatial and temporal patterns of biodiversity from the Estuarine Trawl Survey in Port Royal and St. Helena Sounds.

Miscellaneous: Peter Kingsley-Smith attended the Marine Biology Council meeting held on April 28. He, Michael Kendrick, Daniel Sasson and Jeff Brunson attended the full faculty meeting on May 6 held in the MRRRI Auditorium.

The Molluscan Research and Monitoring Section hosted Virginia Institute of Marine Science Ph.D. student Alex Marquardt (Roger Mann - major advisor) on May 16-18, 2022. Alex is conducting her doctoral research on a diversity of oyster reef ecological questions and is interested in learning more about regional distances in oyster reef ecology, in part contrasting subtidal populations in the Chesapeake Bay with intertidal populations in South Carolina.

The spare 20-ft trawl net from the CRMS has been repaired and will be employed for future ETS sampling efforts.

Office of Fisheries Management (OFM):
Shellfish Management & Commercial Licensing:
Culture Permits and State Grounds

From May 6, 2022, to June 6, 2022, culture permit holders planted seed, relayed oysters, cured oyster/clam shell or performed rake down totaling 7,233 equivalent bushels. A total of 220 bushels of seed oysters were planted on eight culture permits and 2.5 bushels of seed oysters were planted on a Public Shellfish Ground (PSG) (R292) totaling 3159 bushels credit. 259 bushels of relay oysters were planted on one culture permit and 10 were planted on a PSG (R292). Rake down totaling 141 square yards was performed on one culture permit, and 101 square yards were performed on one PSG (R292). 1930 bushels of cured oyster or clam shell was planted on four culture permits and 200 bushels were planted on a State Shellfish Ground (SSG)(S358). 200 Crab traps were placed on once culture permit totaling 500 bushels of credit. This rake down was measured and mapped in the field using the recently acquired sub-meter GNSS mapping receiver which greatly simplified the measurement process for an irregularly shaped rake down area. To date, 20,463 equivalent bushels have been planted by culture permit holders to meet 2022 quotas.

Shellfish Management staff collaborated with a culture permit holder to help assess the efficacy of different oyster restoration methods. Using a novel method, oysters from a PSG (R292) were harvested and then processed, through a proprietary mechanical tumbling method, to produce seed oyster and relay clusters. These oysters were placed back on the

PSG, and rakedown was performed. Areas were mapped and will be evaluated to compare the efficacy of each method on the PSG.

Four variance requests were approved by the Shellfish Permitting Committee this reporting period. The requests included a mix of alternative cultches including wire mesh, bamboo or wooden stakes, and crab traps.

Eight available culture permits were posted for application with closing date of May 20, 2022. Nine applications were received and were voted on by the Shellfish Permitting Committee. On May 12, 2022, one culture permit was posted for applications. The closing date for this application was June 3, 2022. Applications are still being processed.

Shellfish management staff assessed three SSGs this reporting period (S279, S182, S187). 3,959 meters of SSG shoreline were assessed, photographed, and mapped using the Field Maps ArcGIS portal web tool.

Mariculture/Importation

4 mariculture applications were received (3 bottom clams and 1 bottom oyster). All applications were pre-existing permits that were voided due to non-payment.

5 shellfish importation inspections were conducted. 2 for hard clams totaling approximately 1.1 million. 3 for Eastern oysters totaling approximately 115.5 million.

3 compliance inspections were conducted (M-702F, M-138, M-705F). Staff found all permits to be in compliance with their conditions and in good working order.

Yearly operations and activities reports were received from 6 potential summer harvest applicants. 5 of the 6 ops plans have been approved and summer harvest permits were issued. Staff is still awaiting edits to the one remaining ops plan before approval will be granted.

5 operations plans and activities reports have been received for regular annual compliance and are in the process of reviewing those plans for completeness and accuracy.

Henry Davega met with 2 potential floating gear applicants for application process assistance and disseminated the application packet to the potential applicants.

One hatchery affirmation form was received from the UGA hatchery. They are now affirmed to import indigenous shellfish into SC for 2022.

SCORE – South Carolina Oyster Recycling and Enhancement

Shell recycling and planting; Recreational management

Shell Recycling

In the May recycling period, 3,180.5 bushels of oysters were recycled. The public drop off locations at Fort Johnson, The Coastal Discovery Museum, Garris Landing, Walterboro, Oakbrook, and Port Royal were all emptied, totaling 2,256.25. The restaurant route contributed 924.25 bushels across 51 partner restaurants. No events occurred and no caterers contributed shell in this recycling period. One new partner restaurant was added to the Charleston restaurant route, Sullivan’s Fish Camp. They are expected to contribute four to six bushels a week during the summer and then slow down during the winter. Two Beaufort based restaurants are dropping off for the summer season due to staff constraints and pests. Both, May River Grill and Octagon at Palmetto Bluff, plan to return to recycling in the fall. Mainland Container Co., a Charleston based restaurant, finished their seasonal oyster roasts but will begin oyster recycling in the fall.

Equipment maintenance continued this recycling period. The section barge and the push boat R/V Indigo Princess is continuing to undergo seasonal prep. All rust was removed from the barge, davit arm, and push boat floor. Rust cure was applied to all weld areas, the interior of the wheelhouse, and any problem areas to prime surfaces for paint. The barge was painted, and the push boat floor was painted. Six new zincs were hung on the barge and push boat to keep fouling at bay. Two hydraulic dump trailers (5’x10’ and 7’ x 14’) were purchased from Steen Enterprises. The small trailer is estimated to hold 60 bushels of oysters that will be utilized for roast events. The large trailer is estimated to hold 150 bushels of oysters and will be utilized for public drop off locations or shell movement from public drop off bins.

An articulating loader was rented from Sunbelt Rentals and delivered to the Port of Charleston Veteran’s Terminal Zulu Pier for loading and hauling of shell to embarkation points for large-scale planting.

The PO for Randolph Trucking’s hauling of shell during 2021-2022 planting season was closed out.

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

Beaufort volunteers donated 59.25 hours recycling 131 bushels of oysters. Charleston volunteers donated 10 hours recycling 23.25 bushels of oysters. Greenville volunteers donated 18.5 hours recycling 89.25 bushels of oysters.

Shell Planting for State Managed Grounds

Bid paperwork for planting oyster shells in Beaufort, Charleston and Georgetown County was submitted. Ann Clark Coyle and Stephen Czwartacki scouted potential restoration sites in Green Creek (R193).

Grant and Contract-funded Projects

Community Based Restoration

During this reporting period, SCORE hosted 16 volunteer events with 338 volunteers donating 828.5 hours of service. 20 Manufactured Wire Reefs were constructed with the help of 4 volunteer groups including Casual Crabbing with Tia, Kiawah Naturalists, Americorps, and Coastal Conservation League. A total of 34lbs of trash was picked from recycled oyster shell at a shell picking event with Charleston Waterkeeper. A total of 100 oyster shell bags were made by Americorps. 125 trays consisting of 1,994 plugs, and 17,958 stems of marsh grass, were planted by volunteers from Moultrie Middle School, Charleston Waterkeeper, Americorps, and the SC Aquarium. Spartina grass plugs were planted at Turn of River, Pitt Street Bridge, and Maryville. 1,425 bags of recycled oyster shell, along with 61 Manufactured Wire Reefs, were deployed by volunteers from the Outside Foundation, Coastal Conservation Association-Bluffton Chapter, Bluffton Rotary Club, Charleston Water Systems, Poplar Grove Fishing Club, Moultrie Middle School, and Toadfish Outfitters at 6 volunteer events. One event with Cape Romain Environmental Education Charter School (CREECS) was rescheduled due to inclement weather. All samples in cooler have been washed and will be measured in the coming week. Recruitment trays were retrieved from Five Fathom Creek and Ashley River trays were collected this month. 106 students from Camp Road Middle School planted 55 trays, 4,675 seedlings, of marsh grass seedlings over two days. Americorps also volunteered their time to assist with pre-planting prep work such as depotting and stem counting.

The SCORE program was involved with the submission of two preproposals for the FY22 NFWF National Coastal Resilience Fund. One is being submitted in partnership with Georgia Tech, South Carolina Aquarium and Robinson Design Engineers. Michael Hodges is the lead PI on the preproposal titled "Pipeline Implementation of Coastal Wetland Restoration and Community Resiliency in West Ashley, City of Charleston (SC)". This preproposal builds off of an existing grant, from the same funding source, that is focused on the same area in Charleston. The grant totaled \$2,619,719 (including matching contributions). The full proposal for this project is due on June 1st. The second, which was just invited for a full proposal request, is in partnership with the Coastal Conservation League (lead PI), The Pew Charitable Trusts, The Nature Conservancy and MCRD Parris Island. The proposal is titled "Increasing the Climate Resilience of Marine Corps Recruit Depot Parris Island Through Living Shorelines". The grant totaled \$1,719,440 (including matching contributions). We are awaiting an invitation for the submittal of a full proposal for this project.

The SCORE Program received a \$4,000 donation from Charleston Waterkeeper. This donation will be used to improve the greenhouses at Fort Johnson.

Mitigation

Replicate oyster population samples were collected from 2 sites planted in 2021. The samples are retrieved to assess post-planting oyster population data. This effort is part of the Koppers Mitigation project.

Miscellaneous

Kevin Swain, Holly Kight Sommers, Christian Sergent, Kelly Lambert, and Matthew McDonald attended SCEIS Travel Training.

Stephen Czwartacki and Michael Hodges met with representatives from The Nature Conservancy to iron out logistics of a castle reef build on Edisto Island in September with volunteers from Boeing. The R/V Indigo Princess will be used to transport castles from Dawho Landing to the Build site on the South Edisto River.

Stephen Czwartacki and Ann Clark Little attended a EEO training for supervisors.

Cody Potvin was hired as a Natural Resources Technician III in the Shell Recycling and Planting section of the SCORE program. Cody attended orientation for new hires and Lab and Workplace Safety Training.

Meetings

Henry Davega had a meeting with Laura Webster and Suzanne Bricker of NOAA to discuss a potential collaborative effort to develop a FARM model for South Carolina, using water parameters to predict the efficiency of farms.

Stephen Czwartacki and Michael Hodges met with representatives from The Nature Conservancy to iron out logistics of a castle reef build on Edisto Island in September with volunteers from Boeing. The R/V Indigo Princess will be used to transport castles from Dawho Landing to the Build site on the South Edisto River.

Kevin Swain and Holly Kight Sommers met with a boy scout who will be working with the SCORE team to achieve his Eagle Scout Certification.

Michael Hodges participated in the Fostering Behavior Change in Coastal Communities training, hosted by NOAA's Office for Coastal Management.

Michael Hodges met with staff from the Lowcountry Land Trust to discuss the NFWF-NCRF proposal.

Michael Hodges met with Jean Fruh, The Outside Foundation, and staff from Sea Pines to discuss oyster reef placement adjacent to the Harbour Town Golf Course.

Michael Hodges met with NOAA Restoration Center staff and the Gullah-Geechee Heritage Corridor to continue discussions of a proposal submission later this year.

Ben Dyar met with Peter Kingsly Smith and Sea Grant regarding collaboration on an RFP through State Agricultural funding for research into FDA required desiccation/soaking times when flipping cages regarding *Vibrio* sp. levels for summer harvest requirements.

Ben Dyar attended a three-day conference/workshop in Athens, GA for the State Marine Aquaculture Coordination Network (SMACN). This brought together state mariculture resource managers, extension agents, NOAA and EPA representatives from nine South Atlantic and Gulf Coast states.

Ben Dyar met with SRS, CRO-Ace Basin NERR and DoD Navy representatives to discuss potential collaboration and funding opportunities for creation of living shorelines in and around Naval military installations in Beaufort County and adjacent Ace Basin NERR for purposes of carbon sequestration.

Finfish:

This month staff inspected a potential new vessel for deployment. A 75' aluminum hulled pleasure craft was inspected and determined to be viable for use with the Artificial Reef Program.

Staff participated in a press event at IOP for the "SC 7". The press event was to discuss the upcoming deployment of the new "Smart Reef" material provided by Coastal Carolina University. This material will be deployed with the help of citizen scientist on July 30, 2022 on 4 of SCDNR's Artificial Reefs.

Staff produced and delivered a memorial reef unit to Perry's Bait and Tackle in Murrell's Inlet for the memory of Ashley Avant.

Statistics:

- Delinquent letters for late submission of April 2021 mandatory logbooks were mailed on May 17, 2022 (279 letters) to license holders for Wholesale Seafood Dealers and For-Hire Charter Vessels for April 2022 reports not yet received by the May 10th, 2022, deadline.
- The affidavit list and action list for April was provided to Law Enforcement on Friday June 3, 2022. Staff are still working diligently with the new license system, Brandt. Data is now being added into the existing Statistics Sections databases. Thank you to Eric Hiltz and the entire IT staff to assist in obtaining the data and configuring it to the existing databases.
- Several data requests were completed during this month for commercial data including the following: overall landing by commercial fishermen, species grouping, and specifically annual species summaries on blue crab, shrimp, cobia, dogfish, several grouper species aggregated. SCDNR charter database also had data requests including specific species of cobia, and bluefish, along with headboat catch and effort data; and for catch and effort for specific charter vessels operators.
- The distribution of funds for the second allocation for the CARES Act have begun, with over \$3.2 million being disseminated to date. The CARES Act funds are being distributed to the state's commercial fishermen, wholesale seafood dealers and for-hire fishermen if they qualified for hardship during the COVID-19 pandemic. OFM staff developed an allocation plan which was approved, and fishery dependent data analysis was completed by OFM staff to those eligible to receive CARES funds.
- Staff continue to work diligently to increase electronic data collections and efficiency for both recreational for-hire and commercial data. This will improve date quality and timeliness.

Commercial Trip Interview Program

- During the month of May, the single OFM Port Agent intercepted 9 commercial trips and collected 153 length frequencies along with obtaining 149 associated age structures. The four-month shallow-water grouper closure is now in effect through the end of May; most sampling efforts will be to other open season snapper grouper species. Additionally, the new hire for the vacant Biologist I position has accepted; Jeremy Grigsby will begin June 2.

Recreational Statistics Section Summary

- In the month of May 2022, OFM staff completed 72 APAIS assignments resulting in 716 interviews with recreational anglers including 4 head boat observer trips to collect information on angler discards.
- OFM staff continued weekly visits to Charles River Labs to monitor activities and collect information for the ASMFC compliance report.
- 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 and Outreach:

Public Outreach

Outreach to Coastal Residents and Visitors

- The Coastal Exploration Series hosted a tour of South Fenwick Island with 15 participants in May.
- Staff presented the Marine Game Fish Tagging Program and volunteer programs to the Lowcountry Saltwater Anglers Club. Forty members attended.
- Certified Fishing Instructors volunteered to work the “Take a Kid Fishing” Day at 2nd Avenue Pier, hosted by Rayburn Posten. The event was later called off due to inclement weather.
- The “Walk the Pier” Program at Mt. Pleasant Pier had volunteers assisting anglers for a total of 2 days.
- The “Walk the Pier” Program started April 1st and ended May 31st at Springmaid Pier. Volunteers assisted anglers on 3 different days for the month of May.
- The “Walk the Dock” Program at Jason’s Lake had volunteers assisting anglers on 2 different days.
- A total of 5 saltwater fishing clinics were held in the month of May: 2 surf fishing clinics, 1 pier fishing clinic, and 2 family fishing clinics . A total of 78 people participated.
- Staff led the Botany Bay Bird Tour, substituting for the lead ornithologist.
- Through the Marine Game Fish Tagging Program, 28 active participants tagged and released 132 fish, primarily red drum, flounder, and sheepshead. Additionally, 52 anglers reported 54 recaptures. Of these recaptures, 89% were re-released. Staff processed the tagging and recapture data, and rewards were mailed to anglers who reported recapture(s).

Media and Communications

- Staff spent three and a half staff days in the field in May 2022 capturing multimedia for programs including the Shellfish Research Section/SCORE and Inshore Fisheries (COASTPAN survey).
- Erin Weeks and Kaitlyn Hackathorn practiced operating their drone with other drone pilots at MRD for the first time since Erin became a certified Part 107 drone pilot.
- Staff attended a FOIA training at SCDNR headquarters to streamline the process between agency legal and media staff.
- Staff continued the process of assessing the current inventory of MRD-related webpages and identifying outdated and inaccurate pages for removal.
- Staff began the process of merging the Coastal Resources blog with SCDNR’s other blogs, all of which will now reside under the “SC Wild” heading. The Coastal Resources blog is expected to be fully migrated by the end of June 2022.
- Staff worked to update division talking points in advance of adding all section and issue-based talking points to the MRD Intranet in June 2022.
- Staff responded directly to 25 media inquiries in May 2022 on topics ranging from sea turtle nesting and manatee migration to an outbreak of HPAI among wild vultures in Charleston County.
- Staff published five news releases: “South Carolina's first sea turtle nest of the year laid,” “Reef fish survey celebrates 50 years of marine research,” “Shellfish harvesting season ends May,” “New legislation opens red snapper harvest in state waters,” and “South Carolina shrimp harvest opens fully June 1.”
- Over 350 media clips referenced MRD programs or staff in May 2022; the vast majority were reprints of a news release referencing a study conducted by SCDNR’s genetics group on white bass in California.

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 May, 662 children participated in field studies and virtual programs.
- 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. The Coastal Conservation Careers Internship application closed. Five applicants have been selected and they will be starting in June.

Support for Coastal Communities and Partners

- The Boating Infrastructure Grant (BIG) Program is a 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. All of this year's proposals submitted by SCDNR were funded this year, totaling over \$4 million in federal funding. SCDNR is currently preparing the grants at the state level and working with the subrecipients to prepare for compliance and construction in the next fiscal year.
- 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. The annual funding cycle is wrapping up, and partners will soon be applying to SCDNR for next year's funding.
- The annual Clean Marina workshop was hosted at MRD's Outdoor Classroom. Representation from 6 marinas across the state were in attendance. CVA Program staff assisted SC Seagrant staff to facilitate the workshop and presented on opportunities to participate in BIG/CVA/Clean Boater Programs. For this fiscal year, the Clean Marina Program is working with 24 marinas and partners to provide pumpout opportunities to boaters.
- CVA staff finalized the survey design with Southwick Associates. The survey will be used to gather valuable information from boaters regarding their knowledge of the CVA grant program, clean boating habits, and perceptions about pertinent water quality issues in South Carolina. This survey will be disseminated via in-person format at marinas across the state over the span of a two-year period.
- CVA outreach staff continued collaborating with OMO staff to plan topics and schedule posts for the annual Clean Boater social media campaign.
- CVA outreach staff conducted weekly visits to local marinas, promoting awareness about the CVA, the Clean Boater (CBP) and Clean Marina Programs.
- The ACE Basin Coastal Training Program hosted Wetland Identification Basics at Donnelley WMA and Victoria Bluff. Each session had 15 attendees who learned the basics of wetland hydrology, soils and vegetation. Feedback was very positive, and more wetland training topics are coming soon!
- The Coastal Training Program Coordinator presented Coastal Lifestyle for Clean Water to about 30 real estate agents, all members of the Coastal Trident Association of Realtors. This continuing education course was well received, as usual.
- The Coastal Training Program Hollings Scholar Trece Hopp. Trece will be completing interviews as a form of long term evaluation for the program.
 - 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. In May, staff assisted the Fellow distribute over 100 surveys to ACE Basin visitors about their experience in the NERR.
- 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 continue to monitor Chinese Tallow within the St. Helena Sound WMA and South Fenwick Island WMA.
- In May, Capers Island saw 295 campers on 54 permits.
- Both the middle and South Docks on Capers have had their floating docks and associated pilings replaced in May and are now almost complete. The structural cross bracing remains the last repair to the dock system.
- In May, 9,417 people visited Botany Bay Plantation HP/WMA. Volunteers provided 650 hours of service. During this time they educated visitors during bird walks, beach walks, and fishing clinics, as well as performed maintenance activities at the office building and property.

Protected Species

- 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 as needed. Memorial day weekend was very busy with staff covering over the holiday weekend.
- Seventeen sea turtle stranding events were handled by the network. Seven Kemp's ridleys, one green and nine loggerheads. A minimum of 40 events have been reported since the beginning of the year.
- Two necropsies conducted including full day necropsy of adult female loggerhead. Turtle was reproductively active and full of eggs. Cause of death determined to be forced submersion (drowning) and alerted SCDNR law enforcement to check for TED compliance on shrimp trawlers. At the time provisional areas open.
- Coordinator and Biologist conducted sea turtle stranding and in water aerial survey for beach and offshore waters with SCDNR Law Enforcement Chief Pilot.

- Seven sea turtles were tagged in preparation for release into the wild.
- Coordinated release of sea turtles with South Carolina Aquarium - first public release in almost three years; conducted at Folly Beach County Park; two SCDNR technicians assisted in release.
- Staff continued with preparations for nesting season field materials, purchasing of supplies.
- All staff transported field equipment and ATVs to barrier island projects (via boat for North and Sand Island) and via truck for Botany Bay WMA.
- Staff boated ATV to and from Otter Island for use by the contractor during predator management activities.
- Coordinator conducted in person volunteer training at Edisto Beach State Park Learning Center for the local volunteer team - 53 people in attendance.
- Coordinator and Biologist conducted in person training with Botany Bay WMA volunteers on site - 15 people in attendance.
- Charleston Office based field surveys began on Murphy Island, Otter Island, Sand Island and Sandy Point. Staff traveled to and from BayPoint Island an additional day for survey but did not conduct due to staff injury.
- Staff assisted Cape Romain NWR with a survey one day, conducted survey / training with Yawkey Wildlife Center technicians one day and conducted survey / training with Botany Bay WMA technicians one day.
- Coordinator worked with OEP, ACOE, SCDHEC OCRM, and USFWS regarding ongoing projects that could impact sea turtles in SC to include but not limited to: DeBordieu seawall/sandbags, DeBordieu beach renourishment, South Litchfield Beach renourishment, OBX filming on beaches, Garden City Beach sand scraping.
- Biologist participated in a conference call for the new STSSN online system, completed EEO Supervisor training and worked with a graduate student on a sea turtle feeding ecology project.
- Coordinator issued permits for participants in night time monitoring efforts.
- Staff created weekly content for the online Facebook Group for volunteers.
- Charleston office new hires onboarded with two new technicians at Botany Bay WMA and two technicians at Yawkey Wildlife Center. Training and uniforms provided to new staff.

WILDLIFE AND FRESHWATER FISHERIES

ASSISTANT DEPUTY DIRECTOR'S OFFICE

Completed administrative and budgetary tasks. Prepared Special Use Permit for Bald Rock HP. Contacted Berkeley County about zoning on DNR property. Spoke with Patriot's Point Development Authority about conservation easement. Reviewed license agreement concerning encroachment at Blackwell HP. Investigated staff request for well installation at Woodbury WMA. Reviewed draft Recovery Lands Acquisition grant. Hired attorney for property purchase in Georgetown County. Contracted for Phase I ESA on property donation in Colleton County. Received appraisal of property in Lancaster County. Reviewed updated appraisal of property in Lexington County. Prepared and submitted letter to Horry County delegation for approval of property acquisition at Cartwheel Bay. Hired attorney to represent DNR in property purchase in Georgetown County. Submitted project updates to SC Conservation Bank on three pending property acquisitions. Prepared letters of intent for two property purchases in Lexington County. Prepared project summaries on three real estate matters for consideration by DNR Board. Spoke to landowner about tract for sale in Lancaster County. Reviewed press release on pending property purchase in Colleton County. Continued work on 11 other real estate projects. Engaged in conversations with Naturaland Trust, Open Space Institute, Ducks Unlimited, The Conservation Fund, and The Nature Conservancy about potential/ongoing property acquisitions. Consulted and worked with staff on matters concerning Forest Legacy. Meetings and events attended: DNR Board meeting, HTAB meeting, Habitat Protection Committee meeting, JBRC meeting, SFAA meeting, conference call with Duke Energy about property donation in Lancaster County conference call with Pheasants Forever about property in Lee/Sumter County, and DNR Employee of the Year luncheon

SWG/FOREST LEGACY COORDINATOR

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

A WNS grant for FY22 was uploaded to the system. Smith assisted Kern with drafting an SRA with UGA for the CSWG mussel grant. Smith participated in a Southeast Conservation Blueprint Workshop for the states of VA, NC, and SC, giving map comments and polling responses. A FY22 SWG call for proposals was released to all interested PIs. An ESA/State-listed species meeting was attended in Columbia with other staff to discuss sensitive species FOIA issues, statute language edits, and additions/deletions to the species list. A revision of the SWG mussel grant was made to correct a match deficit. The America the Beautiful grant opportunity was investigated, partner inquiries gathered for discussion in-house, and the national lead consulted on ideas. Smith read OEP's monthly report to follow relevant projects. A SWG microplastics grant extension was processed. Maps of Region 2 were compiled for site visits and property tours which occurred on 5/26/22. A botanical survey was conducted with Refuge Manager Askins (USFWS) and Bradley (SCDNR botanist) at Sandhills NWR. Smith completed a proposal for comprehensive surveys for listed species at Joint Base Charleston as part of their INRMP requirements which SCDNR and USFWS track. The annual INRMP meeting was held at JBC on 5/16/22 with staff from SCDNR, JBC, and USFWS present.

Forest Legacy Program (FLP) Coordination [Anna Smith]

The Edisto Easement was revisited as the second part of the annual review. This time, the west side of the river was visited. A meeting was had at the law offices of Nexsen Pruet in Charleston, SC to discuss the Mead easement which has recently been divided amongst family members and a portion is to be sold to the owner of North Mulberry Plantation. Plats were reviewed, easement language, required management plans, and retained division rights discussed with all parties. More work will be forthcoming before deeds can be recorded with the appropriate FLP language

Other Acquisition Grants [Anna Smith]

N/A

Habitat Protection Committee (HPC) [Anna Smith]

The HPC met on 5/17/2022 to discuss continuing and potential projects.

Field Work and Other Committee Representations [Anna Smith]

Smith and Special Agent Bak with the USFWS visited a BLVU roost on 5/10/2022 in North Charleston where ~100 dead birds were observed. Three specimens were taken for transport to SCWDS for testing. They subsequently tested positive for H5N1 Avian Flu. The neighborhood HOA was informed by the USFWS of risks and upper management of both agencies, DHEC, UGA, and USDA also alerted.

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

- Southeast Conservation Blueprint for the states of VA, NC, and SC (5/3/22)
- HPC meeting (5/17/22)
- Annual INRMP for JBC (5/16/22)

Natural Heritage – GIS Manager/Analyst [Joe Lemeris]

Meetings:

- 5/2 – Lemeris attended the monthly Southeast Regional Natural Heritage Coordinators Meeting. Discussions took place to identify next steps surrounding efforts to tackle updates to S- and G-ranks for species across the Southeast.
- 5/3 – Lemeris attended the 2022 Southeast Conservation Blueprint workshop focusing on VA, NC, and SC. Users were able to view draft Blueprint maps in detail and provide feedback on whether specific areas seemed to be ranked appropriately.
- 5/4 – Lemeris attended a meeting with OEP, WFF, LWC and Legal to discuss next steps toward potentially altering the state's T&E lists, as well as modifying other regulations surrounding protection of listed species.
- 5/4 – Lemeris attended NatureServe's May US Section Council meeting, which discussed various updates from the BWB conference.
- 5/5 – Lemeris, James and Riggan met to discuss progress/next steps toward developing a solar siting tool for SC. Additional modelling efforts continued throughout May.
- 5/5 – Lemeris and James volunteered to assist with ticketing at the Bobwhite Quail Initiative Banquet.
- 5/6 – Lemeris, Bradley, Riggan and NRCS staff met to discuss next steps around potential surveys of Carolina bays in SC. Lemeris developed a prioritization app which allows users to filter bays based on certain criteria to focus survey efforts.
- 5/6 – Lemeris, Arrington and Thachik met with Esri staff to kickoff a system architecture review, to allow Esri to provide recommendations for best practices associated with our business needs/compared to our current system architecture.
- 5/9 – Lemeris, Arrington, and Thachik met with Esri Advantage Program staff for a bi-weekly check in call.
- 5/11 – Lemeris, Riggan and Myrick met with Director Boyles and Scott Lynch (Blaze LLC) about the Berkeley Outdoor Life project and discuss potential use cases for broader applications.
- 5/12 – Lemeris and James attended the May 2022 Heritage Trust Advisory Board Meeting at Styx.
- 5/12 – Lemeris held a virtual workshop for the National Association of Environmental Professionals – SC Chapter to provide an overview of current Heritage Program online offerings/tools, best practices/considerations, and how to use current survey forms/data products. Over 65 people were in attendance.
- 5/16 – 5/17: Lemeris, James and Fox volunteered with Jen Kindel & team while bat netting at Great Pee Dee Heritage Preserve.
- 5/17 – 5/19: Lemeris, Arrington, Thachik and Johnson met with Esri staff for a 3-day system architecture workshop. Discussions consisted of current/anticipated business objectives, traffic/usage of web services/data, and how to configure architecture to maximize efficiency/goals. A final recommendation/report will be provided to SCDNR by Esri in June.
- 5/23 – Lemeris and Arrington met with Riggan to discuss additional data/changes to the OEP SQT tool.
- 5/26 – Lemeris and Arrington met with Mark Scott and researchers from Clemson to discuss plans to reimplement a stream assessment tool on SCDNR GIS servers, likely through the Esri Advantage Program.
- 5/31 – Lemeris met with Burger to discuss updates to the SCDNR forest stand database and which properties should be focused on for inventory in the coming year.

Project Progress Updates:

- Esri Enterprise Advantage Program Update:
 - Work was continued in May surrounding the managed lands public app development, which is still in progress.
 - A three-day system architecture review was conducted in May by Esri and SCDNR staff (referenced above). Deliverables will be provided to SCDNR in June.
 - WFF has renewed the Esri Advantage Program for another 12 months. Additional credits will be purchased in FY23 for continuing ongoing projects and development of new initiatives.
 - Meetings will be held in June to add additional improvements to the species reviewer tool related to querying multiple services at once. This project has been slightly delayed due to Esri scheduling conflicts.
 - Lemeris is waiting on Esri staff to follow up on feasibility of creating a web app where a user can dynamically change the thresholds of distribution models.
- **The Natural Heritage Hub Site has been viewed over 680 times in May (19,855 all time since May 2020), and a total of 428 users since May 2020** from state/federal/local agencies, land trusts, and private environmental consultants have requested/gained access to review species data and generate reports.
- **134 of 601** users accessed the Heritage Trust GIS Portal in May, compared with 120 in April.
- **160** new records were added to the database in May, including herps and plants.
- **107 species reviews were completed automatically** using the new species reviewer tool for environmental professionals in May, compared with 100 in April.
- Lemeris worked with Esri to test functionality for automatically updating element occurrence datasets efficiently and has now built out automated attribute rules for updating occurrence datasets for final release. Once configured on servers, testing with biologists will begin.
- Lemeris made modifications/improvements to various GIS applications/ datasets for improved performance/functionality.
- Lemeris worked with SC Wildlife Magazine to create a centerfold map for the July/August issue centered around ecosystems/conservation. Lemeris also was filmed for a short video to compliment the magazine article in May.

SCDNR/SCCB GIS Analyst [Megan James]

- Meetings: SCDNR
 - 5/3: Attended SECAS's Blueprint Workshop to learn about updates to the Blueprint and participate in a review session
 - 5/5: Met with Joe Lemeris, Lorianne Riggan, Tom Daniel, Maggie Jamison, and Greg Mixon to discuss the solar siting tool
 - 5/11: Attended National Conservation Training Center's Conservation Science Webinar where they presented on the Prioritization of Vulnerable Species Under Scenarios of Anthropogenic-Driven Change in Georgia's Coastal Plain
 - 5/12: Attended the Heritage Trust Advisory Board Meeting and a visit to Peachtree Rock
 - 5/16: Went bat netting at Great Pee Dee HP/WMA with Joe Lemeris, Hannah Fox, Jen Kindel, Trevor Walker, and Jessica Davey
 - 5/18: Attended NatureServe's Network Topic Call where they discussed creating a standard federal biodiversity location data product
 - 5/19: Attended SECAS's Third Thursday Webinar Series where they discussed developing standardized geospatial metrics for salt marsh management and restoration
 - 5/22-5/25: Traveled to Rolla, MO to attend the Digital Mapping Techniques conference. I presented twice giving talks titled, "From Logging Borehole Cuttings to GeMS-based Database Storage," and "Using the ESRI Stylx Implementation of FGDC Standard"
- Meetings: SCCB
 - 5/2: Met with Conservation Bank staff to sign grant agreements and discuss new projects
 - 5/9: Met with SCCB Director West to discuss upcoming sight visits and maps that need to be made

- 5/16: Met with Raleigh West and Amber Larek to discuss the completed priority model and sub-maps as well as maps that need to be created for upcoming area focus meetings
- Project Updates/Ongoing Tasks:
 - SCDNR
 - Continued work on creating more distribution models that will be inputs into a solar siting tool
 - Re-created a solar suitability layer that includes areas that are unsuitable for solar based on environmental factors
 - Updated the dashboard showing SCDOT's proposed project's intersection with bat survey locations
 - Helped Hannah Fox (intern) begin to create a distribution model for Common Ground Dove
 - Created a form to be used when conducting sea turtle nesting surveys
 - Added spawning Horseshoe Crab survey records to the previously created database
 - SCCB
 - Acquired more data to use in the updated priority model
 - Created sub-map 1 (Conservation Corridors), sub-map 2 (Ecological Conservation Priorities), sub-map 3 (Sustainable Forestry and Agriculture), sub-map 4 (Water Resources), sub-map 5 (Proximity to Urban Interface, and sub-map 6 (public benefit)
 - Created a statewide Conservation Priority Model
 - Wrote a 'how to' guide for creating the sub-maps and final priority model
 - Created a template for making maps for applicant properties
 - Made maps of the area around Highway 11 to be used by conservation partners at a meeting on June 2nd

Natural Heritage – GIS Manager/Analyst [Joe Lemeris]

Meetings:

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- Project Updates/Ongoing Tasks
 - DNR
 - Continued work on creating more distribution models that will be inputs into a solar siting tool
 - Re-created a solar suitability layer that includes areas that are unsuitable for solar based on environmental factors
 - Updated the dashboard showing SCDOT's proposed project's intersection with bat survey locations
 - Helped Hannah Fox (intern) begin to create a distribution model for Common Ground Dove
 - Created a form to be used when conducting sea turtle nesting surveys
 - Added spawning horseshoe crab survey records to the previously created database
 - SCCB
 - Acquired more data to use in the updated priority model
 - Created sub-map 1 (Conservation Corridors), sub-map 2 (Ecological Conservation Priorities), sub-map 3 (Sustainable Forestry and Agriculture), sub-map 4 (Water Resources), sub-map 5 (Proximity to Urban Interface, and sub-map 6 (public benefit)
 - Created a statewide Conservation Priority Model
 - Wrote a 'how to' guide for creating the sub-maps and final priority model
 - Created a template for making maps for applicant properties
 - Made maps of the area around Highway 11 to be used by conservation partners at a meeting on June 2nd

FRESHWATER FISHERIES

Highlights

Conducted an electrofishing survey and demonstration for the Wildlife and Freshwater Fisheries Division Administrative Assistants' meeting attendees on Lake Oolenoy at Table Rock State Park.

Rock Hill staff initiated and completed otolith reads for fall -winter 2021-2022 trap net sampling of black crappie from Lake Wateree and 2022 spring electrofishing of largemouth bass and Alabama bass from Lake Wylie. Data entry was initiated.

Standardized boat electrofishing was conducted at 5 sites in the Lower Saluda River to assess the trout population.

Staff met with biologists/coordinators from all regions to discuss the ongoing development of the Shiny App to streamline and standardize data analysis among the regions. The three projects of focus for discussion were LMB electrofishing surveys, winter gillnetting, and fall trapnetting.

Staff sampled one site in the upper Savannah River basin for the C-SWG Bartram's Redeye Bass conservation study evaluating the distribution and genetic integrity of this species.

Seven (7) Savannah strain Striped Bass ponds were harvested and stocked in Lakes Hartwell and Thurmond. Approximately 125,692 Trout were stocked during May.

Diadromous Fish Project efforts this month included: downloading acoustic receivers and manual tracking in Charleston Harbor, 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 began early stage 2 culture of Carolina Heelsplitter, *Lasmigona decorata*.

Staff hosted 6 fishing clinics for public: Lake Hartwell State Park, South Cove County Park, Table Rock State Park, High Falls County Park, Colleton State Park, and Lexington Wildlife Chapter

Coordination (Chief's Office)

Staff attended the spring meeting of the Atlantic States Marine Fishery Commission and participated in the Shad and River Herring Management Board.

Staff participated in Agency internal meeting to discuss and review the State Endangered Species List.

Staff participated in an Agency internal meeting to discuss management of the Mitigation Trust Fund.

Staff participated in AFWA's monthly fish chief call.

Staff participated in a virtual meeting with RBFF and agency staff to discuss activities planned for ICAST 2022

Staff participated in a call to begin discussions of Bad Creek Relicensing

Staff facilitated a visit to Dargan's Pond for the Governor and his staff.

Staff conducted the monthly meeting of Section Coordinators via phone.

Staff participated in the regular meeting of the Habitat Protection Committee.

Staff presented information on Robust Redhorse restoration to the Wildlife and Freshwater Fisheries Advisory Committee.

Staff participated in a meeting of Division leadership and the Grants Office to discuss future grants management operations.

Region 1

Conducted an electrofishing survey and demonstration for the Wildlife and Freshwater Fisheries Division Administrative Assistants' meeting attendees on Lake Oolenoy at Table Rock State Park. The majority of the admins had never witnessed this sampling before, and thoroughly enjoyed learning about the different species and how otoliths are used for aging.

Staff completed standardized Largemouth Bass electrofishing on Lake Hartwell. Staff entered data from spring electrofishing sampling.

Staff sampled the pond located on newly acquired land (White Plains) on Belfast WMA in Laurens/Newberry Counties.

Staff completed standardized spring electrofishing surveys on DNR State Lakes at Lake Long and Lake Thicketty.

Staff conducted electrofishing samples at the USFS Parson's Mountain Lake in Abbeville County, and Lick Fork Lake in Edgefield County.

Staff assisted with Region 1 youth Fishing Rodeos including Lake Rabon, Lake Thicketty, and Piedmont Tree Nursery.

Staff conducted gill net sampling as part of a long-term monitoring project targeting Brown Trout on Lake Jocassee. Blood samples taken from collected Brown Trout were delivered to Cohen Campbell Fisheries Center to determine if collected fish were diploid or triploid.

Staff built 200 bamboo buckets deployed in Lake Hartwell, Lake Thicketty, Lake Cherokee, and Lake John D. Long.

Staff continued work on the Hartwell Fish Habitat Project. Replaced cab bushings on a Hartwell habitat F-450 truck.

Staff continued creel survey on Lake Greenwood.

Staff cleared additional stream vegetation on Pigpen Branch as part of a native southern strain Brook Trout habitat restoration project. Staff collected Brook Trout from Pigpen Branch that were then delivered to the Auburn University Coop Disease Lab to be tested for whirling disease and gill lice. Coordinated Pigpen project with DNR staff and partners at USFS, National Park Service, Clemson University, and private landowners.

Staff made a presentation to the Saluda River Chapter of Trout Unlimited on SC trout management, the Pigpen Branch habitat restoration project, and Whirling Disease in South Carolina trout.

Trout stocking continued as scheduled. Numerous calls were fielded with regard to trout stocking. Staff completed bucket stocking of trout in Eastatoee Creek.

Staff attended a meeting to discuss development of an App by Fisheries Biologist Preston Chrisman to process sampling data.

Staff attended a public virtual meeting and internal SCDNR meeting in reference to Bad Creek Relicensing Scoping Document.

Staff made comments on recreation management plans for three Saluda River dams- Lower Pelzer, Piedmont, and Upper Pelzer.

Staff coordinated with Friends of Lake Keowee Society on potential future Habitat Enhancement Project ideas for Lake Keowee that would benefit native fish species throughout Lake Keowee.

Staff completed Equal Employment Opportunity training.

Regional Coordinator attended the DNR Fisheries Coordinator Meeting.

Regional Coordinator attended the Eastern Brook Trout Joint Venture virtual meeting.

Regional Coordinator attended the AFS Trout Committee meeting. Visited the Large Woody Material Habitat Restoration Project on East Fork of Greenbrier River in WVA.

Regional Coordinator met with NCWRC staff to discuss Whirling Disease developments.

Provided technical assistance to 10 pond owners, fielded 8 calls about fishing in public waters. Staff helped three pond owners with pond health issues and turnovers.

Region 2

Staff prepared and submitted the April 2022 activity report, daily work reports, mileage & purchasing card/liason logs to HQ as required.

Graham McLaughlin started as Rock Hill's Summer Intern on May 2nd and Bonnie Tanner started on May 9th as the Florence Summer Intern.

Florence staff assisted with Robust Redhorse sampling on the Great Pee Dee River for 3 days during the month.

Florence staff completed the 2022 Striped Bass Abundance Index sampling on the Great Pee Dee River with 2 day's effort.

Staff conducted spring electrofishing on these state lakes and minor water bodies: Jonesville Reservoir, Mountain Lake 1, Oliphant, Lake York at Kings Mountain State Park, and at Winthrop Lake. Additionally, electrofishing was conducted in the tailrace of the Lake Wylie Dam, Catawba River.

Rock Hill staff initiated and completed otolith reads for fall -winter 2021-2022 trap net sampling of black crappie from Lake Wateree and 2022 spring electrofishing of largemouth bass and Alabama bass from Lake Wylie. Data entry was initiated.

Rock Hill staff cut grass and provided for 0.93 miles of trail maintenance at Draper WMA ponds prior to/after the Draper WMA Fishing Rodeo held there on May 7th. Staff also provided litter pick up at the entrance and loop at Lake Oliphant for 0.59 miles. 1.52 miles of trail maintenance was conducted during May.

Rock Hill staff participated in the Draper WMA Rodeo on the 7th and Florence Administrative Assistant Ginger Ridgill helped with the Marlboro Rodeo on the same day.

Rock Hill staff met with Winthrop University officials regarding a collaborative effort with Eagle Scout Andrew Behrmann for the Winthrop Lake area.

Florence staff provided materials from the Aquatic Education Section for distribution at Lake City's Kids Fishing Rodeo event on May 14th.

Florence staff met with Chief Self, Assistant Chief Lynn Quattro, and Governor Henry Dargan McMaster at Dargan's Pond in Darlington County.

Biologist Chrisman convened a fisheries biologists meeting to discuss standardization of electrofishing data entry and analysis using his R Suite "Shiny App" currently under development and held discussions with R Suite guru Jason Doll of Francis Marion University.

Florence staff investigated a citizen reported blue-green algae outbreak at Lake Wallace and a separate issue regarding a Lyngbya infestation in Lake Wateree.

Rock Hill staff responded to a citizen reported weed infestation in the Catawba River at the Catawba Indian Reservation which was tentatively identified as Hornleaf riverweed Podostemum ceratophyllum Michx.

Staff participated in a required conference call and typed minutes for distribution to regional staff.

Florence staff continued catfish otolith processing for age/growth studies of specimens captured during winter 2021-2022 gill net survey on Lake Wateree.

Region 2 staff provided bluegill broodstock from the Great Pee Dee River to Cohen Campbell Hatchery staff.

Biologist Stroud investigated a fish kill on the Black River, US Hwy 401, Lee County resulting in minor fish mortalities reported via the SCDNR Radio Room by SCDOT workers working on the bridge.

Region 2 staff conducted a preliminary investigation of a citizen reported fish kill event (via DNR Radio Room) on Black Creek, Hartsville, Darlington County on Friday, May 27th. A full fish kill investigation was conducted on the creek on Saturday, May 28th and data are being tabulated for a full report soon.

Staff provided review/comment on 1 Scientific Collection Permit Application during April.

There were 2 weed identifications and 3 water quality tests performed for three pond owners in the Rock Hill Office during May. In Florence, 2 weed identifications and 2 water quality tests were performed for 2 constituents during the month. Five telephone pond consults were conducted at the Rock Hill Office (2 regarding general management, 2 for a weed infestation, and 1 for diseased fish). Twenty-six calls regarding fisheries information were received at the Florence Office, with 10 of those calls being pond related (5 aquatic vegetation control issues, 2 stocking, 1 regarding turtle management & 2 general management inquiries). 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 Fisheries Office. Recommendations and pertinent pond management literature was disseminated as necessary via telephone, in-person, through the USPS, or by email to pond owners or the public at large.

Contact with NGO: Two

Region 3

Boat electrofishing was completed at two sites on the Savannah River to characterize the fish community before fish passage is completed at New Savannah Bluff Lock and Dam. Eighteen fish species were collected including two species of conservation concern, Redeye Bass (“Bartram’s” Bass) and American Eel.

To assess the Largemouth Bass population in Lake Murray, standardized boat electrofishing was conducted at 21 randomly selected sites during April following the statewide Largemouth Bass Sampling plan. Data from that effort were entered during May. Mean Catch rate was 34 Largemouth Bass per hour during the spring 2022 sample which is on the lower end of what is typically observed at Lake Murray. Mean length and weight of collected Largemouth Bass was 13.7-inches and 1.7 pounds, respectively. To characterize the genetic makeup of the population 121 fin clips collected from Largemouth Bass were transferred to MRD for analysis.

Standardized boat electrofishing was conducted at 5 sites in the Lower Saluda River to assess the trout population. Boat mechanical issues prevented successful completion of the remaining 3 sites. Thirty-one trout were collected including two holdover Brown Trout which were absent from our samples during 2021. Thirty-eight percent of the Rainbow Trout collected were Erwin strain Rainbow Trout that were stocked as fingerlings (2-inches) during January. Those fingerlings have exhibited exceptional growth and now average 8-inches in length.

Staff investigated an angler-reported snakehead siting at Lake Columbia in Northeastern Richland County. No snakeheads were observed in a shoreline electrofishing sample that encompassed the majority of the lake shoreline.

Considerable effort was devoted to developing a habitat enhancement plan for Lake Murray, the goal of which is to increase habitat for, and recruitment of littoral fishes (e.g., sunfish and Largemouth Bass).

A kids fishing Rodeo was conducted at the Barnwell Hatchery where 68 kids attended.

Three staff members attended a workshop on a statistical analysis app being prepared to standardize fisheries data analysis and reporting.

Acoustic receivers monitoring the movements of adult Striped Bass in the North and South Fork of the Edisto River were downloaded.

One staff member completed “EEO it’s the law” supervisor training.

Staff provided pond management assistance to 6 pond owners involving queries on algal blooms, population management and fish kills. Staff responded to 20 calls or emails seeking information on boat titling, fishing licenses, fish parasites, debris removal from Lake Murray and fishing in Region 3 lakes and streams.

Region 4

Technical/Meetings

Shiny App Meeting

Staff met with biologists/coordinators from all regions to discuss the ongoing development of the Shiny App to streamline and standardize data analysis among the regions. The three projects of focus for discussion were LMB electrofishing surveys, winter gillnetting, and fall trapnetting.

EEO Training

Staff attended mandatory Equal Employment Opportunity training hosted by the SC Human Affairs Commission.

Field Work

Fish Attractor Work

Staff began to inventory buoy presence on existing fish attractors and replace as necessary. Brush was added to various attractors around Lake Moultrie as well.

STB Harvesting

Staff provided assistance to the Dennis Wildlife Center Hatchery with harvesting multiple STB and Hybrid STB pons throughout the month.

Other

Goose Creek Rodeo

Staff coordinated the stocking for and provided event day assistance for the Goose Creek youth fishing rodeo. This rodeo typically represents the largest youth event in Region IV and remains a popular event among local constituents.

Equipment Maintenance

Routine maintenance was performed on all project boat trailers.

Shed clean out/maintenance

Staff performed a full clean out/reorganization of the project's work shed. This was the first clean out and reorganization in several years and resulted in accounting for missing equipment and disposal of old/unused materials.

Intern

Region IV's intern, Jason Ackerman, started in May and all necessary paperwork has been submitted. Jason has been introduced to several different projects housed within DWC and has already engaged in field activities that are part of Regional operations, as well as the Dennis Center Hatchery and Diadromous Program.

Statewide Research

We video-conferenced with collaborators from the Office of Environmental Programs and the group Ecosystem Planning and Restoration on the Stream Quantification Tool (SQT) study to discuss the integration of the fish biotic index into the broader SQT framework for evaluating the integrity of stream sites for restoration and mitigation projects. The fish-based biotic index uses the abundance of indicator species to produce a relative measure of the health of the fish assemblage relative to the expected (reference) condition for each of the four regional stream classes in the state.

We sampled one site in the upper Savannah River basin for the C-SWG Bartram's Redeye Bass conservation study evaluating the distribution and genetic integrity of this species. This site was sampled previously in 2017 and at that time yielded many pure Bartram's Bass as well as one hybrid Bartram's x Alabama Bass. The most recent sample produced four bass field-identified as Bartram's Bass; genetic samples were obtained for laboratory genetic analysis to confirm identification.

We conducted reconnaissance of randomly selected sample sites for the second statewide iteration of the South Carolina Stream Assessment. Sites were identified in the Savannah, Saluda and Broad river basins, and reconnaissance and data collection will continue this year.

Staff taught the aquatic ecology / fish diversity class for the Midland Master Naturalist Program on Wateree Creek near Chapin. The lesson included a background discussion on South Carolina aquatic biodiversity, demonstration of Stream Assessment data collection and fish sampling (backpack electrofishing), and fish identification workshop for midlands fish species.

We assisted Region 1 staff with collection of wild trout to be tested for whirling disease, which was recently detected in South Carolina trout streams.

Staff provided technical review of a draft document "South Carolina Aquatic Organism Passage Technical Guide" created by and for NRCS personnel.

We interviewed several candidates and processed paperwork to fill our open Natural Resource Technician III position.

Summer intern Isabel Tiller started her position with our team.

Staff had a submitted paper accepted as an oral platform presentation at the 152nd Annual Meeting of the American Fisheries Society this August in Spokane, WA.

Hatcheries and State Lakes Activities

Coordination

This month 11,605 grass carp were processed for sterility testing at Cohen Campbell Fisheries Center.

Five (5) vendor permits were issued for grass carp distribution statewide.

Dennis Wildlife Center (DWC) and Bayless Hatchery

American Shad spawning season has concluded at Bayless Hatchery. A total of 2,495,477 million American Shad fry were produced at Bayless. Of those produced, 1,310,536 were stocked in the Broad River and 1,184,941 were stocked in the Wateree River. At the close of the season, Bayless Hatchery was cleaned and shut down until next spring.

Seven (7) Savannah strain Striped Bass ponds were harvested and stocked in Lakes Hartwell and Thurmond. Excess fish were distributed to GADNR to stock in the Altamaha River, GA.

Nine (9) hybrid ponds were harvested at the Dennis Center and stocking requests for Lake Hartwell and Lake Thurmond were met. Approximately 200,000 excess hybrid fingerlings were given to GADNR.

Thirty-five (35) Santee Cooper strain Striped Bass production ponds were harvested at the Dennis Center this month and stocked in Lake Moultrie, Lake Marion, and Lake Murray.

Fertilization and chemical treatments of all fifty-five (55) production ponds at the Dennis Wildlife Center have continued until harvest. All ponds harvested are being refilled for channel catfish, bluegill, and robust redhorse production.

Fertilized Robust Redhorse eggs from the Great Pee Dee River were transported from the McKinney Lake Hatchery and delivered to DWC. The hatch has been quite successful, as approximately 10,000 larvae are currently in the fish house.

Jarrett Gibbons represented SCDNR as a judge for round 2 of the World Food Championship at the McCutchen House in Columbia, where contestants had to cook Lake Murray Striped Bass. The winner was awarded \$100,000.

Staff attended a Hatchery Managers' Meeting at the Cohen Campbell office to discuss summer production.

The 2022 Summer Intern, Jacob 'Trey' Jeffers, began working at DWC on May 16, 2022.

Staff completed and submitted weekly itineraries, monthly reports, mileage sheets, fuel logs, procurement statements, quality assurances, 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

Approximately 125,692 Trout were stocked during May. A significant number of the total were fingerlings stocked annually.

Staff completed their work on removing sediment from the intakes that supply the hatchery as well as maintaining production.

Public visitation was at a normal rate.

Cohen Campbell Fisheries Center/Barnwell Substation

Two (2) tanks of American Shad brood finalized production and a total of 1,101,538 fry for the Broad and Wateree River systems.

Pond 3 was put into production with 168 Bluegill brood for fingerling production.

Staff completed seventeen (17) stocking events to stock American Shad, Bluegill, Largemouth Bass and Striped Bass.

Staff completed five (5) grass carp certifications totaling 11,605 fish. Grass carp vendors included: Keo Fish Farm and Owens and Williams Fish Farm.

Performed general routine maintenance and upkeep for grounds, buildings, and equipment at both Cohen Campbell and Barnwell substation.

Cheraw State Fish Hatchery

Five (5) Striped Bass ponds were harvested. There was a total of 545,105 fingerlings stocked in Lakes Murray, Wateree, and the Catawba River. One Striped Bass production pond remains for harvest.

A total of 31,280 Smallmouth Bass fingerlings harvested. These were retained on site and trained to accept a commercial feed over a 10-day training period. Six (6) phase II production ponds were stocked with 3,500 trained fingerlings each.

Schools of Largemouth Bass fry continue to be collected and redistributed to fingerling rearing ponds.

Kennedy Irwin began her internship mid-May.

Spring Stevens State Fish Hatchery

Harvested 7 Ponds of Striped Bass for a total of 393,363 at ~45% return rate.

Gave facility tours to 3 Biology Classes from Andrew Jackson High School.
Assisted Cheraw Hatchery with both Smallmouth Bass and Striped Bass harvests.
Stocked 3 production ponds with Redbreast for summer/fall production.
Completed necessary repairs to the walk-in cooler for feed storage.
Continued grounds and facility maintenance as well as upgrades and beautification to the hatchery sign.

State Lakes

The State Lakes Tech II position is no longer open, new employee Kristen Wallace started on May 17, 2022.
Staff assisted with the Striped Bass harvests at Cheraw and Springs Stevens Hatcheries, along with the distribution to Lake Murray and Lake Wateree.

Held Kids Fishing Rodeos at Lake Thicketty and Draper WMA.

Staff rebuilt picnic shelter at Lake Long and filled in the potholes at the Lake Brown parking lot.

Fertilized Lake Cherokee, Jonesville Reservoir, Lake Long, Lake Johnson, Star Fort Pond, Lake Oliphant, Sunrise Lake, and Mountain Lakes 1&2.

Performed routine maintenance at all 18 State Lakes (i.e., grass cutting, litter pick up, terrestrial weed spraying).
All monthly paperwork assigned completed.

Outreach and Training

Staff attended a Teams Meeting to discuss entering the amount of fish food, chemicals, fertilizer, etc. in the Survey123 app for data capture.

Staff entered data for all vehicle gas cards and auxiliary cards in the Survey123 app.

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, 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.

Breakdown of Project Activities

Great Pee River Sturgeon Project

This month's focus was a mixture of assisting other projects sampling efforts and receiver array maintenance. Five trips were made to download receivers in the Winyah Bay System, completing the second quarter receiver array download. Five trips were made assisting the Juvenile Sturgeon Winyah Bay project and eight trips were made assisting the ACFCMA project. One trip was made assisting a download on the Cooper River.

Winyah Bay Juvenile Sturgeon Project

Eighteen sampling trips were conducted in the Winyah Bay System this month for a total of 68.55 100-yard set net hours. Seventy-seven total sturgeon were captured: 67 first capture and 10 recaptured Atlantic sturgeon. Twenty-one Atlantic sturgeon were of target size. All first capture fish received a PIT tag and the standard work up. Fin rays were subsampled from sturgeon under 1000 mm fork length. Six transmitters were implanted in target size sturgeon this month: three in Waccamaw River, two in Sampit River, and one in Black River. Sampling nets were patched and maintained, and the project boat was taken to Orangeburg for fiberglass repair consultation.

Savannah Harbor Expansion Project (SHEP)

The SHEP project fished for 48.2 net hours and captured 21 Atlantic Sturgeon and five shortnose sturgeon, however no sturgeon received transmitters. Manual tracking detected one shortnose sturgeon in the Savannah Estuary.

Atlantic Coastal Fisheries Cooperative Management Act (ACFCMA)

Nine Atlantic sturgeon sampling trips were conducted this month in Edisto River resulting in 18.95 150-yard net hours. Twenty-seven total Atlantic sturgeon were captured, 23 virgin and four recaptured fish. All first capture fish received a PIT tag and the standard work up. The Goose Creek Reservoir Eel Ramp was monitored twice a week, every week this month. A total of 514 eels were captured at the ramp, 25 glass and 489 pigmented. The eels were separated by pigmentation stage, counted, and released. Data were entered and QA/QC completed. Regular boat,

trailer, and field equipment maintenance activities were performed throughout the month. A great deal of assistance was given to the juvenile Winyah Bay sturgeon sampling project.

Santee Accord Juvenile American Shad Study

No sampling was done in the month of May. Project staff performed repairs and gathered supplies for the juvenile shad field season starting in June. Staff read reports and assisted other projects throughout the month.

Rediversion Project

American eel passage at the St. Stephen Dam continued without pause this month, totaling 701 eels measured and passed upstream to Lake Moultrie, summing 2,699 eels passed upstream in 2022 to date. Fish passage operations finalized on May 9, with preliminary run counts totaling 243,913 American shad (AMS), 9,265 blueback herring (BLH), 1,068 striped bass, and 1,081 catfish passed. No flow conditions were persistent through much of the month, as system inflows have lessened substantially since mid-April. Infrequent peak flow conditions (less than 4 hours) were observed in early May, following occasional region-wide showers. Downstream water depth has dropped to ~7-8 ft, water temperature is nearing 28°C, and dissolved oxygen concentrations are slowly dropping below 8 mg/L.

Field work has completed for the season, and staff have shifted toward ageing AMS and BLH paired otolith and scale samples. One series of readings was completed for the AMS otolith collection (n = 238), with a second independent reading approximately mid-way through the series. Corresponding scales for this collection are being processed, along with recreational creel-sampled AMS and BLH scales, and the 2021 AMS scale samples from the ACFCMA group. All samples will be aged from two independent readings, and a third reading will be completed for examples where consensus has not been met.

Project staff continued discussions with USACE concerning offseason fish lift repairs and our agreed upon cycle testing. Additionally, staff participated in discussions concerning sustainability compliance and stock assessment data and aided other Diadromous projects with sampling activities. Project focus has now shifted toward compiling all relevant data for the ASMFC compliance report and the upcoming blueback herring stock assessment, while continuing to process all recent sampled scales and otoliths.

Administrative

Staff participated in interviews for a technician at MRD and hiring paperwork was submitted.

Meetings and Outreach

Staff participated in multiple events, meetings, and conference calls regarding:

- Annual Fish Lift end of season luncheon,
- Shiny App summit with WFF staff,
- Meeting with Duke Energy and NMFS regarding YPD BiOp,
- Monthly St. Stephen fish lift meeting with USACE partners,
- Internal discussion with OEP regarding I-95 expansion impacts to sturgeon,
- Annual FACT Meeting,
- Cape Fear Partnership Meeting,
- EEO is the Law training for supervisors,
- ASMFC Shad and River Herring Steering Committee meeting.

Mussels

General

Staff met with Sylvia Harris to discuss NRCS EUIP program.

Joseph Lepard started as the Freshwater Mussel Program Summer Intern.

Staff attended America the Beautiful webinar.

Mussel Culture

Staff began early stage 2 culture of *Lasmigona decorata* cohort 2203LdA.

Staff continued stage 3 pond culture of *Alasmidonta varicosa* cohort O2103AvA, *Villosa delumbis* cohort C2106VdA and *Utterbackia imbecillis* cohort 2106UiA.

Staff continued pond culture of *V. delumbis* and *U. imbecillis* cohort and C2019UiA and long-term residents of mussel rack.

Field

Staff preformed CPUE surveys at CAT031, CAT033, PEE006, SAN001, CAT034.

Outreach

Staff sent 21 contact letters to request site access.

Staff visited 1 landowner at their residence to obtain access to PEE006.

Aquatic Education

Family Fishing Clinics & Certified DNR Fishing Instructors

Continued communicating schedule changes to volunteers and the public

Hosted 6 fishing clinics for public: Lake Hartwell State Park, South Cove County Park, Table Rock State Park, High Falls County Park, Colleton State Park, and Lexington Wildlife Chapter

Hosted 1 fishing clinic for school group: Charleston Charter at Table Rock state Park

Fishing Rodeos

On-going participant survey data collection

Hosted 10 rodeos: Draper WMA, Clio, Goose Creek, Lake Rabon, Barnwell, Horry County, Lake Thicketty, 8 Oaks Park, Piedmont Tree, and Lick Fork Lake

Fishing Tackle Loaner Program

Site user logs collected for data collected for input

Collecting follow up surveys from participants

Loaned gear and backyard bass to Lex 2 school field trip

Loaned gear for boy scout Cuboree

Loaned gear for Musgrove Mill State Park

New supplies sent to: Lake Greenwood State Park, Jones Gap State Park, Calhoun Falls State Park, and South Cove County Park

Trout in the Classroom (TIC)

Receiving inquires and applications for upcoming school year

Supporting schools and troubleshooting

Held 3 Trout releases at Saluda Shoals Country Park

Youth Bass Fishing Club

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

Updated website

Identified date and location for 2023 tournament

Black Bass Slam

One Slam Submission completed

Other

Aquatic Education's summer intern, Renee Hintz, started on May 11

Met with Diversity Outreach for planning of Juneteenth field day

Staff attended Barnwell Fish Hatchery rodeo

Attended AREA board meeting as treasurer

Planning for summer library programs

Submitted Redeye Bass article for SC Wildlife magazine

Met with RBFF to continue planning for use of First Catch Mobile Centers at ICAST

Re-ordering supplies and publications

Outreach materials provided to: 6 members of the public and 12 phone interactions

WILDLIFE SECTION & STATEWIDE PROJECTS

Regional Operations Activity Summary

Wildlife technical guidance was provided to 350 contacts along with 10 technical guidance site visits. Four (4) management plans were written. Other agencies were assisted on 22 occasions requiring 55 person-days. Seven hundred forty-four (744) nuisance wildlife complaints (including 86 bear and 306 alligator calls) were handled. Three (3) alligator site visits and 19 nuisance site visits were made. Field studies required 113 person-days and data analysis required 46.5 person-days. Eighteen (18) quail surveys, 85 bat surveys, and 109 other surveys were conducted. RCW nest surveys conducted included 38 clusters checked and 35 nests checked. There were 18 neotropical bird counts. Seven (7) antlers were scored. There were 4 social media posts, 6 news releases were submitted, and 6 interviews were granted. Twenty-three (23) programs/presentations were given with 693 in attendance. There were a total of 95 water level management days.

Heritage Preserve (HP) Habitat Management Summary

Heritage Preserve staff conducted 374 site visits. Prescribed burning occurred on 148 forest acres. Exotic control occurred on five (5) heritage preserves. Three (3) acres were mowed/bushhogged, 34 miles of trails were

maintained, 1 mile of firelanes were disced, 6.8 miles of roads were mowed, 7 miles of roads were scraped and 4 miles of roads were graveled. 9.28 miles of boundaries were cleared/painted.

Wildlife Management Area Habitat Management Summary

Field agricultural activities on WMAs included 363.5 acres mowed/bushhogged, and 1180 field/agriculture acres were disced. Fifty-seven (57) miles of roads were mowed, 49 miles of roads were scraped and 4 miles of roads were graveled. Prescribed burning occurred on 1295 forest acres, 40 agricultural acres and 50 marsh acres. Agricultural herbicide occurred on 1172 acres. Twenty (20) miles of trails were mowed, 71.75 miles of dikes were mowed, 0.2 miles of dikes were retopped, and 24 miles of firelanes were disced. Eight (8) acres of perennials were planted and 662 acres of annuals were planted. Seventy-six (76) WMA signs, 2 WMA signs and 34 other signs were posted. Two (2) gates were refurbished or installed. One hundred seventy-nine (179) WMA phone calls were answered.

WMA Hunts and Visitation

Marsh WMA – 2 visitors, of which both were hunting. Hunters reported no harvest.

Woodbury WMA – 74 visitors, 43 were hunting or scouting and 31 were boating or fishing. Hunters reported harvesting 17 hogs.

Pee Dee Station Site – No activity during the month.

Great Pee Dee HP – 65 visitors 29 fishing, 11 hog hunting (9 killed), 11 sight seeing

McBee WMA - No visitors during the month.

Draper WMA – No activity during the month.

Worth Mountain WMA - 25 visitors: 12 fishing, and 13 hiking.

Broad River WMA – No activity during the month.

Liberty Hill WMA - 56 visitors, including 7 fishing, 5 biking, 6 hiking, 30 sightseeing, 7 birding and 1 photographing.

Landsford Canal Bird Dog Training Area – No activity during the month.

Angelus Bird Dog Training Area - No visitors during the month

Crackerneck Wildlife Management Area - 82 scouters, fishers, and outdoor recreationists. Harvest: 67 catfish, 1 largemouth bass, 12 bluegill

Francis Marion National Forest – Only special hog hunts were held; one known hog was harvested.

Webb/Hamilton Ridge/Palachucola - Hog Hunt- 3 days, 92 hunter days of effort, 16 hogs harvested

Wildlife Regional Operations – Chief

Meetings attended during the month include the monthly DNR Board meeting, the Heritage Trust Advisory Board meeting, the Wildlife and Freshwater Fisheries Advisory Committee meeting, a DNR Habitat Protection Committee meeting, a meeting with Joint Base Charleston’s natural resources staff to discuss the JBC Integrated Natural Resources Management Plan, a second meeting with Legal staff to discuss the process for requesting use of mitigation trust funds, a meeting of the Atlantic Coast Joint Venture Management Board Executive Committee, and a meeting of the SC Chapter of the Wildlife Society’s Executive Committee. Attended DNR Employee of the Year luncheon at Wateree Range to honor outstanding employees from each division. Conducted a site visit to Samworth WMA to examine progress on infrastructure and field bed preparation and discuss ongoing challenges to management with staff. Participated in orientation for nine Wildlife Section interns assigned to various projects throughout the state. Began preparation of three federal grants to fund Wildlife Section operations and special projects for FY23 and beyond.

Responded to a minimum of 10 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

Assisted regional staff with budget tracking, purchase requisitions, receiving and inspection reports, approved shopping carts and personnel transactions forms. Submitted purchase card summaries by email for Regions 1&3 Staff on May 10 and 11. Set up the orientation day for the summer interns on May 17. Met with Shaw Air Force Base Staff to discuss their wildlife management plan. Arranged Driver Improvement Training for summer interns. Attended a South Carolina Human Affairs Commission Training for updates on current policy. Participated in two virtual meeting for Bad Creek Relicensing in the upstate. Assisted with interview for the

technician position in Region 3C. Attended the Advisory Board Meeting at Wateree Rifle Range. Updated and submitted paperwork to Department of Energy Staff for the five-year budget for Crackerneck Wildlife Management Plan. Assisted with changes and corrections to the Rules and Regulations. Attended a meeting at Savannah River Bluffs Heritage Preserve on May 27 with Deputy Director Cope, Region Coordinator Kesler and Heritage Preserve Biologist Young to discuss potential access to the property. Looked over and examined statewide budget spreadsheets and updates. Worked on several employee issues during the month. Visited the following heritage preservers, waterfowl areas, and wildlife management areas in Regions 3: Aiken Gopher Tortoise, Belfast, Henderson, Janet-Harrison High Pond, Love Farm, Peachtree Rock, Shealy's Pond, and Wateree River.

Regions 2 & 4 Assistant Chief Activities

Met with Chief Dukes, Deputy Director Cope and assistant Chiefs Simmons and Dillman on various topics. Met with Donna Maples concerning procurement questions. Attended WFF Administrative retreat at Table Rock. Met with Lorianne Riggan, Keith Bradley and Ken Prosser on properties surrounding Lewis Ocean Bay Heritage Preserve. Met with Upper Coastal waterfowl staff on various topics. Spoke with and/or met with Regional Coordinators Stokes and Farrell on various topics. Attended WFF Advisory Board meeting at Wateree Range. Met with Biologist Kneece on various waterfowl related topics. Regional Coordinator Farrell and I provided a tour of Samworth impoundments for Representative Lowe. Attended Region 4 Law Enforcement region meeting to discuss various wildlife related topics. Toured Samworth impoundments with Director Boyles, Deputy Director Cope, Chief Dukes, Regional Coordinator Farrell and Biologist Kneece. Also provided a tour of ongoing NAWCA project work on Santee Delta to Director Boyles.

Submitted paperwork for hiring various vacant positions in Regions 2 and 4. Inspected Donnelley and Canal dove fields. Spent 82 hours traveling to and operating a marshmaster on Samworth impoundments. Participated in Assistant Regional Coordinator and Region 4 Heritage Preserve interviews. Assisted Ken Prosser with various potential land acquisition questions. Proofed Rules and Regulations brochure twice this month. Limited participation occurred with the rezoning issue and the Cooper River Focus group. Attended Goose Creek fishing rodeo. Inspected Landsford Canal mitigation property with Lorianne Riggan and Biologist Stokes along with mitigation representatives. Made a 2nd site visit to ensure corrections had been made to issues noted on the initial trip. Attended a retirement dinner for USF&WS employee Mark Purcell.

Wildlife Region 1

Summary

Attended the WFF administrative assistants meeting and provided a tour of the Jocassee Gorges property. Trained SCDNR LE radio room dispatchers on how to handle emergency bear calls and sightings. Attended a Southern Appalachians prescribed fire luncheon with partners from NC and SC state agencies. Spent significant time monitoring and assisting contractor repairs at Beaverdam Waterfowl Area. Attended McCormick and Abbeville Counties Forestry Associations Joint Meeting and gave brief presentation on Bordeaux Bobwhite Focal Area and introduced new Quail Forever Biologist to attendees. Met with mobility impaired hunt host and potential sponsors for luncheons at the 2022 deer hunts. Conducted a survey of the Jumping off Rock peregrine nest in Jocassee Gorges WMA. Participated in a conference call with Atlanta Botanical Garden and SCDNR Botanists about a scale infestation of Micosukee Gooseberry at Stevens Creek HP. Completed mourning dove point count surveys.

Region 1 Coordinator

Completed administrative activities including budgeting, purchasing, personnel actions, travel requests, and correspondence. Attended the WFF administrative assistants meeting and provided a tour of the Jocassee Gorges property. Assisted with writing an article for SC Wildlife magazine. Reviewed documents and participated in several discussions on the proposed Bad Creek relicensing project. Reviewed rules and regulations. Reviewed recent work at Beaverdam and Clemson Waterfowl Areas with biologist Waldrop. Worked with Naturaland Trust to add additional WMA acreage in Pickens and Greenville Counties. Completed annual dove survey points. Attended a Southern Appalachians prescribed fire luncheon with partners from NC and SC state agencies. Attended the Clemson University Animal Care and Use Committee meeting and reviewed 2 research protocols. Checked WMAs including Beaverdam, Fant's Grove, Jocassee and Tall Pines. Checked Ashmore and Watson Cooper HP.

Nuisance Wildlife Activities

Conducted 98 nuisance wildlife investigations, made 12 site visits, and issued seven depredation permits. Biologist Miller investigated two nuisance alligator complaints. and issued a permit. Assisted landowners with complaints on deer damage, beavers, raccoons, crows, geese, and coyotes.

Upstate Bear Report

Staff handled 67 bear complaint calls/sightings and 4 road kills. One depredation permit was issued for a nuisance bear causing damage at a residential school. The DNR bear committee met to discuss research proposals with Clemson University. Trained SCDNR LE radio room dispatchers on how to handle emergency bear calls and sightings. Assisted landowner on electric fence layout to protect beehives and chicken coop from bears. Attended an IBA webinar on how to collar orphan or young cubs to allow for collar expansion with growth.

Unit 1A (Anderson, Greenville, Oconee & Pickens)

Worked to maintain proper water levels in the waterfowl areas. Monitored pig damage and worked two trap sites. Conducted several dove point counts across the Unit. Spent significant time monitoring and assisting contractor repairs at Beaverdam Waterfowl Area. Attended a meeting with NC/SC wildfire prevention staff to discuss common concerns across the mountain boundary region. Met with Clemson forestry staff to discuss food plot repair after timber harvests and turkey habitat improvements on Fants Grove WMA.

Property Management Activities:

Beaverdam Waterfowl Area – Staff repaired the pump motor again this month. Contractor started work on repairing dike and access road and removing sediment plug from creek. Staff assisted technical assistance biologist with selecting and preparing sites for duck banding in July. Beaver dams were removed from culvert pipes.

Caesars Head WMA – Checked boundaries on WMA and reposted signs as needed.

Clemson Waterfowl Area – Monitored water levels and removed beaver dams. Repaired major dike breach.

Fant's Grove WMA – Reposted boundary lines as needed. Sunflowers were planted in dove fields. Began installing electric fences around dove fields.

Keowee WMA – Checked boundaries on WMA and reposted signs as needed. Monitored food plot conditions.

Long Creek Tracts WMA – Fertilized wheat and planted sunflowers. Pig traps were baited and set.

Ross Mountain Dove Field – Pig traps were baited and set.

Pickens Rifle Range – Fertilized wheat and planted sunflowers. Installed electric fence around field.

Tall Pines WMA – Monitored beaver activity on the lake spillway and removed debris from overflow. Dove fields have been prepared and planted. Met with contractors to discuss repair of gate and powerline parking area improvement.

Sumter NF - Andrew Pickens WMA – Worked with USFS staff to assist with pig trapping. Reposted WMA signs as needed.

Unit 1B (Abbeville, Edgefield, Greenwood & McCormick)

Significant time was spent preparing for and implementing prescribed burns and managing dove fields. Ben Ross, from Limestone University, began his summer internship. Attended McCormick and Abbeville Counties Forestry Associations Joint Meeting and gave brief presentation on Bordeaux Bobwhite Focal Area and introduced new Quail Forever Biologist to attendees. Participated in Farm City Day at SC Governor's School for Agriculture at John de la Howe. Conducted mourning dove surveys. Mowed at Hawe Creek Boat House law enforcement facility.

Property Management Activities:

Bordeaux Dove Field – Applied herbicide, chisel plowed, cultivated, fertilized, planted sunflowers, millet, and sesame. Installed electric fence. Began pre-baiting for duck trapping/banding. Trapped hogs.

Parksville Dove Field – Installed electric fence and planted millet. Began pre-baiting for duck trapping/banding.

Plum Branch Dove Field – Planted millet, applied herbicide, and installed electric fence. Removed downed trees.

Russell Creek Waterfowl Area – Applied herbicide to road shoulders and disced impoundments.

USACE-owned "unnamed" WMA – prescribed burned at Torchia's Store, Hester's Point, Bordeaux, and Small Game Area. Applied herbicide to road shoulders at Noble's Cemetery, Greenoaks, Old Augusta, and Small Game Area. Masticated at Bordeaux..

Unit 1C (Cherokee, Laurens, Spartanburg, Union)

Submitted NWTf habitat enhancement project request for Thurmond Tract WMA to regional coordinator. Met with mobility impaired hunt host and potential sponsors for luncheons at the 2022 deer hunts. Managed waterfowl area water levels for planting. Cooperated with SCDHEC for random inspection of wildlife capture drugs. Met with the Indian Creek focal area committee. Assisted with planning and presented information to landowners at the Indian Creek field day held at Belfast WMA. Attended the bird ID workshop at Jocassee. Completed multiple dove surveys. Completed breeding bird survey training. Worked with survey crew to lay out the deer fence at Pitts dove field.

Property Management Activities:

- Cliff Pitts Dove Field* – Disked and fertilized in preparation for planting.
- Gray Court Dove Field* – Disked, applied herbicide, fertilized, and planted.
- Herbert Dove Field* – Disked, applied herbicide, fertilized, and planted.
- London Creek Dove Field* – Disked, applied herbicide, fertilized, and planted.
- Santee Cooper Dove Field* – Disked, applied herbicide, fertilized, and planted.
- Sedalia Dove Field* – Disked, applied herbicide, fertilized, and planted.
- Sumter NF – Dunaway WMA* – Managed water levels in impoundments.
- Sumter NF - Tyger WMA* – Managed water levels in impoundment.
- Thurmond Tract Dove Field* – Disked, applied herbicide, fertilized, and planted.

Unit 1D (Jocassee Gorges – Oconee, Pickens)

Completed administrative activities including personnel, correspondence, and purchasing. Received 30 email and telephone inquiries. No bids were received for the solicitation to pump the Sassafras Mountain Overlook restrooms. Continued to work with the local American Legion post on a flag display at Sassafras Mountain Overlook. Assisted with the administrative assistant's tour of the Jocassee property. Forrester attended the annual Fire Learning Network in Dillard, GA. Attended the annual SC/NC joint mountain forestry agencies meeting in Brevard, NC. Staff continue to assist Duke Power with access issues related to their wooden power line rehabilitation project. Conducted maintenance on vehicles and equipment.

Property Management Activities:

- Jocassee WMA* – Significant time was spent grading and mowing roads. Disked and planted millet in portions of the dove field.

Heritage Preserve Activities

Completed administrative tasks including budget items, rules and regulations review, reviewed three collection permit applications and spent significant time with correspondence. Conducted a survey of the Jumping off Rock peregrine nest in Jocassee Gorges WMA. Attended the administrative assistants retreat meeting at Table Rock State Park and assisted with the field trip through Jocassee Gorges WMA. Checked on timber harvest that is in progress at Chestnut Ridge HP. Biologist Attaway and Technician Conley attended a Bird ID workshop held within Jocassee Gorges WMA. Participated in a conference call with Atlanta Botanical Garden and SCDNR Botanists about a scale infestation of Miccosukee Gooseberry at Stevens Creek HP. Biologist Attaway, Technician Conley and Summer Intern Butfiloski assisted Friends of Bald Rock with a pressure washing workday at Bald Rock HP where volunteers reached one ton of total trash removed from the preserve. Regional Coordinator Cloninger, Biologist Attaway, and Summer Intern Butfiloski checked bog turtle camera traps at Watson Cooper HP and Tall Pines WMA. Surveyed private property in Travelers Rest for bunched arrowhead. Attended a NC/SC fire meeting in Brevard, NC. HP Staff assisted in familiarizing the new summer intern with Heritage Preserves around Region 1. Extensive road work was completed on Watson Cooper HP, Brasstown HP, and Chestnut Ridge HP.

Property Management Activities:

- Ashmore HP* – Inspected property and pitcher plant sites. Repaired fence.
- Bald Rock HP* – Inspected property. Picked up litter five times.
- Belvue Springs HP* – Inspected property.
- Blackwell HP* – Inspected property. Removed invasives in bunched arrowhead wetlands. Flagged wild white indigo.
- Brasstown Creek HP* – Repaired erosion issues on roads. New burn units were identified. Boundary was inspected at encroachment area.
- Buzzards Roost HP* – Inspected property and burn unit.
- Bunched Arrowhead HP* – Checked gates. Picked up litter. Inspected property. Removed invasives in Bunched Arrowhead wetlands filling four trash bags.
- Chandler HP* – Property inspected.

Chestnut Ridge HP - Inspected management roads. Cleared trees from trail, constructed new water bars and turnouts, cleaned existing water bars.
Eastatoee Creek HP – Property inspected.
Laurel Fork HP – Inspected property.
Peters Creek HP—Property checked. Roads and trail checked.
Stumphouse HP – Inspected property. Cleaned out water bars. Repaired eroding trail. Cleared downed trees from trail. Pre-baited a couple sites for hogs.
Watson-Cooper HP – Inspected swamp pink sites. Monitored about 2 miles of road work completed by contractor.
Chandler HP – Inspected property.
Chestnut Ridge - Trail inspection.
Clear Creek HP - Inspected bunched arrowhead sites.
Eastatoee Creek HP – Inspected property and cleared trail. Installed sign.
Glassy Mountain HP – Inspected property. Repaired trail.
Laurel Fork HP – Checked roads and boundary.
Stumphouse HP – Completed roadwork (15 turnouts and 4 waterbars). Planned hog trap placement.
Watson-Cooper HP – Prepared road for contractor work. Inspected swamp pink sites and roads with Assistant Chief Simmons.

Wildlife Region 2

Summary

Unit A staff continued extensive work on public dove fields. 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 and education; on prescribed fire preparations; removing hazards and on maintaining and improving access and other preserve attributes.

Regional Operations Activities

Unit 2A

Biologist Oates completed 15 mourning dove point transect surveys across Unit 2A. Biologist Oates completed one NABat mobile route survey in Marion and Florence Counties. The 2nd route was not completed due to rain. Coordinator Stokes and biologist Oates interviewed 3 candidates for the Technician II position out of Florence. Kyle McCoy was selected and will begin employment June 17th. Biologist Oates completed one landowner assistance in Marion County. Technician Fitts completed landowner assistances in Marion County and in Florence County. Coordinator Stokes and biologist Oates visited with the technicians at Broad River WMA to tour the property and discuss future management needs and objectives. The installation of new windows at the Marsh Clubhouse was completed by a contractor and the invoice was submitted. Technician Alston used the backhoe to remove 6 stumps from the Marsh WMA clubhouse yard. Technician Alston scraped 22 miles of roads at Marsh WMA. Technician Alston removed downed trees from roads at Woodbury. Technician Fitts replanted 3 acres of sunflowers at Pee Dee Station. Technician Parsons planted 1 acre of Egyptian wheat and 3 acres of browntop millet. Technician Fitts sprayed 42 acres of herbicide and spread fertilizer on 42 acres of dove field at Pee Dee Station. Technician Parson mowed ½ acre for archaeologist to access Pee Dee Station for shovel test and 1 meter block excavations. Technician Parsons mowed 10 acres at Lake Wallace dove field and daylighted ½ mile of field edges. Technician Fitts sprayed herbicide on 45 acres at Lake Wallace dove field. Technician Fitts met with Public Information Coordinator Egan to film dove field preparations at Pee Dee Station. Region staff had 105 technical assistance contacts (mostly phone calls) pertaining to wildlife and regulations, 14 WMA lands calls, and 18 nuisance calls (2 alligators, 5 bears).

Unit 2B

Unit 2B staff spent time on scheduled equipment and depot maintenance. Staff continued preparation of public dove fields. Technician Moses was promoted into the new Natural Resource Technician IV job on May 17. Technician Moses submitted a hiring package to backfill his old position. Technician Moses and Biologists Cockman, Stokes, and Chappellear conducted a punch list site inspection for the Landsford Canal mitigation project on May 19. Biologist Cockman and Technicians Moses and Scales conducted Mourning Dove call count surveys in Unit B and submitted results. Technician Moses mulched 1 acre of openings and strip mowed 4 acres around dove fields at Draper WMA. Technician Moses disked 137 acres of dove fields at Draper and Landsford Canal WMAs. Technician Moses had 61 acres of fertilizer spread in dove fields at Draper, Worth Mountain, and Landsford WMAs. Technician Moses applied herbicide to 73.5 acres of dove fields at Draper, Worth Mountain, and Landsford

Canal WMAs. Technician Moses planted 78 acres of dove fields at Draper, Worth Mountain, and Landsford Canal WMAs. Technician Moses procured and submitted a quote to gravel 780 feet of new access road at Landsford Canal WMA. Technician Wyatt maintained roads and monitored visitor use at Worth Mountain, McConnell's, Ross and Kirsh WMAs. Technician Wyatt disked 31 acres of dove fields at Worth Mountain WMA. Technician Wyatt applied herbicide to 6 acres of dove fields at Worth Mountain WMA. Technician Wyatt planted 6 acres of dove fields at Worth Mountain WMA. Technician Wyatt strip mowed 8 acres of openings at Worth Mountain WMA. Technician Wyatt mowed 2 miles of roads at Worth Mountain WMA. Technician Smith monitored water levels, beaver activity in ditches, and water control structures at BRWMA. Technician Smith disked 40 acres at BRWMA. Technician Smith planted 10 acres at BRWMA. Technician Scales planted 15 acres at Worthy Bottoms dove field. Technician Scales applied herbicide to 15 acres at Worthy Bottoms dove field. Technician Scales fertilized 15 acres at Worthy Bottoms dove field. Technician Scales planted 15 acres at BRWMA. Technician Scales applied herbicide to 15 acres at BRWMA. Technician Scales applied fertilizer to 15 acres at BRWMA. Unit 2B staff monitored the mitigation project and visitor use at Landsford Canal WMA/Bird Dog Training Area.

Unit 2C

Technician McManus resigned from SCDNR on May 5. Staff conducted site evaluations of recent prescribed burns at McBee and Crossroads WMAs. Biologist Cockman compiled/analyzed turkey season harvest and hunter pressure data for Liberty Hill and McBee WMAs and submitted results. Biologist Cockman reviewed hunting regulations guide changes and submitted edits for the upcoming hunting season.

Biologist Cockman conducted a technical assistance site visit in Chesterfield County on May 17.

Staff closed gates for the summer months at Liberty Hill WMA to allow for road maintenance.

Biologist Cockman completed dove surveys in Kershaw, Lancaster, Chesterfield and Lee Counties and submitted results. Biologist Cockman assisted game wardens with a possible suicide case at Liberty Hill WMA. The individual was found safe at his residence. Technician Lowder and Fitts prescribed burned 28 acres, disked 38 acres, fertilized 20 acres and planted 4 acres of popcorn and 3 acres of sesame at the Davis dove field on the Sand Hills State Forest. Technician Lowder planted 5 acres of sorghum, mowed ½ acre of tree of heaven and 1.5 acres of bicolor lespedeza and fed 20 bushels (May 12 and 26) of quail supplemental feed at McBee WMA. Technician Lowder and Cockman repaired fencing at the boat slip area and mowed 4 acres of grass at Liberty Hill WMA.

Wildlife Management Area Summary

Throughout Region 2, staff disked 254 acres, mowed 37.5 acres, scraped 22 miles of roads, posted 8 signs, sprayed 157 acres with herbicide, spread fertilizer on 143 acres. Burned 28 acres of fields, Planted 121 acres of warm season annuals

Property Management Activities

Marsh WMA: Cleaned and organized equipment shed. Replaced windows in clubhouse. Removed 6 stumps from clubhouse yard. Scraped 22 miles of roads. Posted 8 WMA signs.

Woodbury WMA: Removed downed trees from roads. Repaired 1 washout in road.

Pee Dee Station WMA: Disked 8 acres. Replanted 3 acres of sunflowers. Planted 3 acres of browntop millet. Planted 1 acre of Egyptian wheat. Mowed 8 acres around dove field and parking area. Mowed ½ acre for archaeological study. Applied herbicide to 42 acres. Spread fertilizer on 42 acres. Filmed dove field prep with social media team.

Lake Wallace Dove Field: Mowed 10 acres around dove field and parking area. Daylighted ½ mile of field edges. Applied herbicide to 45 acres.

McBee WMA: Monitored visitor use. Evaluated prescribed burns. Planted 5 acres of sorghum. Mowed 2 acres of tree of heaven and bicolor lespedeza. Fed 20 bushels of sorghum

Liberty Hill WMA: Monitored visitor use. Removed fallen trees from roads. Repaired fencing and boat dock. Mowed 4 acres of grass at the shop and kiosk area.

Campbells Crossroads WMA: Evaluated prescribed burns.

Angelus WMA/Bird Dog Training Area: Monitored visitor use.

Sandhills State Forest Davis Public Dove Field: Prescribed burned 28 acres, disked 38 acres, fertilized 20 acres and planted 4 acres of popcorn and 3 acres of sesame.

Draper WMA: Performed general depot maintenance. Repaired equipment and monitored visitor use.

Mulched 1 acre of openings and strip mowed 4 acres of openings. Disked 122 acres in dove fields.

Fertilized 39 acres. Planted 61 acres in dove fields and applied herbicide to 33 acres.

Worth Mountain WMA: Performed general depot maintenance. Repaired equipment and monitored visitor use. Disked 31 acres of dove fields. Planted 10 acres of dove fields and applied herbicide to 11 acres.

Fertilized 11 acres of dove fields. Mowed 2 miles of road. Strip mowed 8 acres of openings.

Landsford Canal FLA: Disked 15 acres in dove fields. Fertilized 11 acres in dove fields. Planted 11 acres in dove fields and applied herbicide to 11 acres. Procure and submit quote to gravel 780 feet of new access road. Inspected mitigation project and monitored visitor use.

Broad River WMA: Monitored water levels, beaver activity in ditches, and water control structures.

Removed 3 beaver dams and cleaned out risers. Performed general depot maintenance. Disked 40 acres.

Planted 25 acres. Applied herbicide to 15 acres. Fertilized 15 acres

Heritage Preserve Management Activities

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 and education; on prescribed fire preparations; removing hazards and on maintaining and improving access and other preserve attributes. Hebler wrote a prescribed burn plan for, and under the supervision of Stowe conducted a prescribed burn on 15 acres at Longleaf Pine Heritage Preserve. This was her 5th and final burn as “burn boss” needed to be certified as a Prescribed Fire Manager after completing the class last February. This accomplishment serves as a major milestone in her career, while fulfilling a training objective in her EPMS and furthering her professional development. Stowe has required Hebler to serve in all roles on his burn team since she began burning on heritage preserves as a spring break volunteer in 2020. Hebler completed National Wildfire Coordinating Group courses NWCG L-180 (Human Factors in the Wildland Fire Service) and NWCG S-190 (Introduction to Wildland Fire Behavior) and is currently working on NWCG S-130 (Firefighter Training). These courses provide information about safety and efficiency when working in wildland fire. These courses are also prerequisites to other courses she will take. Staff virtually attended masters degree defense of Region 2’s 2019 HP Summer Intern Caroline Sharpe, who is completing her research on fire and hardwoods at Virginia Tech under Dr. Adam Coates (Professor Coate’s doctoral research at Clemson was conducted on fire effects on soil at Tom Yawkey Wildlife Center and Hobcaw Barony). Staff wrote a letter of support for use in attempting to get piedmont counties to pass a resolution supporting prescribed fire. Staff discussed management and research of Rock Hill Blackjacks HP/WMA prairies, mainly matters related to the federally-endangered Schweintiz’s sunflower (*Helianthus schweinitzii*), with Dr. Pum Grubbs of Winthrop University. Staff monitored nesting activity of federally-endangered red-cockaded woodpeckers (RCW: *Picoides borealis*) at both Lee County preserves, removed flying squirrels from RCW cavities and worked closely with Black River Electric Cooperative to repair downed power line running from preserve ROW to neighbor’s home. Staff worked with *South Carolina Wildlife* magazine staff on two articles: one on Philip Juras’ art depicting fire-maintained and other landscapes in SC, and one on prescribed burning culture and landscape management. Staff worked with SCDNR Engineers on boardwalk replacement planning for Segars-McKinnon HP: draft plans are complete. Staff assisted Clemson University in the SC NABat project by running a survey route (three runs) near Kingtree. This statewide research identifies species occurrence and numbers in defined, representative areas. The data from this annual project are submitted to a long-term acoustic dataset. Staff has been assisting with the survey for six years. Staff also worked with researchers to conduct mist net surveys on Great Pee Dee River HP/WMA. Hebler helped with orientation of Region 2 Freshwater Fisheries Section summer intern Bonnie Tanner by taking her to Forty Acre Rock HP/WMA, Longleaf Pine HP/WMA and Lynchburg Savanna HP/WMA. Hebler mentored Tanner through the lens of her own experience as a SCDNR volunteer, summer intern and her current position and responsibilities as a heritage preserve management technician. Tanner also assisted with a bat survey. Staff visited a pine plantation on Great Pee Dee River HP/WMA with Region 2 Wildlife Section Coordinator Sam Stokes and SCDNR Archaeologist Sean Taylor to plan timber harvest aimed at restoration of bottomland hardwood ecosystem restoration, and discussed kiosk needs with *SCW* magazine and agency photographers. Staff took SCDNR Land Acquisition Grants Coordinator Anna Smith on a tour, walking the trails, showing her Flat Creek and The Rock and recently acquired tracts as well as areas targeted for protection -- and also land management activities, including prescribed burns.

Staff attended Clemson University’s carbon-fixation workshop. Staff filmed videos of Lynchburg Savanna HP/WMA, a fire-maintained preserve, to be shown at the International Association of Wildland Fire’s Fire & Climate Conference held jointly in California and Australia. The videos were uploaded to the conference website for those attending in person or online to use during the conference and will be viewed by wildland fire people around the globe. Staff assessed firebreaks to check for prescribed burn readiness; flagging, cutting and clearing around sensitive elements: RCW cavity trees, snags, cat-faced trees, utility poles, gates, signs, etc. and checked recently-burned units. Staff maintained trails, parking areas and boundaries by removing hazards and trash, and maintained SCDNR equipment and vehicles.

Property Management Activities

Forty Acre Rock HP/WMA: Staff took SCDNR Land Acquisition Grants Coordinator Anna Smith on a tour, walking the trails, and showing her recently-acquired tracts as well as areas targeted for protection, and also land management activities, including prescribed burns. Staff walked the trails and firebreaks to check for maintenance needs, monitored the closed portion of the lower loop trail, checked for evidence of foot traffic and removed make-shift bridges left by visitors where the beaver pond dam bridge was removed to protect critical habitat for federally-endangered Carolina heelsplitter mussels (*Lasmigona decorata*) on Flat Creek. Staff removed trash from the parking areas and trails and cut and removed hazardous limbs from the parking areas. Staff maintained the preserve by assisting game wardens with surveillance (SCDNR LED issued no warnings or tickets) by monitoring for abuse, by removing trash and hazardous trees, by covering graffiti, by managing vegetation, and by maintaining gates, trails, parking areas and boundaries.

Great Pee Dee River HP/WMA: Staff visited a loblolly pine plantation with Sam Stokes and SCDNR Archaeologist Sean Taylor to plan logging pits and skid trails for a timber harvest aimed at restoration of bottomland hardwood ecosystem restoration. Staff discussed kiosk needs with SCW magazine and agency photographers.

Longleaf Pine HP/WMA: Hebler wrote a prescribed burn plan for, and under the supervision of Stowe conducted a prescribed burn on 15 acres. This was her 5th and final burn as “burn boss” required to become certified as a Prescribed Fire Manager after completing the class last February. This accomplishment serves as a major milestone in her career, while fulfilling a training objective in her EPMS and furthering professional development. Stowe has required Hebler to serve in all roles on his burn team since she began burning on heritage preserves as a spring break volunteer, and then summer intern, in 2020. Hebler brought fisheries intern Tanner to the property to discuss land management using fire, showing her the most recently burned unit and compared them to units that were burned a few months ago. Staff cleared and painted 7.75 miles of boundary.

Lynchburg Savanna HP/WMA: Staff filmed videos of this fire-maintained preserve to be shown at the International Association of Wildland Fire’s Fire & Climate Conference, held jointly in California and Australia. The videos were uploaded to the conference website for those attending in person or online to use during the conference and will be viewed by wildland fire people around the globe. Hebler brought fisheries intern Tanner to the property to see pitcher plants, pond pine, longleaf pine and runner oak, discussing how fire restored and maintains this ecosystem while enhancing public safety and timber resources

Rock Hill Blackjacks HP/WMA Staff discussed prairie management and research projects, mainly matters related to the federally-endangered Schweinitz’s sunflower (*Helianthus schweinitzii*), with Dr. Pam Grubbs of Winthrop University.

Woods Bay HP- Staff dealt with snags and other sensitive elements on certain firebreaks to prepare for burning scattered small units (2-10 acres). Staff cleared overhanging limbs from entrance road on NE tract.

Segars-McKinnon HP Staff worked with SCDNR Engineers on boardwalk replacement planning: draft plans are complete. Staff cleared 2 miles of trail and removed a hazardous tree.

Wildlife Region 3

Summary

Staff conducted a variety of management activities across the region’s wildlife management areas including dove field and waterfowl impoundment preparations. Staff conducted several prescribed fires across the region and assisted each other as needed. Several staff members assisted with interviewing potential candidates for natural resource technician vacancies in Eastover and Eutaw Springs. Biologist Bennett and other regional staff hosted a wood duck trapping meeting at the Wateree Correction Facility with their staff to discuss last year’s results and this year’s upcoming expectations. Biologist Forehand and staff continued clearing understory at Crackerneck Wildlife Management Area and the Hallman dove field to promote the growth of native grasses. Biologist Shuler and staff continued managing dove field plantings at Santee Cooper Wildlife Management Area, Oak Lea Wildlife management Area and Santee Dam Wildlife Management Area. Biologist Young, along with Savannah River Ecology Lab staff, released 13 waif gopher tortoises at Aiken Gopher Tortoise Heritage Preserve.

Regional Coordinator

Regional Coordinator Kesler assisted regional staff with management activities and administrative duties related to the region’s heritage preserves and wildlife management areas. Assisted regional staff with prescribed

fires at Belfast. Assisted other staff with meeting at Wateree Correctional Institute to discuss wood duck banding. Attended the Heritage Trust Advisory Board meeting hosted at Styx. Met with Deputy Director Cope, Assistant Chief Simmons and Young at Savannah River Bluffs Heritage Preserve to discuss future public access opportunities with a neighbor. Visited the following heritage preserves and wildlife management areas in region 3; Belfast, Ditch Pond, Peachtree Rock, Shealy's Pond, Henderson, Savannah River Bluffs, Santee Cooper, Love and Wateree River.

Regional Operations Activities

Unit 3A

Technician Baldwin, Technician Kiker, Technician Rex, Technician Stephens, and Bennett completed the annual distance dove survey routes throughout region 3. The interviews for a technician II position based out of Eastover have been completed and is under review. Region 3 staff hosted a wood duck trapping meeting at the Wateree Correction Facility with facility staff to discuss last year's results and this year's upcoming expectations. The summer intern for region 3A and region 3 Heritage Preserves has started. Staff spent some time assisting with prescribed fire at Aiken Gopher Tortoise Heritage Preserve. Baldwin attended the annual bird workshop in the upstate.

The waterfowl impoundments were planted with corn and chufa at Wateree River HP/WMA. Fertilizer has been spread and post-emergent chemicals have been applied. Fences around the impoundments are constantly being monitored in effort to control hog damage. The fences have been sprayed with chemicals. The haul road and fishpond areas are being monitored and trapping efforts continue to keep beaver issues to a minimum. Potholes along Goodwill Rd have been filled. Staff conducted prescribed fire on 219 acres in mixed pine hardwoods with efforts aimed at reducing hardwoods. Several dead trees located around facility buildings have been cut to remove possible damage during high windstorms. Small game quail mix, and hybrid sorghum has been planted along powerline right of ways throughout the property.

Summer food plot locations have been disked and prepped for planting at Love Wildlife Management Area. The dove field and impoundment has been fertilized and sprayed with post emergent chemicals. Daily monitoring of deer and hogs in these planted areas area a continuous battle. Fences are continuously being monitored and repaired as needed. Site contractors have completed the painting of the skeet houses and they are working on the entrance into the complex.

The Belfast Wildlife Management Area shop painting has been completed and staff have been working vigorously to clean up around the shop parking and landscaping area. Much of this month was spent maintaining spring crops along with preparing for summer plantings. Activities included spraying corn and sunflowers, regularly checking, and spraying electric fences and disking for summer plantings on dove fields and openings. Prescribed understory burns were conducted on two burn blocks at Belfast WMA and the Rifle and Pistol range was burned for safety. Technician Rex assisted on a prescribed burn in Aiken and two days in Eastover. A contractor stumped and pushed new fire lines on Belfast WMA. Fertilizer bids were acquired, a bid awarded, and the product has been picked up. Belfast Wildlife Management Area hosted a field day for landowners conducted by the small game section with about 30 in attendance. A gate was installed near a house site on the White Plains property.

Unit 3B

Crackerneck Wildlife Management Area was open to the public in May for 4 days. Forehand and Technicians Chapman and Rinder manned and worked the gate for all opens days. Rinder and Chapman planted Hallman dove field, sprayed herbicide on 20 acres of corn, and disked 30 acres. Staff also performed maintenance on the electric fence, worked on equipment, masticated 15 acres of understory and disked firebreaks at Hallman. Rinder and Chapman also disked, planted, fertilized, and applied herbicide to 30 acres of corn at the Crackerneck WMA dove field. Forehand masticated 30 acres of understory, met and assisted Savannah River Site Forest Service planting special use dove field, and received and assisted on 4 nuisance alligator calls.

Unit 3C

Shuler, Technician Smith and Technician Mackey continued planting sunflowers and millet in dove fields at Santee Cooper Wildlife Management Area, Oak Lea Wildlife Management Area and Santee Dam Wildlife Management Area. Hog damage is increasing at Santee Dam Wildlife Management Area following the replanting of flooded crops. Mackey continued maintaining and repairing electric fencing at Santee Cooper Wildlife Management Area. Staff continued discing and prepping public dove fields within the unit. Staff completed online training. Shuler answered multiple calls from the public and continued issuing alligator tags. Mackey and Smith repaired electric fences at Santee Cooper Wildlife Management Areas. The vacant Natural Resource Technician II position has been reposted, and qualified applicants will be contacted for interviews. Staff spent a substantial amount of time maintaining and repairing equipment.

Heritage Preserves

Young and Technicians Kiker and Foster conducted numerous site visits to the Heritage Preserves and Wildlife Management Areas in Region 3. Young has been updating maps for the heritage preserves and their management plans. Young conducted a field trip at Aiken Gopher Tortoise Heritage Preserve for The Longleaf Alliance. Foster replaced hiking trail signs along a section of trail at Aiken Gopher Tortoise Heritage Preserve. Kiker mowed the grass at the Education Center at Congaree Bluffs Heritage Preserve and the WFF Styx office. Young and Kiker replaced the kiosk information posters and acrylic viewing sheet at the kiosk at Peachtree Rock Heritage Preserve. Young, Kiker, and Foster built a new footbridge along a new section of trail at Peachtree Rock Heritage Preserve. Young, along with Botanist Bradley, hosted the Heritage Trust Advisory Board to a field trip at Peachtree Rock Heritage Preserve following the May meeting. Kiker has continued to mulch dense hardwood areas at Aiken Gopher Tortoise Heritage Preserve. Young, assisted Intern Moore in attending the intern orientation in Columbia. Unit 3A Biologist Bennett and other staff burned 133 acres at Aiken Gopher Tortoise Heritage Preserve. Savannah River Ecology Lab released 13 waif gopher tortoises at Aiken Gopher Tortoise Heritage Preserve. Foster attended the SCDNR bird identification workshop in Sunset, SC. Young, Kiker, Foster assisted Unit 3A staff in conducting 3 prescribed burns at Wateree River Heritage Preserve. Young, Bennett, 3A staff, heritage preserve staff, and Kesler cook a lunch for the Wateree River Correctional Facility staff as a thank you for access during wood duck trapping season last year. Young, assisted Bennett and Kesler in conducting interviews for vacant Unit 3A technician position. Young and Foster conducted their respective mourning dove transect points throughout the region. Foster has refreshed all the firebreaks at Aiken Gopher Tortoise Heritage Preserve. Young attended a meeting at Savannah River Bluffs Heritage Preserve with Kesler, Assistant Chief Simmons, and Deputy Director Cope to talk to an adjacent landowner of the property on finding public access to the preserve. Young and Foster placed more closure signs at Savannah River Bluffs Heritage Preserve. Kiker has continued to pick up trash at Peachtree Rock Heritage Preserve and Aiken Gopher Tortoise Heritage Preserve.

Wildlife Region 4 **Regional Coordination**

The on-call bear phone was attended to for a week, no major bear interactions were reported during this time. The ACE Basin Taskforce meeting was attended and a report on WMA and land protection activities was given. Interviews for the Assistant Regional Coordinator and Heritage Preserve Coordinator were conducted. Field support was given at Samworth WMA, as well as a tour of Samworth with Columbia Staff. A meeting with City of Charleston Animal Control Service was conducted to discuss proper permitting for nuisance alligator control. A pre-bid for renovations at Donnelley WMA was conducted. The Employee of the Year recognition luncheon was attended at Wateree Shooting Range. One dove point count survey was conducted. End of Fiscal Year activities and other routine administrative activities were attended to.

Unit 4A- (Horry & Georgetown/ Coastal Black Bear)

Coastal Bear: There were 5 sightings and 11 nuisance calls reported. Two site visits were conducted. Educational information was shared with one HOA representative to send to homeowners. Biologist Brantley conducted a joint radio room training with Biologists Waldrop and Hart.

Unit 4A Heritage Preserves: Heritage Preserves in Horry County were visited 11 times. Biologist Brantley continued assisting with Heritage Preserve duties. Staff spent multiple days peeping Red-cockaded woodpecker nests on Lewis Ocean Bay Heritage Preserve (LOBHP) and Samworth WMA. Technician Matthews continued to split his time between Samworth and assisting the HP crew.

Samworth WMA Uplands: Routine administrative duties were carried out. Staff completed First Aid & CPR training. Landscape work began on cleaning the azaleas and camellias around the Dirleton House. The Samworth dove field finally received some much-needed rainfall but could still use more. Dove field activities included: nitrogen and post emergent herbicide applied to the corn, two plantings of sunflowers planted for a total of 28 acres, preemergent herbicide applied to the sunflowers, and 28 acres disked. The electric fence was repaired daily. Four dove point transect distance sampling surveys were completed in Georgetown County. Biologist Brantley joined retired Biologist Mark Bara in completing the necessary paperwork to enter a deer in the Pope and Young Club. Technician Matthews spent one man day running the Marsh Master in the Lower Middleton impoundment. Repairs included bearings on the perfecter and AC unit in the ice room. Staff maintained the Samworth grounds.

Unit 4B (Berkeley & Charleston)

May activities were dominated by prescribed burning, disking and planting dove fields, disking waterfowl impoundments and keeping them dewatered, and repairing and installing fencing around dove fields and impoundments.

Bonneau Ferry: 125 general visitors and 0 hunters utilized Bonneau Ferry. Staff completed significant prescribed burning. Routine grass cutting and facilities maintenance were completed. Fences were sprayed and repaired. Interns assisted RCW program staff with monitoring RCW clusters. Waterfowl impoundments were planted, fertilized, and limed. Roads were mowed and patched as needed. Staff assisted with delivery of split-rail fencing to Childsburry HP. Duck trapping sites were prepared. Soil samples were collected and submitted for analysis.

Sandy Beach, Cross Generating Station, and North Dike: Impoundments are being disked and chufa was planted in upland sites and some impoundments. Fences are being installed and repaired. Ditches were cleaned and some field leveling was completed.

Canal – Staff continue to work with COE personnel via weekly calls. Most of the dove fields have been planted. Fence and herbicide work continues in and around the dove fields. Dove banding sites are being maintained.

Francis Marion National Forest: Wildlife openings were disked and harrowed. Elmwood Check Station and roads were mowed. Hog trapping yielded 14 hogs. Dove banding sites were scouted and prepared. Staff checked on hog hunters (still and dog).

Other Unit activities: Staff assisted Joint Base Charleston with their Integrated Natural Resources Management Plan review process. Staff measured one deer antler set for State records book. Staff completed dove survey points. Two interns started and are being trained.

Wildlife: A total of 393 wildlife calls were handled at the Charleston office (171 alligator, 3 bears and 219 other nuisance animals). There were 41 licensing/boat titling calls transferred or emailed to the licensing/permitting office. Hunting regulation and property calls were handled for 1 caller.

23 Nuisance Alligator permits were issued. (15 Properties and 8 Individual).

9 Cites Tags were issued.

Alligator signs were mailed to 4 property managements.

Unit C: Bear Island/Donnelley/Botany Bay Plantation/Edisto River WMA's/Walters

Region 4-Unit C: 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. Some impoundments have been drained due to excessive algae growth over the winter while others are being held at sheet water level to provide foraging habitat for migrating shorebirds. Shorebird migration has nearly wrapped up and the last impoundments were completely drained to begin a new crop of brackish SAVs. Dove fields were monitored and managed accordingly across the unit. Staff continued applying herbicide, fertilizer and performing weed and depredation control across the unit. The native sunflowers planted this past winter as an alternative to Clearfield Sunflowers are in full bloom and will continue to bloom for several more weeks. Prebid site visits were conducted to get the bathrooms at the Donnelley Lodge remodeled. All requisitions were submitted before the deadline to procure materials for agriculture, and to wrap up some projects across the unit. A tour of Donnelley was given to representatives from the Colleton Soil and Water Conservation District. There was a minimum of 7,290 visitors for the month in Unit 4-C.

Bear Island WMA: Agriculturally, three different impoundments totaling 55 acres were disked, pelletized lime was applied, corn was planted then treated with pre and post emergent herbicide. Des X has been applied as needed to deter depredation. Additionally, 10 acres of bird mix strips have been completed. Dike and road maintenance/repair continues. Ti Ti and Pecan Road were graded. Dikes were bush hogged as needed with a single pass to make travel possible without loading truck and machinery radiators with grass seeds. Approximately 39 miles were cut in May. Garlon 3A was applied to 11.6 miles of dike edges to combat unwanted woody vegetation. Grounds 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. Construction/maintenance technician Joe Armstrong continued to prepare paperwork and logistics for a new tractor shed at Bear Island, delivery of materials are due anytime and construction to begin. Botany Bay big house decking and foundation repairs are in process. Main house doors were also remodeled. Miscellaneous tasks achieved include installing new brakes and rotors on one of the pickups, conducted dove surveys, replaced non-repairable lights on pumper truck with aftermarket led lightbars, and setup new boomless sprayer.

Donnelley WMA – Agriculturally, the remainder of sunflowers were planted and pre-emergent herbicide applied. All corn and flowers are being carefully monitored for weed, insects and depredation. Post emergent applications of herbicide and Des X are being applied as needed, the flower crop has been cultivated twice also. Due to the volatile pricing of liquid nitrogen we decided to use pelletized urea for our nitrogen needs. Urea has been applied throughout the dove fields except of the youngest flowers. Strips of dove proso have been added to areas between corn and flowers in dove fields. The electric fences surrounding the dove fields at the shop and at Mary's

Island were sprayed to control vegetation and prevent grounding and other electrical issues. Ten acres of wildlife openings were planted in spring/summer mixes of grains and forbes. Approximately, ten acres are being prepared for planting WMA bird mix in strips scattered across the property. Mail Route impoundment has 25 acres being prepared for a planting of Chiwappa millet. Dike and road maintenance included bush hogging of dikes and the nature trail cut weekly. Several secondary roads have been groomed with dozer to knock back vegetation encroachment and improve driving surface. The property line fire line from the Bennett's Point Road kiosk to the end of Turkey Hill Road continues to be improved for management needs. Grounds maintenance included mowing shop, office, lodge, common areas and around other dwellings. Structures, trunks, gates, and signs have grass and weed control through an as needed application of herbicide. Miscellaneous tasks achieved include 3 trucks and the Godwin pump had PMs preformed, a packing wheel and tension adjustment handle replaced on 4 row planter, repairs to electric fencing, assisted Lisa Walters with property line marking, prepared area for duck netting.

Botany Bay Plantation: Staff continued work in the dove fields, planting, spraying, applying nitrogen, disking, and keeping up with electric fences. Fences are kept up with daily. Staff sprayed herbicide on 15 acres of corn and 20 acres of sunflowers. Staff also applied nitrogen to all 35 acres of corn and sunflowers. Staff planted an additional 3.5 acres of corn with some leftover seed on Seacloud. Staff planted the quail mix provided by the small game program. Staff got quotes to get live oaks trimmed off the roof of the big house. Staff also removed deck from second story bedroom and began rebuilding it to make it safe for use. Staff got quotes to get the floors of the manager's residence refinished. Staff cleaned up around the shop and fixed broken equipment. Volunteers continued work on clearing over hanging limbs from roads and field borders. volunteers also cleared the back trail on Pockoy Island, used by turtle technicians for access to northern beach, from debris that floated up during king tides. Volunteers keep up with the grass mowing weekly. MRD staff conducted several tours and outreach programs. There were 7,290 Visitors in the month of May. There was 2.75 inches of rain in May.

Edisto River WMA: Staff took advantage of the dry weather and removed debris from pipes and ditches.

GIS/GPS/Miscellaneous: Worked with staff to scrap/repaint/post signs (22 WMA, 28 Leaving WMA) for two days on sections of Donnelley WMA property boundary. Sections of the timber stand inventory data at Donnelley WMA were edited. The prescribed burns for Bonneau Ferry WMA were updated. The water level at Dungannon HP/WMA was monitored. Roadside litter was picked up at Dungannon HP/WMA. Miscellaneous property marker data (GPS) for Donnelley WMA boundary was recorded and edited. Kiosk supplies were monitored at Edisto River WMA, Donnelley WMA, and Bear Island WMA. Miscellaneous supplies were purchased/ordered and picked up. Assistance was provided with property maintenance at Donnelley WMA check station. Miscellaneous GIS work was conducted.

Unit 4D-(Hampton, Beaufort, Jasper)

Webb Wildlife Center & Management Area, Palachucola WMA, Hamilton Ridge WMA

Summary

A tree was planted to honor the memory of Mr Paul DeLoach, a staff member that passed away in April. He will be missed and remembered with care. Staff spent most of the month with habitat management related activities including burning, spraying, disking, and planting. Staff assisted with the annual mourning dove surveys. Staff continued to monitor nesting activity for red-cockaded woodpeckers.

Monthly Totals: 92 hunters, 237 range users, 137 Non-Hunting WMA users, 50 other users (meetings/trainings/organized groups and events). Grand total: 516

Two hundred thirty-seven (237) users signed into the Palachucola range. 137 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 for the month. Biologist Atkinson made visits to all properties within the unit to assess habitat conditions and other management activities, continued working on large projects and attended committee meeting for Wild @ Webb Camp. Atkinson and Biologist Moss attended Supervisor Training at STYX. Moss gave Nuisance Alligator Presentations at Latitude Margaritaville and Cypress Ridge communities. Moss attended the Bird ID Workshop at Lake Jocassee. Moss participated in the PLEAF event at Webb and Spring Island. Technician Bland attended 2 meetings for Wild @ Webb Camp. Webb staff & facilities hosted 1 meeting in May: Palmetto Leadership for the Environment, Agriculture, and Forestry (1 day, 50 attendees) Lower Coastal Alligator activity for the month: issued 11 commercial permits with 37 tags, issued 5 individual permits with 11 tags, distributed 0 alligator signs and received 42 nuisance calls.

Habitat management: Staff continued with dove field management. Staff cultivated the Webb dove field, fertilized, and planted millet in Webb and Palachucola dove fields. Staff utilized the Brown tree mower to control 20

acres of midstory. Significant time was spent mowing, spraying, fertilizing, and planting ~50 acres of food plots, brood fields, and bird patches. Staff conducted prescribed burns on ~150 acres. Annual RCW nest monitoring continued with 19 clusters fledging 41+ chicks and 5 nests currently active.

Facilities & Infrastructure maintenance included: Staff graded approximately 5 miles of roads. Staff cut 3 miles of fire breaks. Regular maintenance and mowing of the Palachucola shooting range continued. Staff hauled 10 loads of rock to maintain the Jordan Lake boat ramp. Staff spent time clearing trees out of roads after storms. Time was spent cleaning informational signs around the property. Staff spent time mowing around all facilities. Staff spent time on general grounds maintenance.

Equipment maintenance: Significant time was spent on general equipment maintenance & repairs.

Upper Coastal Waterfowl Project

Santee Coastal Reserve WMA

Upland: The avenue and entrance areas were mowed. The fire breaks surrounding burn block #9 were tilled. The campground was cleaned and monitored. Ormand Hall Road was mowed. The Big Well impoundments were mowed.

The Cape: All dikes were repeatedly mowed. All phragmites growing on dikes was sprayed. Water levels were monitored, and adjustments were made as necessary. Salinities and water temperatures were measured and documented. The areas surrounding the water control structures were string trimmed. All structures were inspected and photographically documented. Vaughan stand dike was tilled. A meeting was held with a contractor to discuss the logistics of spraying phragmites in the Blakes impoundments by drone.

Murphy Island: The contractor continued re-establishing berms and re-topping dikes in and along the Boggy impoundment. Several visits were made to check on work progress. The water levels in the Boggy and Rushes impoundments were repeatedly adjusted to facilitate berm work. Ducks Unlimited surveyors were taken by airboat to take water depth measurements where the freshly re-topped cross dike had caved in. The long-reach excavator was repeatedly fueled up by airboat. The long reach excavator finished re-topping and was barged to the main dock for getting the bucket welded. The amphibious excavator finished cleaning out a ditch connecting Big Ocean Pond to the nearest water control structure. The machine moved on to repair a dike near the ocean. The machine then addressed several smaller dike and canal issues inside the Black Point impoundment before being floated to Cedar Island. Water levels were monitored, and adjustments were made as necessary. Salinities and water temperatures were measured and documented. The areas surrounding the water control structures were string trimmed. All structures were inspected and photographically documented.

Cedar Island: The amphibious excavator was floated to Cedar Island to offload the barge and pull the spuds. The excavator was then used to patch several washed-out critical areas in the dike by the first dock. The machine was floated to Santee Delta East afterwards. Water levels were monitored, and adjustments were made as necessary. Salinities and water temperatures were measured and documented. The areas surrounding the water control structures were string trimmed. All structures were inspected and photographically documented.

Repairs: The Kubota sprayer pump was repaired.

Other Activities: Interviews were held for a heavy equipment operator. A suitable candidate was found and hired. Dove surveys were completed. A new charging station for car and boat batteries was built in the SCR workshop. Treptow went to the South Carolina Interagency Drone User Consortium meeting and mapping workshop in Clemson. Treptow passed the Airborne Public Safety Association's Remote Pilot Flight Proficiency evaluation. Treptow participated at the SCDNR GIS team's drone webinar. Treptow participated in DJI's Drone Solutions for Wildfires webinar. A wetland tour was given to a Master Naturalists group. FLBC was ordered and delivered to the workshop area. Ordered lumber was delivered and stacked in the workshop area.

Santee Delta WMA

Delta East: Several more historic quarter drainage ditches were marked and dug out using a ditcher behind a tractor. Several visits were conducted to check in with the contractors. A meeting with Ducks Unlimited was held in the office and at the Santee Delta to talk about which interior ditches need to be cleaned out by the contractor. The amphibious excavator was floated to Delta East to start cleaning out the ditches along the interior cross dikes.

Delta West: Delta West was monitored.

Samworth WMA

The amphibious excavator continued retopping project on the Backfield Impoundment where 640 LF was retopped. Two additional crossings were established on Upper Middleton for equipment access to field beds for habitat manipulations. Extensive time was invested this month barging, mowing, burning, and discing for habitat improvements in the Upper Middleton, Upper Middleton Cut, Lower Middleton Cut, Lower Middleton, Cane Patch, Rabbit Island, Little Carr, and Mill Pond Impoundments.

Habitat Report: The experimental white marsh treatment continues in the Big Carr Impoundment. Areas that received adequate herbicide treatment show no regrowth. Sesbania is beginning to sprout in most impoundments having received intensive site disturbance.

Repairs: Various marsh buggies were serviced, and numerous repairs were made. Disc harrows were also repaired.

Other: We received delivery of 3 rental marsh buggies. Fuel tanks were moved to Mill Pond and Upper Middleton. Tours of habitat work were given to Columbia leadership.

Heritage Preserves

One technician position has been offered and accepted. That new hire is set to begin June 2nd. The Heritage Coordinator position remains vacant as well as a technician position Unit 4A Biologist Brantley has been covering the duties of the HP coordinator, overseeing staff, ensuring that properties are maintained, and projects remain on track.

Cartwheel Bay: Staff conducted a routine property check and litter was removed. Staff monitored the Venus Fly Traps. It was noted there are 21 plants now and 7 were trying to flower.

Dungannon: The wading bird crew has been monitoring the Wood Storks. GIS Technician Walters replaced a cut lock and conducted a property check.

Lewis Ocean Bay: Staff conducted multiple property/road checks. Litter was picked up several times throughout the month. Staff continued monitoring trail cameras on the parking areas. While dry ground conditions allowed, 6 loads of rock were hauled and spread to Fly Trap to improve tractor and emergency vehicle access. Warranty work was completed on generator.

Little Pee Dee: Staff conducted routine property checks.

Tillman Sand Ridge: Technician Kalinowsky performed routine property checks and litter patrol. Kalinowsky also continued to monitor for Herp enthusiasts as well as poachers. It was noted a slight uptick in “herper” visits during the first 2 weeks of May. Two additional cameras were installed at high foot traffic interior intersections. Kalinowsky assisted Biologist Moss with RCW nestling monitoring. One gate lock was vandalized and repaired. Weather conditions did not allow for any burning to occur in the restoration areas during May. A botanical survey continued and is set to expected to be completed with a submitted report by January 2023.

Waccamaw River: Staff conducted routine property checks. Staff followed up and checked in on the contracted survey crew. It was reported that 9.28 miles of boundary line had been resurveyed and marked. This work was conducted on sections of Loris Hunting Club, Schultz, Carter Stillely, Big Savannah, and Red Bluff tracts. Road conditions were monitored on Carter Stillely and when conditions allowed, 960 tons of #4 ballast were chain spready on roads/culvert crossings and water areas. Staff also monitored road conditions at Simpson Creek due to recent logging activity from adjacent landowner. Staff closed and locked gates on both ends of Simpson Creek to eliminate thru traffic. Two structures were torn down on the Mossy and Causey tract.

Miscellaneous: Staff completed CPR & First Aid training. Technician Bell has continued to thrive with keeping up HP properties and working closely with 4A staff. Both Bell and Technician Matthews have pulled together to completed tasks efficiently and effectively. Their skill set has saved time and money on repairing equipment when needed. Repairs this month included: regular truck service, backhoe tire and AC, starter replaced on 5105, recall on F-250. The dump truck and backhoe were moved back to LOB from Carter Stillely. Staff collectively made 30 site visits to 6 preserves this monthly including Tillman Sand Ridge, Lewis Ocean Bay, Waccamaw River, Cartwheel Bay, and Little Pee Dee River HPs.

Tom Yawkey Wildlife Center

Summary

Staff conducted and assisted with numerous research and survey projects during the month. Water quality and levels were monitored for waterfowl food production. The monthly waterfowl and wading bird point counts detected 763 waterfowl and 218 wading birds. The education program conducted 9 socially distanced programs for 115 participants. Five summer interns from Horry-Georgetown Technical College and Clemson University began work this month. Staff developed six social media posts that had over 8,000 interactions. The annual red-cockaded nest surveys were conducted on Cat Island and 15 nests were located. The ongoing alligator and bobcat research partnerships with Clemson University continued during the month. Loggerhead sea turtle nesting began in May with 119 nests laid on YWC beaches this month.

Managed wetlands are at various stages of drawdowns and reflooding to facilitate waterfowl food production. The Lower Reserve managed wetlands continue to be held dry while perimeter dike work takes place. The monthly waterfowl and wading bird point counts detected 763 mottled ducks and 218 wading birds.

The education program conducted nine socially distanced field programs for 115 participants. This included ten introductory field trips and seven special interest trips such as A Walk-Through History and Birding Yawkey Center. Four students from Horry-Georgetown Technical College and one student from Clemson University began summer internships. The students will work with staff to learn about property management and wildlife research. The students also have a weekly Lunch & Learn Program where they discuss current topics in the wildlife management. Students and faculty from Horry-Georgetown Technical College conducted two forestry and wildlife management labs on Cat Island for 37 students.

Six social media posts were developed that had over 8,000 interactions.

Twelve miles of roads were graded and shaped and fourteen miles of dikes and roads were mowed and side-cut. Clemson University PhD candidate Meghan Keating continued field work on a bobcat home range and toxicology project on the South Island portion of the property. Fifty-one camera traps are monitored on South Island to estimate bobcat prey abundance. Transects are walked on dikes weekly to locate scat samples.

Loggerhead sea turtle nesting kicked off strong this month on all YWC beaches. In May South Island had 62 false crawls and 60 nests, Sand Island had 23 false crawls and 16 nests, and North Island 37 false crawls with 33 nests. Predation has been an issue on North Island with 20 nests depredated by coyotes. Two male coyotes were removed from the beaches by trapping. Four black rail survey transects conducted but no rails were detected. The spring alligator spotlight count route was conducted. A total of 242 alligators were observed. The annual red-cockaded woodpecker nest cavity inspections took place this month. Fifteen clusters either had nests or were active with adult birds.

Six-hundred feet of dike were retopped on the Lower Reserve managed wetland on South Island. Two water control structures were repaired on South Island. Staff assisted with mowing and disking activities within managed wetlands at Samworth WMA.

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). Attended LPC Meeting in Pensacola, FL. 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 (contract timber marking has commenced briefly). Continued collaboration with USFS on Good Neighbor Authority project on the Enoree RD of the Sumter NF. Harvesting commenced on timber sale at King's Creek (579 acres of loblolly pine thinning), further timber marking/planning (104 acres of loblolly pine thinning) on Hunting Creek Mitigation Area continued, near completion. Visited Edisto River Easements with Coordinator Smith for annual easement monitoring. Continued coordinating timber cruising and mapping additions to the Statewide Forestry Geodatabase. Monitored and administered ongoing timber harvesting operations. Assisted Chief Dukes and Asst. Chiefs with timber budgets.

Harvesting operations at Hamilton Ridge WMA (618 acres of plantation loblolly second thinning and 77 acres of clearcut) and Woodbury WMA (792 acres of plantation loblolly first thinning and 28 acres of second thinning), are being closed out. 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, but are being monitored closely for resumption. Harvesting operations on two timber sales at Hamilton Ridge WMA (521 and 504 acres of plantation loblolly first thinning) continued throughout the month and are relatively close to completion. Harvesting operations at Palachucola WMA (270 acres planted loblolly and slash marked thinnings and 138 acres clearcut for longleaf restoration) remain temporarily delayed due to ground conditions, very close to completion. Harvesting operations at James L. Mason WMA (408 acres natural loblolly marked thinnings) remained delayed due to wet ground conditions, but are very near completion. Close-out in progress at the South Heritage Tract (276 acres planted loblolly second thins). Harvesting operations at Draper WMA (60 acres of oak woodland thinning, 57 acres of planted loblolly first thins) have yet to commence. Harvesting operations at Belfast WMA (591 acres planted loblolly second/third thins) continued to be delayed due to wet ground conditions, but are very close to completion. 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. Harvesting operations at Woodbury WMA (1,132 acres planted longleaf and loblolly) were suspended early in the month, but are scheduled to resume soon. Recently awarded habitat improvement harvest at Chestnut Ridge HP (19 acres planted loblolly thinning and 26 acres of planted loblolly

clearcut) commenced and made good progress. Continued working with staff on planning/preparation of numerous upcoming sales.

Statewide Waterfowl

Assisted with habitat management oversight on Samworth WMA. Provided a property tour of habitat work at Samworth WMA to Director Boyles, Deputy Director Cope, and Chief Dukes. As part of the NAWMP Science Support Team, communicated updates on waterfowl species prioritization to the Atlantic Flyway Technical Section. Finalized team members for the Bear Island WMA Wetland Management Evaluation. Completed FY 2023 Staff Duck Stamp Funding requests and submitted those to Chief Dukes. Coordinated the purchase of Chiwapa Millet seed for Category I & II waterfowl areas. Began investigating the application of Integrated Waterbird Management and Monitoring protocols for surveying habitat and waterbird abundances on Category I & II waterfowl areas.

Statewide Projects Coordination and Administration – Assistant Chief

Participated in numerous meetings with Deputy Director Cope, Chief Dukes and Assistant Chiefs Simmons and Chappellear on various topics including, coordinating staff work schedules, activities, field operations, implementation of regulations, and budgets. Supervision of Statewide Programs staff continued. Provided technical assistance by phone and email as requested throughout the month. Attended and participated in the following meetings STYX Radio Room staff training for Alligators and Bears, AFWA International Relations Committee Meeting, SCDNR staff Endangered Species discussion, bear research meeting, Bobwhite Funding Partnership event in Columbia, AAA Driver Training, Clemson Master's student Wood Duck Box thesis defense, WFF staff meeting, Wildlife intern orientation, SCDNR Board Meeting in Columbia, WFF Advisory board Meeting at Wateree Range, and Federal Aid discussion with WFF and Grants staff. Reviewed draft bear research proposal, reviewed and provided edits for annual Rules and Regulations publication. Assisted Bat project vehicle repair and staggging, and development of Northern Long-Eared Bat comments for the USFWS. Participated in interviews, application review, and interview question development for a Bio 2 for the Black Rail State of the Birds grant. Participated in numerous meetings with SCDNR staff, USDA – APHIS, Clemson, and SCDHEC regarding Avian Influenza. Responded to inquiries from media regarding AI and black vultures.

Big Game Program

General Activities

Responded to 65 phone calls and 68 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 (13 calls and 14 e-mails approximately 2.2 hours). Consulted directly with field officers (4) related to deer fawns, high fences, reporting harvested turkeys, and deer depredation.

Coordinated with OMO on planning and drafting news releases, social media posts, mass emails, etc. related to the turkey hunter survey and turkey harvest reporting summary.

Attended the Wildlife and Freshwater Fisheries Advisory Committee meeting and provided a summary of the 2022 turkey season results and led a discussion on deer season dates.

Complied with one Freedom of Information Act request.

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

Provided 4 public speaking engagements with 130 people in attendance.

Participated in 1 interview with the media.

Completed 5 surveys from other agencies/entities.

Deer Research and Management Project

The Deer Quota Program (DQP) required effort primarily related to executing the annual renewal process. This included preparing a mailout to 1,383 participants from last year and those individuals who requested to participate in 2022.

Continued the process of working with The Sourcing Group on supplies for deer tag fulfillment. This included working with OMO on the final artwork and color specifications for the various deer tags. All supplies were ordered several months ago which was necessary to meet the mid-July tag fulfillment time frame considering supply chain and manufacturing delays.

Participated in a virtual meeting with Clemson University Livestock and Poultry Health (CLPH) related to CWD testing and the possibility of CLPH providing testing services. CLPH is investigating what steps are necessary to meet USDA requirements to be an official testing facility.

Assisted Auburn University in an online survey directed at SC deer hunters related to deer management issues. This entailed constructing the survey database from deer tag recipients who had email addresses and indicated they did not mind receiving information via email. Worked with OMO to post a link to the survey on the agency website.

The Antler Records Program required considerable effort with ongoing verification and entering score sheets from the past year. Generated and mailed certificates and score sheets to the 278 individuals who successfully entered a set of antlers during the 2021-22 cycle.

Participated (virtually) in a meeting with North Carolina State University (NCSU) related to a survey of hunter's attitudes to CWD. NCSU collaborated with North Carolina Wildlife Resources on a similar survey and would like to gauge SC hunter's attitudes related to CWD before the disease is detected in the state.

Attended a webinar related to deer genetics spearheaded by Michigan DNR who received a grant several years ago for the project. SCDNR along with several states collected DNA for the project which, among other things, is related to identifying deer genetics at the state/regional level.

Ongoing effort was required on the project with Cornell University to develop a chronic wasting disease risk assessment and surveillance plan. A virtual meeting was held during the month.

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 has concluded. Drafted a no cost extension to the study to allow for more analysis.

Deer Depredation Permits were entered into the database as they were received with 63 permits being entered to date.

Measured 1 set of antlers in the office by appointment.

Wild Turkey Research and Management Project

Executed the annual Turkey Hunter Survey which led to daily receipt of completed surveys which were sorted and prepared for shipment to the data entry company. We will allow another 4-6 weeks for completed surveys to be returned before data entry will take place.

Attended the NWTFS Board meeting and provided an update on deer and wild turkey issues.

Work continued on compiling the 2021 Wild Turkey Legislative Report which is required annually by legislation passed in 2019. This report will include information on harvest, the summer turkey survey, and research updates.

Continued to coordinate with The Sourcing Group, IT, and Licensing on the fulfillment of turkey tags. The season ended on May 10 and the final count on tag issuance was approximately 95,950 customers who received tags for the 2022 spring gobbler season.

Year 2 of electronic harvest reporting for turkeys was a success. The new system provided by Brandt worked well and there were very few complaints about the system. 8,832 turkeys were reported, down about 11 percent from 2021 (9,797). Other statistics reveal that 91 percent of the harvest was on private land, 91 percent of the harvest was by residents, 76 percent of the harvest was in the morning, and hunters from 39 states, the District of Columbia, and Canada reported harvesting a bird in SC.

Continued coordination and communication related to the study entitled "Reproductive Ecology of Wild Turkeys in an Unhunted 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. Trapping was completed during the month with a total of 60 birds captured (40 females and 20 males) and instrumented with GPS units for the 2022 trapping season. Currently 58 birds (17 males and 41 females) are being monitored. Initial nest initiation is 88 percent with 33 percent success. 43 percent of unsuccessful hens have renested. This project will continue until 2024 and findings will continue to be provided as they become available.

Black Bear Research and Management Project

Continued to work with Brandt to prepare for bear harvest reporting with the new SC Game Check system. Testing began during the month.

Upstate - Staff handled 51 bear complaint calls/sightings and 4 road kills. The bear committee met to discuss research proposals with Clemson University. Staff trained SCDNR LE radio room dispatchers on how to handle emergency bear calls and sightings. Staff assisted landowner on electric fence layout to protect beehives and

chicken coop from bears. Staff attended a IBA webinar on how to collar orphan or young cubs to allow for collar expansion with growth. One depredation permit was issued on a nuisance bear causing damage at a residential school for troubled kids.

Furbearer and Alligator Program

Furbearer Project

Responded to 18 nuisance wildlife complaints. Ninety-two (92) other technical assistance contacts were also made during this time via phone and email.

Attended the annual meeting of the SEAFWA Fur Resources Technical Working Group meeting in Crawfordville, Florida. A preliminary update on the Clemson coyote study was presented as well as the annual state report and an update on the national trapping BMPs. The SC Furbearer program report is being prepared to submit to the working group for its annual report to the directors.

The annual printing of the Trapping and Commercial Fur Harvest Brochure was delayed due to a last-minute law change that occurred when the House amended a shrimp trawling bill to include (furbearer) trapping changes. As the changes were somewhat confusing, an opinion about the changes was requested and received from Legals. The law allows trapping on private land for a “non-commercial use” with only a hunting license during the “established open hunting season.” However, because of the wording of the amendment, it creates disparate trapping seasons under the noncommercial use provision on private land. Thus, raccoon trapping would be allowed from September 15 to March 15, coyotes from December 1 to March 1, beaver is year ‘round, and all other furbearer species is Thanksgiving to March 1. The commercial trapping season is still December 1 to March 1. The fur harvest brochure has since been updated and submitted for printing. The changes become effective on July 15.

Changes to the trapping provisions were also submitted for the annual Rules and Regulations brochure.

Other

Continued to meet weekly with the new licensing vendor.

Permitting and Lottery Hunt Program

Biologist Kears and administrative specialist Trista Bishop continued to review, and process permits. These permits consisted of 10 field trial permits, 7 scientific collection permits, 1 bird banding permit, 2 falconry permit renewals, 3 special use permit, 13 furbearer depredation permits, 12 predator management permits, 31 Canada goose depredation permits, 1 airport/airfield depredation permit, and renewal of fox and coyote enclosure permits.

Was interviewed by WPDE ABC15 News Myrtle Beach about Canada goose depredation permits (<https://wpde.com/news/local/harming-disturbing-canada-geese-protected-birds-fines-permits-south-carolina-dept-of-natural-resources-surfside-beach>).

Worked on a report for the 2021-2022 Category I Waterfowl Lottery Hunter Survey and gave a presentation on the survey and results to the WFF Advisory Committee Board.

Participated in a meeting with the South Carolina Chapter of The Wildlife Society board members to discuss news and plan for the annual state chapter meeting this fall. The annual state chapter meeting will be held October 12 at Sandhills Rec in Columbia.

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

Alligator Project

The alligator lottery went live at midnight on May 1. We have decided to continue with the same lottery hunt application time frame for this year (May 1 - June 15). Next year, the plan is to move the application dates later in the year so as to get it closer to the start of the alligator season. As of the end of the month, 4,708 applications have been received.

After some testing, the ability for lottery applicants to make changes to their own lottery application were moved back to production after a glitch was found soon after going live with the lottery. Now any applicant can change to a points-only application or back to a site selected one and vice versa. They are also allowed to change their hunt unit selections and the order of preference as well.

Additional changes and updates were made to the alligator hunting website page including uploading the 2021 Public Alligator Hunting Season Report.

Participated in the Christian Outdoors podcast discussion the upcoming alligator hunting season and the application process.

Additional alligator signs were ordered after some tweaks to the wording on the sign.

Alligator Biologist Hart Activities

General Activities

- New Alligator Biologist in training
- Ended two-year GPS alligator movement study
- Began compiling and mapping GPS movement data
- Trained Radio Room dispatchers
- Presented at Law Enforcement training
- Visited two captive alligator permit renewal sites
- Ongoing permitting website and data management improvements
- Working on harvest summaries and reports for all types of harvest.
- Interviewed by local news regarding alligator breeding season and nuisance alligators x3
- Ordered new public alligator signs
- Developing additional public safety sign
- Developing educational content for internal and external alligator education
- Contracted with two new alligator trappers
- Prepared to start annual statewide eyeshine surveys

Alligator Project Leader Accomplishments

- Display/Transport Permits - 4
- Private Lands Permit Packages approved -0
- Media Inquiries- 3
- Presentations- 3

Alligator Program Biologist Accomplishments

- Nuisance Calls – 72
- Nuisance Permits- 29

Herpetologist Grosse Activities

General Activities and Accomplishments

- Green salamander social media post – 5/2/2022 – Amphibian Week
- Four-toed salamander social media post – 5/4/2022 – Amphibian Week
- 7 *N. floridana*, 1 *L. sphenoccephala*, 1 *A. piscivorus* and 1 *C. constrictor* found dead at SRS and shipped to SCWDS
- Assisted with long term survey for diamondback terrapins on Kiawah Island – 5/13/2022
- Attended Gopher Tortoise Council Spring Meeting – 5/20/2022
- World Turtle Day social media post – 5/23/2022
- Post and Courier Interview – Snakes – 5/25/2022

McCrary/Clarke's Hill Herpetological Surveys

- Clarke's Hill Training Center surveys for Websters/Tiger Salamanders
- McCrary Training Center Surveys for Canebrake, Pine Snakes and Southern Hognose Snakes

Catawba-Wateree Herp Surveys - Surveys underway at Liberty Hill, Wateree, Kings Mountain State Park and Carolina Sandhills NWR

Multi-State Wetland Restoration Project – Webb – No activity during the month

Gopher Frog Population Augmentation and Headstarting – No activity during the month

Camera Fence Surveys - No activity during the month

Exotic Species

- 1 black and white tegu report – **misidentified** fence lizard
- 1 black and white tegu report - Silver Lake – Spartanburg – **unconfirmed** but not sure what it was she saw.
- 1 black and white tegu report – Augusta, GA – **unconfirmed** but likely a broadhead skink based on description
- 1 black and white tegu report – Elgin, SC – **95% confirmed** carcass of black and white tegu just appeared in yard
- Report of Cuban Treefrog in Seneca, SC - **unconfirmed**
- Report of Cuban Treefrog on Fenwick Island – **unconfirmed**

-**Confirmed** Mediterranean gecko – Columbia, SC

Misc. Heritage Species Records - Spotted Turtle near Givans Ferry – 5/17/2022

Gopher Tortoise Population Augmentation with Waifs – Aiken Gopher Tortoise HP

-Picked up 13 waif tortoises from Jacksonville, FL and transferred to SREL for quarantine before being released in pens at the Aiken Gopher Tortoise HP – 5/10/2022

-Tortoise in Pen 15 found emaciated and weak taken to SREL to provide food, water but died. Sent to SCWDS for evaluation – 5/27/2022

State Wildlife Grant – Conservation of Coastal Reptiles and Amphibians

-Deployed 44 traps at Santee Coastal Reserve for Highly Aquatic snakes – 5/2/2022

-Checked traps at Santee Coastal Reserve – 5/3-5/6/2022

-Deployed 50 traps at Bonneau Ferry WMA for highly aquatic snakes – 5/16/2022

-Checked traps at Bonneau Ferry WMA – 5/16-5/19/2022

-LE field day Bonneau Ferry, help checking traps, coverboards and looking for herps – 5/19/2022

-Deployed 30 traps at Joint Base Charleston for highly aquatic snakes – 5/23/2022

-Checked traps at Joint Base Charleston – 5/23-5/26/2022

Green Salamander Population Assessment across Forest Disturbance Gradient (Clemson) – No activity during the month

Patchnose Salamander Environmental DNA (Clemson) – No activity during the month

Pine Snake Movements Lewis Ocean Bay (Coastal Carolina) - Currently tracking 5 adult snakes – 1 females/4 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 in addition to understanding the reproductive ecology of box turtles in SC.

Statewide Bat Program

Sixty-two trap nights conducted at Great Pee Dee HP for a total of 51 bats: Eastern Red (34), Southeastern (5), Tri-colored (5), Seminole (5) and big brown (2); tracked 2 pregnant Tri-colored bats to maternity trees where 6 to 10 bats emerged. Began netting at McCrady Training Center. First 3 of 9 weeks of NABat surveys completed. SCDNR comments on FWS proposal to list MYSE as endangered completed and submitted. Continuing to manage 2 older vehicles that need constant repair; NABat project vehicle still in shop after 3 weeks – having to borrow from other staff projects temporarily.

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

- Assisted with netting at Great Pee Dee HP
- Completed Duke bad creek project bat review
- SCDNR comments on FWS proposal to list MYSE as endangered completed and submitted.
- Responded to Jason Robinson about NWCOS
- WNS meeting PO and travel planning
- Review and approval of bat survey scientific permits
- Continued field season prep; PVC, old nets, missing items, etc.
- Awarded Greenville Zoo grant. Jessica Shealy assisted with final paperwork to City of Greenville for DNR to be a vendor.
- Cancelled POs unable to provide service before end of state FY
- Completed and managed all travel and FR paperwork for McCrady, Florence, Columbia and Camden housing.
- Checked in on Sanjay vendor num; began FR paperwork but never worked out for Florence.
- Managed Anabat Swift issues on the go with Zoey - GPS not working correctly, sometimes not recording data.
- Requested to add DNR contact information to NABat partner portal. <https://www.nabatmonitoring.org/our-team>
- Applied for State Parks acoustic and netting permits
- Emailed Emily Nicholson about permission for netting at Poinsett SP.
- Emailed James Douglas about permission and permits for netting at Manchester SF.
- Managing old vehicles – more towing, PO's, appointments, repairs, backup plans.

- Requested more vehicle gas cards be charged to bat accounts for the season due to multiple vehicle issues.
- Worked on SWG budget and draft proposal
- Answering Cara Roger questions for Santee Coastal MYSE project. Order more nets and supplies for her.
- Continuing to communicate with DOT regarding bats in culverts, Pd testing, and upcoming DOT projects/repairs.
- Managed account charges and paperwork on and between all statewide bat grants and projects.
- Continue to communicate with Stacy Scherman about state parks and bat projects.
- Responded to bat nuisance and information calls.

NABat Technician, Zoey Chapman

- Obtained permits and permissions
- Met with volunteers and landowners
- Rebuilt weatherproof casing for microphones (11 units)
- Updated protocols
- Labeled and numbered Anabat Swifts (16 devices)
- Ran 9 mobile routes (15 mobile survey nights, possible 17 since volunteers said they were going to try running a route on the 31st)
- Placed 18 stationary detectors

Bat Netting Technician, Jessica Davey and Lead Bat Netting Technician, Trevor Walker

- Attended 8 hour Triple A Safe driver training course
- Netted along multiple roadways on the SCDNR owned land of Great Pee Dee capturing a total of 62 trap nights.
 - Captured a total of 51 bats of 5 different species:
 - Eastern Red Bat (*Lasiurus borealis*)- 34
 - Southeastern Myotis (*Myotis austroriparius*)- 5
 - Tri-Colored Bat (*Perimyotis subflavus*)- 5
 - Seminole Bat (*Lasiurus seminolus*)- 5
 - Big Brown Bat (*Eptesicus fuscus*)- 2
 - Radio tagged and tracked 3 Tri- Colored Bats across multiple days; all tagged bats were pregnant females that were tracked to a total of 4 different roost trees. Each tree was surveyed and data gathered of the surrounding area to further assess roost tree ecology.
 - PESU 151.379- tracked to a total of 1 roost tree, other roost trees were detected but they were located off of SCDNR property.
 - PESU 151.419- tracked to a total of 2 roost trees; consistently in roost tree 2 where an emergence count took place: 8-10 bats were seen emerging at sunset
 - PESU 151.259- tracked to a total of 1 roost tree consistently where emergence count also took place: 6-8 bats were seen emerging at sunset
- McCrady Bat Surveys (started May 31)
 - Constructed a lightweight harp trap to use in netting bat towers
 - Netted a total of 2 trap nights resulting in the capture of a total of 3 bats of 1 species: Rafinesque's Big Eared Bat (*Corynorhinus rafinesquii*)- 3
 - Radio tagged 1 female Rafinesque's Big Eared Bat and attempted to track

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

Dr. Susan Loeb continues to manually vet bat calls and submit data to NABat online.

Small Game Program

General Small Game Program Activities and Accomplishments

Responded to a minimum of 35 phone calls and numerous emails requesting technical assistance.

Dan Peeples was hired as the new Assistant Small Game Program Leader.

Paperwork was prepared and submitted to fill vacant Farm Bill Biologist Position in Orangeburg, Clarendon and Calhoun counties.

Program Leader Hook and Assistant Leader Peeples participated in a virtual meeting of the Eastern Grouse Working Group.

Program Leader Hook updated and provided a rabbit range map for the four species of rabbits in SC to Dr. David Osborn of the University of Georgia.

Biologist Small participated in the SCDNR Bird Identification Workshop at the Jim Timmerman Natural Resources Area at Jocassee Gorges.

Mileage logs/receipts were scanned and forwarded to the mileage log email address. PCard Statements were scanned and forwarded to the PCard email address.

Issued 40 shooting preserve licenses. Deposits associated with shooting preserve renewals were delivered to the accounting division.

Issued two Bird Dog Training Area Licenses.

Delivered a letter to one individual who advertised selling quail but does not possess a quail breeders license.

Entered all quail hunter and rabbit hunter survey data received to date.

Posted 1 social media post on SCDNR Facebook, Twitter and Instagram feeds: Bobwhite Habitat Landowner Field Day Announcement (5/24).

Mourning Dove Project

Program Leader Hook updated mourning dove band recovery information from bi-weekly reports.

Biologist Small conducted 9 Points for the annual Preseason Mourning Dove Survey.

Biologist Small entered data submitted by participants in the annual Preseason Mourning Dove Survey.

Biologist Small delivered mourning dove traps to Botany Bay HP for use in the annual banding program.

Biologist Small evaluated the current condition of small game habitat at Samworth WMA.

Bobwhite Quail Project

Program Leader Hook and SCBI Biologist Carmichael participated in a zoom call organized by Clemson Extension to set dates and make plans for resuming quail management workshops for landowners at various locations around the state. Workshops are planned for Bamberg, Colleton, and Florence counties in May and June.

Program Leader Hook prepared and distributed the 2021-22 Public Bird Dog Training Area Report to Regional Staff.

Program Leader Hook participated in the National Bobwhite and Grassland Initiative Foundation virtual meeting where he serves as NBGITC Chair Elect.

Program Leader Hook entered spring and fall survey data into the National Bobwhite and Grassland Initiative database for analysis.

Program Leader Hook prepared a bobwhite habitat management plan for the Quail Forever Bobwhite Hills property.

Program Leader Hook, SCDNR Marketing Coordinator Kristin Coulter, and SCBI Volunteer Mark Coleman met virtually to discuss updating the SCBI webpage.

SCBI biologist Carmichael coordinated a meeting of the SC Bobwhite Funding Partnership event committee at Kirk Commercial Construction in Columbia.

All Small Game Staff participated in the 3rd SC Bobwhite Funding Partnership reception held May 5, 2022 at the Millstone at Adams Pond in Columbia. There were 80 attendees and approximately \$3,000 was raised for the SCBFP.

Program Leader Hook, SCBI Biologist Carmichael and Biologist Small participated in the Indian Creek Habitat Restoration Committee Landowner Field Day meeting at Belfast WMA.

Program Leader Hook, SCBI Biologist Carmichael and Biologist Small participated in the Clemson Extension and SCDNR Landowner Field Day meeting at Calloway Farms in Scranton, SC.

Program Leader Hook and SCBI Biologist Carmichael attended a meeting with Kings Mountain National Military Park staff, State Park Service staff and Quail Forever staff to discuss plans for the Kings Mountain quail and grassland bird restoration project.

Small Game staff participated in a virtual meeting organized by the Natural Resources Conservation Service (NRCS) State Biologist Harris, to discuss future training needs for NRCS field staff and partners for the Working Lands for Wildlife Bobwhite and Grasslands Initiative.

SCBI Biologist Carmichael and Assistant Leader Peoples made two trips to the Sumter National Forest, Enoree River District to coordinate road maintenance activities with the contractor hired under the Good Neighbor Authority (GNA), Kings Creek Supplemental Project Agreement. Also inspected timber thinning activities just beginning on the Kings Creek GNA sale.

Program Leader Hook and SCBI Biologist Carmichael participated in a virtual meeting organized by National Bobwhite and Grassland Initiative Ag Policy Director Jen Mock Schaffer to discuss bobwhite needs in the 2023 Federal Farm Bill.

Program Leader Hook, SCBI Biologist Carmichael, and Chief Dukes met with DNR Director Boyles to brief him on SC Quail Council (SCQC) and SC Bobwhite Initiative activities of the upcoming SCQC Steering Committee meeting.

Small Game staff participated in a virtual meeting organized by the Farm Service Agency to discuss revisions to the State Acres for Wildlife Enhancement practices in SC.

Biologist Small developed GIS maps integrating SC Quail Focal Areas and the NBI Biologist Ranking Index.

Biologist Small created data sheets for the Bordeaux Quail Focal Area Spring Bird Monitoring survey.

Farm Bill/Ag Liaison Activities

Farm Bill Biologist Peeples assisted Calhoun, Clarendon, Richland, Orangeburg, and Sumter NRCS offices certify practices for payment and planned wildlife and reforestation applications for the Environmental Quality Incentive Program.

Farm Bill Biologist Peeples, created maps, conservation plans, wildlife management plans, and entered these plans into the Natural Resources Conservation Service's programs for assessment and ranking. Peeples contacted landowners to schedule contract signing.

Biologist Peeples attended both the Orangeburg and the Calhoun County Soil and Water Conservation District Board meeting, presented his activities for the month, and presented an overview of the Quail Initiative Funding pool success in terms of money awarded and acres contracted in each of those counties from 2016 to 2021.

Biologist Peeples accepted a new position as Assistant Small Game Project Leader. Peeples has attended 4 meetings in person or virtually covering topics from the South Carolina Quail Initiative, National Bobwhite and Grasslands Initiative, Conservation Reserve Program, and the Indian Creek Focal Area.

Peeples, met with several landowners across the midlands to teach and inform of management technique, review proposed plans through the USDA programs, and to share information about the different financial programs available.

Farm Bill Biologist Krieg completed a site visit in Darlington County and wrote a management plan for potential EQIP and CSP applicants.

Farm Bill Biologist Krieg met with farm bill participants in Lee Counties to discuss future EQIP possibilities.

Farm Bill Biologist Krieg monitored two beneficial insect/pollinator habitat sites on Santee Coastal WMA and Samworth WMA in Charleston and Georgetown Counties.

Farm Bill Biologist Krieg participated in the planning and delivery of a Clemson Extension Quail Workshop in Florence County.

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.

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.

Approved 1 permits to further bird research in South Carolina.

Continued project to explore using eBird data to predict common ground dove occupancy.

Served as member of the SC Birds Records Committee, whose role is to evaluate rare and unusual bird reports within the state.

Provided information to Bird Conservation staff about H5N1 in SC.

Initiated a collaboration with Audubon to explore the feasibility of a Baltimore oriole nanotag project to gain information on where the wintering orioles in SC breed.

Attended Grassland Birds Working Group virtual meeting.

Participated in Grasslands Working Group virtual meeting.

Completed Atlantic Flyway Colonial Waterbirds online survey.

Provided a list of SWAP species to be included in a SC Solar Siting Tool.

Provided information on bald eagle nests located near a proposed development.

Interviewed applicants for black rail biologist II position.

Reviewed and provided comments on what to do if find baby birds social media post.

Led two day SCDNR staff Bird ID Workshop in Jocassee Gorges.

Provided osprey information to the ports authority to reduce disturbance to nests at their facilities.
Reviewed swallow-tailed kite observation data collected by the Center for Birds of Prey for inclusion in the heritage trust database.

Provided information to assist with species identification for bird species surveyed during bobwhite quail whistling surveys to the SCDNR small game staff.

Developed instructions for the loggerhead shrike survey/23 monitoring survey, made final edits to the survey and provided training to Ft Jackson staff.

Provided s ranks to all SWAP bird species without a previous rank to better inform the heritage trust database.

Transitioned the bald eagle project data and responsibilities due to staff retirement.

Provided technical assistance on 2 bald eagle nests.

Monitored loggerhead shrike on 15 days to help determine conservation priorities for the species.

Participated in International Loggerhead Shrike Working Group calls.

Picked up and shipped a Red-shouldered Hawk to SCWDS for AI testing.

Conducted Nightjar survey for the SC Army National Guard McCrady Training Center.

Began MAPS banding season at the SC Army National Guard McCrady Training Center. Conducted 2 banding sessions.

Conducted 2 National Breeding Bird Survey Routes; Mt. Pisgah & Ridgeway.

Conducted 2 spring raptor surveys for the SC Army National Guard McCrady Training Center.

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 250 calls and emails related to technical assistance and other bird conservation efforts.

Red-cockaded Woodpecker Project

Conducted annual site visits to 11 properties enrolled in the Safe Harbor Program in: Calhoun, Hampton, Jasper, Georgetown, Orangeburg, Richland, and Sumter counties.

Surveyed translocation clusters at Safe Harbor property in Calhoun County to collect data on survival and nesting.

Conducted cavity cleaning at Lynchburg Savanna and Longleaf Pine Heritage Preserves with SCDNR staff.

Conducted RCW survey and met with landowner in Berkeley County to provide information on Safe Harbor and endangered species policy.

Attended Equal Opportunity Employment training at STYX.

Continued nest monitoring of Aiken Gopher Tortoise HP, Bonneau Ferry WMA, Cheraw Fish Hatchery, Donnelley WMA, and Santee Coastal Reserve – RCWs are still in peak nesting season with many nests fledged or close to fledge. Second attempts are underway for previously failed nests.

Finalized Safe Harbor enrollment documents for property in Colleton County and sent for landowner signature.

Completed Safe Harbor program enrollments for three new properties in Lee and Chesterfield Counties.

Completed one Safe Harbor Agreement transfer for property in Allendale County.

30 phone calls and 119 emails were received and responded to regarding Safe Harbor and wildlife assistance and information.

Waterbird Project

Monitored Wood Stork nests at five index rookeries. DNR staff monitored 4 colonies and partners (Kristen Mattson, Spring Island Trust) monitored 1 colony.

Completed ground counts of nests at four index Wood Stork colonies.

Banded wood stork nestlings to contribute data to a regional banding project. Data from banded storks will increase our understanding of their dispersal, survival, and demography. During May, 3 stork nestlings were banded by SCDNR. Adhered to protocols from USFWS to minimize risk of spreading HPAI (highly pathogenic avian influenza).

Conducted call-playback surveys for Black Rails at two SCDNR properties.

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.

Maintained arrays of research equipment including ARUs (autonomous recording units) and camera traps for Black Rail monitoring on SCDNR property. Reviewed and updated IDs for camera trap photos.

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 on Executive Committee of the range-wide Eastern Black Rail Survey Design Team.

Responded to data requests. Provided rookery and stork banding data to other natural resource professionals.

Conducted annual seabird census flight of nesting islands with Law Enforcement pilot, Ryan Wilbanks, in the 206 Cessna. Pelican and tern nests will be counted from aerial photographs taken during the flight.

Conducted Red Knot flight to count migrating knots in coordination with other southern Atlantic states. Flocks were spotted from the 210 Cessna flown by pilot Owen Barker, and photos were taken of roosting birds. Concurrent ground counts were also done at sites that had high number of roosting birds. This was the first coordinated count of Red Knots for the Atlantic Flyway since they have been a listed species.

Resighted banded Red Knots at Kiawah Island. Many birds banded by SCDNR in April were seen as well as several birds with satellite transmitters.

Educated the public about Red Knots on Kiawah and Seabrook Islands with community members and volunteers on 5 days.

Submitted banding data of Red Knots to Bandedbirds.org and Bird Banding Lab.

Tagged Whimbrel at Deveaux Bank in collaboration with researchers from USC. The research project 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.

Conducted Whimbrel evening counts at Deveaux Bank and White Banks during peak migration dates. Extreme high tides hindered accurate counts this year.

Visited Turtle Island to scout for trapping sites for Red Knots. No knots were seen, and it appeared that no horseshoe crabs had spawned there during the new moon phase in late April.

Visited Tomkins Island to check on nesting. There was no seabird nesting activity on the island. One set of coyote tracks was seen, and several pelican carcasses were on the top of the island. Set game cameras to capture predator presence and schedule predator removal.

Continued to monitor nesting activity and plant presence on Crab Bank. Seven pairs of American Oystercatcher, Gull-billed Terns, Black Skimmers, and Least Terns are nesting. Banded 3 adult oystercatchers with field readable bands to help monitor nesting success, adult survival and wintering ecology. State botanist, Keith Bradley identified Italian rye grass *Lolium multiflorum* and southern saltwort *Salsola kali* var. *caroliniana* from photos taken of plants on the island.

Contacted Charleston County Mosquito Control pilot about avoiding flying low over Crab Bank Seabird Sanctuary. The pilot was receptive and agreed not to fly over that part of Charleston Harbor during the nesting season.

Provided comments to DHEC about filming *The Outer Banks* television show at Lighthouse Inlet.

Conducted ground counts of nesting Least Terns for the statewide census window: May 14-27. A nor'easter during May 10-12 followed by extreme high tides around the May 16 full moon flooded many of the beach colonies of Least Terns.

Placed signs at Isle of Palms front beach between 50th and 51st Avenues to protect a Least Tern colony. These signs inform the public of the presence of nesting seabirds and close the area to pedestrian traffic. Worked with staff from garbage pick-up, the police department, beach patrol, and beach chair companies to make them aware of the colony and to follow BMPs when driving on the beach. Mentored volunteer seabird stewards at the site.

Assisted with replacement of posts and string at the Huntington Beach State Park Least Tern nesting site. Extreme high tides damaged initial closure signs and string.

Replaced signs at Bird Key Seabird Sanctuary that were down due to high tides.

Posted south end of South Island at Yawkey Wildlife Center. This beach is closed to the public.

Assisted with posting closed areas for seabird and shorebird nesting in Cape Romain NWR. No landing closures at ends of islands where birds are nesting ensures that birds can use the entire intertidal zone for duration of nesting without damaging disturbance.

Assessed 30 artificial sites (pebbled roofs, pier, parking lots, etc.) in Charleston, Berkley, Georgetown, and Horry Counties to determine if Least Terns are nesting. At 14 artificial sites and at 4 natural ground sites censused the number of Least Tern nests. These nest counts are important in the annual assessment of the Least Tern population in SC.

Downloaded bird location data from MOTUS tower on Bulls Island.

Continued checking the building roof at 75 Calhoun St. in Charleston where American Oystercatchers have nested. In the past, young birds fall off the roof and die on Charleston streets. Deterrence of nesting on the roof will help the adults move to a more successful nesting site.

Worked with a construction company in Myrtle Beach at a pebbled roof site to protect nesting Least Terns. The company agreed to work on lower roof, away from the nesting colony, until the young birds fledge.

Visited the Savannah Dredge Spoil areas established by the Army Corps of Engineers. Conducted a count of Least Tern nests at one of the spoil sites.

Provided training and information to INEOS (formerly BP) employees who work at the plant's water treatment area. The dikes around this site have supported Least Tern nesting for over 20 years. INEOS has partnered with SCDNR to facilitate nesting success of these Least Terns by closing areas for the birds and placing new gravel substrate.

Visited a Mt Pleasant kite boarding business to discuss detriment of kiting to nesting seabirds and how to avoid this interaction at critical sites such as Crab Bank Seabird Sanctuary. Owners were very receptive and posted on social media to avoid this interaction and connected us with a local kite boarding wind forecaster who posted on social media as well.

Educated the public and prevented entry into closed nesting areas during the Memorial Day weekend at Crab Bank Seabird Sanctuary, Shute's Folly, Cape Island, Lighthouse Island, Deveaux Bank and South Island. Educating the boating and recreating public prevents damaging disturbance to nesting seabirds and shorebirds.

Stewarded in the parking lot at Buck Hall Boat Landing and Garris Boat Landing, educating the boating public with identification of nesting birds on the beaches of Cape Romain NWR.

Educated public on weekends Cape Romain NWR at Bulls Island, North Cape Island and Lighthouse Island at the nesting enclosures.

Continued maintenance of boats including trailers and anchoring equipment.

Attended videographer, Ben Clock's, presentation for Kiawah shorebird stewards and community.

Attended Fostering Behavior Change webinar, put on by NOAA, for effective shorebird stewarding in SC.

Visited Harbor Island to connect with the lead shorebird steward volunteer and to check on beach nesting sites.

Law Enforcement

DIVISION SUMMARY – COL CHISOLM FRAMPTON

Officers issued 876 summonses and 3270 warnings with 511 cases clearing court with fines totaling \$70,123.50 being assessed. A total of 6179 hours were spent on boating patrols resulting in 10219 boats being checked. Officers spent 439 hours on Homeland Security, 745 hours on litter patrols and a total of 270 hours were spent patrolling Heritage Trust Preserve properties. Officers also spent 2589 hours on night patrols. A total of 165 JEA hours were worked.

SEAHAWK – FSGT Gregg Brown

SeaHawk IOC personnel assisted with 232 requests from 36 different agencies and 154 SIIC requests.

Illegal Dumping: (Spartanburg Co SO) - IOC analysts were sent a photo of a vehicle involved in illegal dumping. Analysts ran a vehicle list and located the vehicle that was number 3 on the list provided. Spartanburg County advised that vehicle provided was the subject. Charges made.

MASFO: Wando Terminal – May 4, 2022 – 0900-1300:

- 10 different agencies participated in the MASFO with a total of 24 personnel.
- 53 CMV's and 31 POV's = 84 vehicles - were stopped, visually scanned, and searched.
- 97 people were run for warrants/DMV status.

FSGT Brown assisted Region 4 during Memorial Day weekend: The patrolling of Deveaux Bank and Rockville area resulting in 1- Summons and 1- WTW for Deveaux bank Bird Sanctuary/Heritage trust. A total of 3 summons and 10 WTW during the patrols.

During the operation, the following occurred:

- 7- POVs were searched and found to have prohibited item in their possession. Resulting in NOV's issued by the SCSA.

USCG Prevention inspected 33 Containers and 0 violations. 96 TWIC cards were scanned all being clear. 84 vehicles were scanned with radiation detection equipment with 0 alerts.

MASFO: North Charleston Terminal – May 18, 2022 – 1200-1600:

11 different agencies participate in the MASFO with a total of 25 personnel.

80 CMV's and 3 POV's = 83 vehicles - were stopped, visually scanned, and searched. 84 people were run through the databases for warrants/DMV status.

- 84 TWIC cards were scanned by the mobile app, and all came back clear.
- 83 trucks/cars were scanned with PRD's and radiation detection equipment with 0 alerts.

K9 TEAM – LTC JAMIE LANDRUM

K9 Team – LT Brady Branham

- K-9 Teams were called out 12 times and deployed 5 times in the month of May.
 - 4 were DNR related with 4 public presentations being conducted and 8 were other agency assist.
- K9 Teams completed their annual Patrol Dog Certifications through the American Police Canine Association.

Community Relations/Officer Wellness/Diversity Recruitment – CPT Henry Stackhouse

- Attended Critical Incident Stress Debrief (CISB) meetings at Colleton Co SD, Cayce PD, Georgetown Co SD, Simpsonville PD, and Charleston Co SD.
- Career fair in Walterboro, Colleton County.
- Attended the 25th Annual Columbia Black Expo in Columbia, SC.
- Met with the President and Academic Dean of the College at Central Carolina Technical College.

INVESTIGATIONS / REGION 4 – MAJ GARY SULLIVAN

Investigations – MAJ Sullivan/ LT Tony Spires

Congratulations to Damian Yongue on his promotion to FSGT

Investigators issued 5 summons and 19 warnings and assisted with 10 cases. Investigators inspected 165 boats, 1 motor, and accrued 267 boating hours. Investigators conducted 68 night patrol hours, 62 search and rescue hours and 65 boating accident investigations hours. Section Investigators attended or assisted with 99 hours of training this month.

Aids to Navigation/Dive Team

- Aids to Navigation received 30 maintenance requests from the Charleston Office.
- The investigations office received 5 zoning requests this month.
- There were 377 hours of Aids to Navigation work.
- There were 7 dive assignments this month.
- There were 60 Marine Event Permits approved and the year-to-date total is 370.

Investigations/Marine Theft

- The investigations office received and processed 11 boating accident reports bringing the year-to-date total to 51.
- We were informed of a boating fatality that occurred last month, bringing us to 7 for the year.
- Investigators conducted 258 Marine Theft Investigations hours.

Region 4 – CPT Michael Paul Thomas

Officers issued 336 summonses and 1,009 warnings. 184 cases cleared court, with fines of \$25,032.50 being assessed. Officers checked zero hunters and 3,040 fishermen, with a total of 2,376 hours spent on boating patrols resulting in 4,112 boats inspected. Officers spent 211 hours on Homeland Security, and 120 hours on litter patrols. A total of 91 hours were spent on patrol of the Heritage Trust Preserve properties. A total of 795 hours were spent on night patrols. Officers gave a total of 80 public presentations. Officers also spent 165 hours on JEA patrols. There were 96 boating accident investigation hours conducted and 24 BUI screenings were conducted, with 13 BUI cases written.

Captain's Spotlight

PFC Cooler, PFC Pritchler, and a US Coast Guard ride along observed a small Jon Boat with 5 subjects on board. It was apparent that the vessel was overloaded with only a few inches of freeboard above the waterline. Before officers could approach, the vessel began taking waves over the bow. The vessel quickly capsized. PFC Cooler positioned the SCDNR vessel to begin rescue. One individual was struggling to stay above water. PFC Pritchler threw a life ring to the individual nearly 30' away and he was able to grab the ring. All occupants were removed from the water with no injuries. It was learned later that the male occupant struggling, could not swim and the vessel was rated for 3 persons. The SCDNR officers' quick reaction likely prevented a drowning. The operator was charged with negligent operation.

Unit 4A (Horry) FSGT Kevin Pardue

- Officers made 5 BUI cases.
- PFC Buckhannon organized a Fishing Rodeo and officers assisted. Over 200 children and adults attended.

Unit 4B (Georgetown) FSGT Ryan Williams

- LCPL Capps caught a subject illegally fishing another person's set hooks on the Pee Dee River.
- LCPL Kaminskas and LCPL Graham caught 2 subjects taking saltwater gamefish with cast nets in Pawleys Island. The individuals were in possession of undersized sheep head also.
- PFC Dozier caught 2 subjects illegally fishing trot lines in the Black River without tags and floats.
- Officers issued 3 citations and 7 warnings on flounder in Murrells Inlet and 7 citations and 3 warnings in Pawleys Island.

Unit 4C (Charleston North) FSGT Huger McClellan

- CO Gray and CO Lofton both made a Boating Under the Influence case.
- LCPL Duncan and PFC Beckett stopped a commercial vessel with numerous undersize Vermillion Snapper.

Unit 4D (Berkeley) FSGT James Mills

- While patrolling Lake Moultrie, PFC Angotti-Smith located multiple illegal trotlines. The trotlines had several violations including illegal hook size, not checking within 24hrs, floats made of wrong materials, incorrectly marked buoys, stainless steel hooks, and not deeper than 4ft.
- PFC Bond, PFC Ellis, and PFC Angotti-Smith each made a BUI case.

Unit 4E (Charleston South) FSGT Ben Whaley

- LCPL Ladue and CO James made a case for harvesting oysters in a closed area.
- CO McCurry worked a BUI saturation in Charleston Harbor and made a BUI.
- Officers worked the Logan Wood Memorial Fishing Tournament.

Unit 4F (Dorchester/ Colleton) FSGT JP Jones

- After a 4-month long investigation among officers in Units E, F, & G, the owner of Lowcountry Seafood was charged with Illegal importation of Molluscan Shellfish and No relay permits.
- LT Godowns, FSGT Jones and PFC Woodward performed a traffic stop on a vehicle after the passenger sold a juvenile spiny softshell turtle to a covert officer. She had them posted on craigslist. The passenger received a summons for the sale of native species of turtle. The driver was charged for DUS.

Unit 4G (Beaufort) FSGT Adam Henderson

- PFC Gantt and PFC Pritchler investigated allegations related to stealing commercial crab traps. Through interviews with the alleged victim and checking other crab traps in the river officers were able to determine that the traps seized as evidence from the accused did indeed belong to the victim. The accused was charged for tampering with commercial crab traps belonging to another. This charge carries a statutory suspension. Defendant was found guilty.
- CO Alexander and CO Campbell, still in FTO training, both charged individuals with BUI over Memorial weekend.

Unit 4H (Jasper/ Hampton) FSGT Earl Pope

- LCPL Mills apprehended 3 subjects after receiving information of taking an alligator out of season. Subjects were issued summons and warnings for the multiple violations.

FIELD OPERATIONS REGIONS 1-3 – MAJ Mike Isaacs

Region 1 – CPT DJ Riley

Officers issued 242 summons and 1156 warnings with 156 cases clearing court with fines totaling \$20890.00 being assessed. Officers checked 1717 fishermen, 14 hunters checked, and a total of 1392 hours were spent on boating patrols resulting in 2175 boaters checked. Officers gave a total of 60 public presentations. Officers spent 159 hours on Homeland Security, 396 hours on litter patrols. A total of 2 hours was spent patrolling Heritage Trust Preserve properties. A total of 37 hours was spent patrolling Jocassee Gorges resulting in 6 summons and 18 warnings being issued. Officers also spent 567 hours on night patrols. There were 3 boating incidents and 2 drownings.

Captain's Spotlight:

During Memorial Day weekend LCPL Tatum was on patrol at Lake Robinson in Greenville County. While conducting a safety inspection on a group of kayaks, LCPL Tatum spotted what appeared to be a person bobbing in the middle of the lake. Fearing the worse, he immediately broke free from the kayaks to confirm what he thought he was witnessing. roughly 300 yards from the nearest shoreline Zach approached an exhausted fully clothed female in her late 20s with nothing more than her face and part of her head above the surface of the water. Zach reached out to the woman and secured her to the boat while he called the lake warden and DLEO Matt Holliday to come help him pull her out of the water. Once Matt was on scene, he and Zach pulled the woman into Matt's boat, and they continued to talk with her. She was speaking in a way that Zach thought it necessary to notify an ambulance to have her checked out. The ambulance was waiting at the ramp prepared to check vitals and any other underlying health issues based off the information given to the medics by Zach. It turned out that the female had a long list of visits to the mental hospital and was likely off her medication. The ambulance decided to transport her to the hospital where she could be cared for prior to release. If it had not been for the keen observation and quick response by LCPL Tatum that afternoon there is a high probability that she would have drowned. Lake Robinson has a long running streak without a drowning and Zach most definitely kept that streak alive.

Unit 1A (Oconee / Pickens) FSGT Ron Hedden

- Officers dedicated many hours preparing for the Piedmont Tree Nursery Fishing Rodeo on the 14th of May. The Rodeo resulted in a successful turnout with over 300 attendants. Sponsors included Pet with ice cream, Chick-fila sandwiches, and Walmart who sponsored chips and drinks. Over 40 prizes were awarded and over 100 fishing rods and reels were presented to first one hundred children present. Also, a lifetime license was presented as a grand prize.
- PFC Jonathan Willis assisted PFC Nick Santangelo in making a BUI while on general boating patrol on Lake Keowee. LCPL Lownsbury assisted PFC George Cadell in making a BUI while on general patrol on Lake Keowee as well.

Unit 1 B (Greenville / Spartanburg) FSGT Frank Jordan

- While checking fishermen on the Saluda River in Greenville County LCPL Tatum and CO Thomas cited an individual for fishing without a license, using a nongame device to obtain freshwater fish, and over the limit trout (24 fish over the limit).

Unit 1C (Cherokee / Union) FSGT John McCraw

- Officers worked/participated in Kids Fishing Rodeos in Cherokee (2) & Union (2) during the month of May.
- Officers assisted with the Harry Hampton Memorial Banquet Dinner, two-day event on Thursday and Friday, at Spartanburg Memorial Auditorium.

Unit 1D (Greenwood / Laurens) FSGT Travis Dudley

- LCPL Unit Officers put on a fishing Rodeo with great success at Lake Rabon in Laurens County. Thanks to all for making it a fun and special day for many children.
- After receiving a tip in reference to a post on social media of a subject killing a turkey with a rifle, LCPL Preston Garner began an investigation. Along with the help of PFC Tyler Lindsey and Officer Ethan Adair, officers charged the subject with Hunting Turkey with a rifle, killing a hen turkey and a tag violation.

Unit 1E (Abbeville / Anderson) FSGT Rhett Barwick

- The Unit had One Boating Incident for the Month. The operator of a vessel fell overboard after hitting a wake and vessel stopped after striking a Dock on Lake Hartwell in Anderson County. No Injuries only Dock and Boat Damage.
- LCPL Hanna assisted Georgia DNR with a fatality on Lake Hartwell, involving 2 vessels which caused the death of a 17-year-old.

Unit 1F (Edgefield / McCormick) FSGT Michael Davis

- Officers planned and worked 2 litter details on the lower end of Lake Thurmond. In total officers wrote 14 citations and 4 warnings for litter. Numerous other violations were encountered and written while on the details. All subjects volunteered to return and clean up their trash on the beaches.
- Officers worked the annual Jimmy Shay Memorial Fishing Rodeo at Lick Fork Lake. A total of around 200 youth were on hand.

Region 2 – CPT Matt McCaskill

Officers issued 147 summons and 474 warnings with 83 cases clearing court with fines of \$11,139.00 being assessed. Officers checked 10 hunters and 1,750 fishermen, and a total of 1,013 hours were spent on boating patrols resulting in 1,772 boats inspected. Officers spent 43 hours on Homeland Security and 76 hours on litter patrols, and a total of 158 hours were spent

patrolling Heritage Trust Preserve properties. Officers gave a total of 64 public presentations. Officers also spent 471 hours on night patrols. There was 1 boating accident, 4 drownings, 2 BUI screenings, and 2 BUI's.

Captain's Spotlight

Officers Horlacher, Oliver, and FSGT Plemmons observed a large vessel on Lake Wylie approaching other officers' watercrafts who were conducting a vessel check with blue lights on. The subject never reduced his speed in close proximity of the officers' watercrafts. Subject was stopped and it was immediately noticed that the subject was under the influence. Subject was arrested and gave a breath sample of .19.

Unit 2A (Chester, York) FSGT Jason Plemmons

- Officers worked extremely hard to prepare for and put on the annual Draper Youth Fishing Rodeo. We had 187 kids.

Unit 2B (Fairfield, Lancaster) FSGT Will Coleman

- Officers focused on illegal activity at Cedar Creek on Lake Wateree. Officers made 44 cases for fishing in a state sanctuary.
- Officer Timmons made 1 case for over the limit of striped bass.

Unit 2C (Kershaw, Lee) FSGT JC Hough

- Officers Bessinger and Poeta made BUI's on Memorial Day weekend.

Unit 2D (Marlboro, Chesterfield, Dillon) FSGT John Hillian

- Officer Mackenzie Gallian made a case for trespassing to fish and no fishing license while working activity in Chesterfield County.
- Officers worked a drowning in Chesterfield County on the Pee Dee River in Cheraw. The recovery was made by the DNR Dive Team.

Unit 2E (Florence, Darlington) FSGT John A Perry

- Officer Holland followed up on a tip regarding turkey hunting violations. He was able to cite the subject for failure to report turkey harvest (x3), and failure to tag at point of kill.

Unit 2F (Williamsburg, Marion) FSGT William Huggins

- Officer David Tanner made 1 case for set hook violations, and 1 case for simple trespassing.
- Officer Brant Elliott made 1 case for trotline violations, 1 case for set hook violations, and 2 simple trespassing cases.

Region 3 – CPT John Bedingfield

Officers issued 146 summonses and 612 warnings. 78 cases cleared court, with fines of \$13,062 being assessed. Officers checked 11 hunters and 1,544 fishermen, with a total of 1,131 hours spent on boating patrols resulting in 1,995 boats inspected. Officers spent 26 hours on Homeland Security, and 153 hours on litter patrols. A total of 20 hours were spent on patrol of the Heritage Trust Preserve properties. A total of 748 hours were spent on night patrols. Officers gave a total of 25 public presentations. There were 23 boating accident investigation hours conducted. 12 BUI screenings were conducted, with 8 BUI cases written.

Captain's Spotlight

Richland County officers with assistance from Lexington worked nighttime Striped Bass patrols on the Saluda, Broad, and Congaree Rivers resulting in 16 cases made for undersized striped bass cases with 7 additional littering summonses issued and other 20 warnings as well.

Region officers also made 8 BUIs in May and 2 boating under suspension cases.

Unit 3A (Lexington) FSGT Hunter Robinson

- LCPL Graham arrested a suspect for BUI 2nd and Boating Under Suspension. LCPL Johnson also charged another boater with Boating Under Suspension on Lake Murray.
- PFC Egan made a BUI case. The subject blew .14.

Unit 3B (Richland) FSGT Stephen Bryant

- Officers in Richland received two tips of persons killing geese, PFC's Hoover and Thornton investigated both complaints. The first tip was a recording of a subject throwing and killing a goose with a golf club, the subject was located and charged with Hunting Waterfowl Out of Season by PFC Hoover. The second tip was called in with a subject beating a goose to death. The person was located and charged with Hunting Waterfowl Out of Season by PFC Hoover and Trespassing to Hunt by PFC Thornton.
- While on patrol, CO Pinto noticed a vehicle driving at night without head lights and stopped the driver to determine if the subject was Driving Under the Influence. The subject attempted to flee on foot and was detained until Highway Patrol was able to respond and arrest the subject. During the arrest the subject continued to refer to himself as "1-800-The General".

Unit 3C (Saluda / Newberry) FSGT Marcus Smith

- FSGT Smith, PFC's Miller and Scogin investigated a Snapchat post on a subject with a coyote pup in his possession. FSGT Smith also received information that the suspect drove to TN and bought it. After an investigation, the subject admitted to everything and was issued two summonses. The coyote escaped from its pen days before.
- PFC Gray worked the Darlington race and PFC Scogin worked the Memorial Day Bike weekend during the month.

Unit 3D (Barnwell / Aiken) FSGT Steve Terry

- Units D and E participated in the Barnwell Hatchery Fishing Rodeo.
- FSGT Terry and Investigator W. Bowers made a BUI on the Savannah River Memorial Day Weekend.

Unit 3E (Allendale / Bamberg) FSGT Adrian Priestler

- Assisted Allendale Police Department with shooting incidents.
- CO Breland assisted the Orangeburg County Fire Department with the recovery of an elderly boater stranded near Zig Zag Landing.

Unit 3F (Orangeburg / Calhoun) FSGT Eddie Lee

- PFC Thomas received a call about someone shooting deer out of season. After following up on the information, he was able to identify the subject and charge him with hunting deer out of season, hunting from a public road and hunting without a license.
- PFC Dantzler assisted with the Allendale County detail.

Unit 3G (Clarendon / Sumter) FSGT Cary Robinson

- LCPL Baxley called PFC Grooms while off about running deer with dogs out of season. PFC Grooms was able to respond quickly and make contact with the subjects. Two cases were made for Running Deer with Dogs Out of Season.
- After receiving a tip on social media about a subject using wild turkey feathers to make arts and crafts and sell them, LCPL Laney launched an investigation. Contact was made with the subject and a warning was issued. The subject was advised not to sell anymore. A few days later, the Covert Team made four "buys" from the same subject. LCPL Laney visited the subject again and charged him accordingly.

STAFF OPERATIONS – MAJ BILLY DOWNER

Education – CPT Steve Simpson

A total of **206** presentations were given to the public.

- **126** students certified in **10** Hunter Education classes; **154** students certified in Hunter Education Internet classes
- **145** students certified in **11** Boater Education classes; **416** students certified in Boater Education Internet classes.
- The Education and outreach section conducted **15** curtesy boat inspections over 3 days with **32** potential violations being prevented.

Outreach Activity

- SCTS: Southeastern Clay Combine in Mississippi We had 11 South Carolina teams to compete and ultimately won the State Trophy.
- The Heritage trailer participated in the Iris Festival with 1500 participants
- NASP – SSGT Robinson attended the Eastern Regional Tournament in KY.

Range Activity

- Pickens Range (Andy Emerson)..... 709 Shooters
- Spartanburg Range (Brian Bailey)..... 558 Shooters
- Wateree Shotgun Range (Richie Boykin)..... 355 Shooters
- Wateree Rifle Range (Bob Haines)..... 684 Shooters
- Twin Ponds Range (Scott Hanson)..... 641 Shooters
- Total for Manned Ranges..... 2,947 Shooters

Confiscations, Grants and Records & Technology – CPT Lee Ellis

- Summons entered – 482 Warnings entered – 1791
- New Suspensions – 42 Suspensions closed – 15
- SCDNR Suspensions – 631 IWVC Current Suspensions – 23
- Pending Suspensions –124 IWVC Suspensions Reviewed – 0
- Lt. Salters and I attended SEAFWA Chiefs Spring Conference presented on Accreditation.
- Submitted DHS/USCG Port Security Grant Application.

Accreditation – LT Raquel Salter

- Continue launching policies for review in PowerDMS.
- Met with Accreditation Managers from around the area.
- Attended SCPAC monthly meeting of accreditation managers.
- Completed SCPAC Accreditation Manager Training Conference.
- Worked with Legal Staff to develop Vehicle Stop Directive.
- Reviewed directives and policies for updating and accreditation compliance.
- Represented SCDNR in the Special Olympics Torch Run to the State House Complex.

Training – LT Erik Martin

- Swear in 21 new officers
- Glock training for 21 new officers
- Two (3 day) rifle classes were instructed
- Two Gracie Survival Schools were instructed for 36 students

- Officer Water Survival School and Wildlife Basic for new officers
- First SGT Cooper attended Memorial Day Bike Week at the beach
- LT Martin and SGTs Baker, Monnet, and Arnold assisted the field with boat patrols for Memorial Day Weekend
- All training would not be possible without the assistance of our dedicated staff of field officers. Thank you to all Regions Chain of Command for allowing the use of their staff to move such a large class forward.

OGT/Property Watch/ Special Projects/DLEO Program – FSGT Sidney Rainwater

- Assisted with 5 night hunting registrations.
- Audited SCDNR Tips calls resulting in the following:
 - Total Tips – 30 Unfounded Calls - 12
 - Officer Contacts – 6 Current Open Investigations - 5
- Property Watch – New Members 9, Total Acres Added- 3055, Total Funds Collected- \$536.00

Homeland Security/EMD – LT Charlotte McKee

- Governors Hurricane Tabletop Exercise.
- Bike Week planning/ Bike week 2022.
- Press conference with Dominion Energy.
- Darlington NASCAR Race planning.
- Allendale county assistance planning.
- Attended Aviation Safety Stand Down day.
- FOIA meeting.
- Swearing in ceremony.
- Social media.

Aviation – Chief Pilot Owen Barker

- 25 sorties for 45.3 flight hours
- SCDNR Biology Flights- 12.9 flight hours
- SCDNR Pilot Training Flights- 12.3 flight hours
- SCDNR TFO FLIR Training Flights – 11.7 flight hours
- SCDNR JEA Flight- 4.4 flight hours
- SCDNR SAR Flight- 2.0 flight hours
- SCDNR Law Enforcement Flight – 2.0 flight hours

Receiving– Laken Riddle Williams

- 17 trucks received for law enforcement.
- 5 trucks and 2 dive vans taken down to Holly Hill for outfitting.
- Motors taken down to McLean Marine for install on boats.
- Received equipment for several divisions, prepped items and distributed out.
- Issued out trucks and equipment to May new hires.

Supply—Hayley Mitchum

- Vest fittings for new hire class on May 2nd – along with swear in ceremony.
- 2 Rifle class conducted; transfer paperwork and rifles put together for class.
- Continued to issue out items for annual order to the regions.
- January class received their 2nd box of uniforms for graduating the academy.

Communications – Toby Freeman

- Supported ESF-2 operations at Darlington Race
- Supported Communications for Memorial Day weekend at Myrtle Beach.

Radio Communications Center – SSGT Jason Smith

- Supervisor for Darlington NASCAR race.
- Assisted with Bike week 2022 preparations/Bike week 2022.
- Attended CIPM Training.
- Presentations and fingerprints for new hires.
- Calls for Service: General Information (158); Alligator Call (157); Injured Animal (82)
- Warrants: Entered: 0 Arrest/ 0 Bench Cleared: 0 Arrest/ 1 Bench
- Transmissions: 800: 19,420 Phones: 13,310 VHF: 827

June 7, 2022

Hello everyone. The *South Carolina Wildlife* team just sent a very special July-August issue to press. In this issue, we focus all our efforts on the connectivity of our natural world – ecosystems. It is filled with amazing photography and many features written by *SCW* staff and many of our biologists, too.

Also, the 2023 calendar layout is complete and we are waiting for pre-sales to begin in the summer. That should be an effective revenue generator for our program.

Lastly, Cindy and I have been making the rounds as speakers for various organizations in the community, and I also have been offering photography tips and training for staff and the Camp Wildwood participants.

Please don't hesitate to contact me with any questions or suggestions and thanks for all you do for *South Carolina Wildlife* magazine.

Best regards,

Joey Frazier, editor

South Carolina Wildlife

LAND, WATER & CONSERVATION

STATE CLIMATE OFFICE

The SCO answered 15 data requests on various topics from the general public, law firms as well as various state and federal agencies. Two certified legal requests were provided as well as two media interviews.

In early May the last of three Climate Connections Workshops was hosted in Greenville. These workshops were developed over the past six months, in coordination with the Carolinas Integrated Sciences & Assessments (CISA) program. The workshops were also sponsored by the American Planning Association, Ten at the Top and the SC Association of Hazard Mitigation. Each one-day educational workshop focused on planning for future climate events and impacts in South Carolina. Melissa was the primary point of contact from the office for the workshop planning and implementation. Hope gave a presentation and participated on a panel discussion during each workshop.

Melissa was invited to present on the historic climate, current trends, and future projections to the Mitigation Team within the South Carolina Emergency Management Division (SCEMD) and provide additional information and resources that can aid in the development of updated hazard mitigation plans at the local and state level. Melissa was also invited to serve on the steering committee for a new initiative to create weather and climate-related educational curriculum and activities by the Clemson Extension 4-H program. She will be working with the Horry County 4-H Agent on a hurricane preparedness campaign in June 2022. Melissa drafted and posted four weekly weather summaries, available online on the SC State Climate Office website, and information for the Monthly Weather and Water Update report. Data from these summaries are also highlighted in the weekly USDA Crop Progress and Condition Reports. She answered eight data requests, including two certified legal requests. The remaining data requests focused on obtaining temperature and precipitation data for general interest or reporting purposes.

Elliot coordinated drought monitoring for SC, coordinated the release of drought infographics for drought communication on social media and the Drought Response Committee, coordinated the archival of drought conditions on the SC drought website, and participated in multiple meetings/calls/workshops/webinars. He led the efforts of USDM input for SC for 5 weeks, created 5 infographics released to DNR social media and released 5 infographics to GovDelivery for weekly changes in USDM conditions that was sent to the SC Drought Response Committee, and created 5 weeks of maps for CMI and PDSI drought indicators. He created monthly climate maps for the drought website. He completed the monthly *Water Summary Status* report. He continued working with CISA to create a Local Drought Planning Guide to provide guidance to local water suppliers on the importance of creating / updating their drought plan. He started a project summarizing historical drought impacts to streamflow and reservoir levels.

Frank issued three Weather Alerts each concerning an upcoming heavy rain event or severe thunderstorm or tornado outbreak. In response to a request from DHEC's leadership, Frank created a document to explain the NHC forecast cone and its proper use for DHEC leadership. He continued rebuilding the office's tornado database and writing an Open File Report on the April severe weather. He generated an update for our hurricane database containing 2021 storms which affected SC. He provided customized forecast information for USC graduation, College of Charleston graduation, DPS and DNR Law Enforcement for Bike Week, and College of Charleston Spoleto Festival Gala. He attended the Climate Prediction Center's weekly long range tropical cyclone genesis briefings. He continued using Twitter (243 tweets) to pass along weather information to South Carolinians.

Hope provided four media interviews- one on the workshop series, two on the drought designation and one on May heat. She responded to two data requests and provided customized forecast information for USC Graduation and for Richland One Graduations. She participated in four meetings as a part of the Statewide Resilience Planning effort (full advisory committee meetings, subcommittee meetings, additional planning meetings). She continued to provide revisions and suggestions for the Statewide Resilience Plan including coordinating communication with other DNR staff. She developed presentations for the Climate Connection Workshops, the Governor's Hurricane Tabletop Exercise, and the SC DNR Board Meeting. She completed the Sole Source application and process for DTN's Hydrometportal funding. She provided suggestions and revisions for Melissa's two-page description of El Nino South Oscillation that was sent to the Governor's Office in response to questions from the Governor's Tabletop Exercise. She provided suggestions and revisions to Frank's document on the National Hurricane Center's Error Cone that was developed in response to questions from DHEC leadership. Hope provided regular guidance for office intern and staff.

Conferences, Meetings, and Presentations

Staff: LWC Spring Meeting and Luncheon – May 6

Melissa: 2022 NWS Charleston Hurricane IWT – May 11

Melissa: CISA and SCSCO Climate Connections Workshop – May 12

Melissa: AMS Weather Band Committee Call – May 16

Melissa: AMS Climate Services Committee Call – May 23

Elliot: Drought call with Hampton/Jasper/Beaufort County FSA Office – May 2

Elliot: Call with Catawba Riverkeepers - May 2

Elliot: Drought Call with GA State climatologist - May 3

Elliot: SE Climate Monthly Webinar- May 10

Elliot: NC DMAC Call - May 3, 10, 17, 24, and 31

Elliot: Drought Guide Project Call - May 5, 13

Elliot: NDMC Call - May 11, May 12

Elliot - PPAC Quarterly Meeting -May 11

Elliot: Edisto River Basin Council Meeting-Virtual - May 18

Elliot: Presentation - USDM, Drought Response Committee, and Drought Reporting for Farm Service Agency County Offices – May 18

Elliot: Presentation - Understanding USDM and drought reporting, Florence County Farm Bureau Board -May 24

Elliot: NRSC Field Meeting – May 25

Elliot: Drought Call with USDA Pee Dee / Coastal Conditions -May 31

Frank: Governor’s Hurricane Tabletop Exercise - May 5

Frank: NWS Wilmington Safe Boating Webinar - May 6

Frank: SE Climate Monthly Webinar - May 10,

Frank: Charleston Tropical IWT meeting - May 11

Frank: Long-range tropical cyclone genesis products Webinar - May 17

Frank: NOAA Atlantic Basin Hurricane Forecast Webinar - May 26.

Hope: Call with Catawba River Keepers – May 2

Hope: SC Resilience Plan –Meeting with CISA to discuss Climate Chapter – May 3

Hope: Equal Employment Opportunity Training – May 5

Hope: Governor’s Hurricane Tabletop Exercise - May 5

Hope: SC Resilience Plan Building Codes Subcommittee Meeting – May 6

Hope: Catawba Wateree Drought Management Group Meeting – May 10

Hope: CISA and SCSCO Climate Connections Workshop – May 12

Hope: CISA and Sea Grant Meeting - Resilience Archive – May 13

Hope: Edisto River Basin Council Meeting - May 18

Hope: SCDNR Board Meeting – May 19

Hope: SC Resilience Plan Subcommittee Meeting – May 18

Hope: AASC Nominating Committee Conference Call – May 31

Hope: Conference Call with DTN Leadership – May 31

Additional Information on Staff Activities

- Melissa serves on AMS Climate Services Committee
- Melissa serves on the planning committee for the American Meteorological Society’s Weather Band
- Hope serves as the SCDNR representative on the SC Statewide Resilience Plan Advisory Committee, the Environmental Subcommittee, the Cultural Resources Subcommittee, and the Building Codes Subcommittee
- Hope serves on the Citadel Climate Center Advisory Committee
- Hope serves as the SCDNR representative on the SC State Hazard Mitigation Plan Advisory Committee
- Hope serves on the AASC Nominating Committee
- Elliot serves as a member of the SC Water Chats Advisory Committee
- Hope completed the paperwork required to hire a new intern
- 40,952 Frank’s Weather Alert subscribers. The subscriber count was 40,560 in April.

GEOGRAPHIC INFORMATION SYSTEMS

General

Travel and accommodation arrangements were made for the ESRI User Conference in July.

Attended SCDNR GIS Users Group Meeting on May 19th with a presentation on drone use and applications in the Lowcountry and across the state. Attended Google I/O 2022 with topics on improvements to Safari, upgrades in Google Maps, and developments in AI. Continuing education with UDEMY learning the Bootstrap framework for front-end development.

State Climate Office

Updates were made to the Hurricane and Winter Weather databases. Five storms were added to the Hurricane Database for 2021, including Tropical Storms Claudette, Danny, Fred, and Mindy. Hurricane Elsa was also added to the database. Four winter storms were added to the Winter Weather Database for 2022, including two storms in January, one in February, and a late freeze in mid-March that decimated crops across the state.

Earth Science Group (ESG)

Some progress was made on the Borehole Database. Historic earthquake locations were plotted in the Elgin area.

Scenic Rivers

No GIS work done this month.

Hydrology

No GIS work done this month.

Conservation Districts Program

No GIS work done this month.

Archaeology

No GIS work done this month.

Flood Mitigation Program

No GIS work done this month.

RIVER CONSERVATION PROGRAM

River Conservation / Scenic Rivers:

- River Program Information/Documents: Staff continued writing and editing the draft Pee Dee Scenic Rivers Management Plan. Addressed public requests/questions for SC Rivers-Watersheds Poster, river boating guides, River Sweep bags, and buffer regulations. River Program webpages are being updated.
- Lynches River: Staff continued to address a requested closure of public road access to Pitch Landing on Lynches River in Florence County; DNR is seeking an access easement to the landing and adjacent state properties as a condition of accepting the proposed road closure.
- FERC Hydroelectric Projects: Staff participated in the virtual site tour for the Bad Creek hydro project, as Duke Energy is starting a process to renew the current FERC license due to expire in 2027. Staff reviewed a proposed Dominion Energy land sale at the Stevens Creek Project reservoir.

Heritage Trust: Staff participated in the May 12 Heritage Trust Advisory Board meeting and related field trip to Peachtree Rock Heritage Preserve. Participated in the May 24 Habitat Protection Committee meeting. Applicant interviews for the Wildlife Biologist III position were conducted.

Aquatic Nuisance Species: Applicant interviews for the Wildlife Biologist III position were conducted and Matt Puckhaber was hired, replacing Julie Holling who was hired in the previous month for the Program Manager position.

BOTANY AND PLANT CONSERVATION PROGRAM

Field Surveys and Monitoring:

- Conducted surveys of rare plants, invasive plants, and assessed management needs at Carolina Sandhills NWR, Donnelly WMA, Francis Marion National Forest, Groton Plantation (private, Hobcaw Barony, Little Pee Dee River HP, McDowell Preserve, Victoria Bluff HP, Wateree River HP, Bald Rock HP, Chestnut Ridge HP, Poinsett Bridge HP, Watson-Cooper HP, Caesars Head State Park, Table Rock State Park, Jocassee Gorges WMA, and Green Mountain (Naturaland Trust).
- Surveyed for Wretched Sedge, a new state record from Caesars Head State Park

- Surveyed and mapped populations of Marbled alumroot (*Heuchera pubescens*), and probably found a related taxon, Purple alumroot (*Heuchera hispida*), new to South Carolina
- Surveyed for Rocky shoals spider lily on the Broad River
- Surveyed for Piedmont buckroot in Lexington and Richland counties
- Surveyed basic glades at Chestnut Ridge Heritage Preserve for Appalachian beardtongue (*Penstemon canescens*)
- Surveyed private land in Kershaw County to document Hairy waterleaf for the first time in South Carolina, and map other rare plant species
- Processed data from 2021 and 2022 field surveys and entered rare plant data into Heritage Trust database

Tracked Plant List Revision:

Efforts to revise the Track Species List have continued. Data processing is happening at a rapid level thanks to efforts by Csilla Czako and Amanda Harmon. Processing of conservation rankings is at a slower pace than through the winter due to the field season.

- Reviewed and annotated herbarium specimens at the University of South Carolina and University of North Carolina, focusing on tracked and potentially tracked species
- Calculated rank estimates for species being added to tracked list
- Continued re-ranking of species already on tracked species list
- Worked with Joe Lemeris to update existing Element Occurrence records
- Conducted virtual specimen evaluations in the Southeast Regional Network of Expertise and Collections (SERNEC) to resolve taxonomic problems that affect ranking of tracked species and species being evaluated for tracking
- Technician Csilla Czako continues to make outstanding 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 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
- A Contract with the University of South Carolina is underway, and Amanda Harmon is updating all data on Federally listed and At-Risk Plant Species

Conservation and Management:

- Surveyed sensitive habitats at Carolina Sandhills NWR with Refuge Manager Allyne Askins, and DNR's Anna Smith to strategize management
- Evaluated potential grassland restoration property in Lancaster County
- Surveyed Godfrey's privet augmentation at South Bluff HP. All plants are thriving
- Filled out a survey for Atlanta Botanical Garden and the Southeastern Plant Conservation Alliance on their project, "Regional Species of Greatest Conservation Need", and evaluated threats and recommended conservation priorities for the species on the tracked list in SC, and participated in survey results meeting
- Reviewed Horry County Mitigation Bank monitoring proposal
- Reviewed management plan for Shaw Air Force Base properties
- Participated in Southeastern Plant Conservation Alliance Coordinators Meeting
- Participated in meeting on Carolina Bay conservation and restoration planning
- Conducted Partner Review for Relict Trillium Species Status Assessment for the USFWS
- Participated in South Carolina Plant Conservation Alliance planning meeting

Habitat Protection Committee:

- Attended bimonthly committee meeting
- Surveyed a potential acquisition site in Pickens County

Other:

- Gave presentation on the SCDNR Botany and Plant Conservation Program to the SCDNR Heritage Trust Advisory Board and led a field trip to Peachtree Rock HP
- Taught three wetland delineation classes in collaboration with the DNR Coastal Training Program
- Conducted interviews to fill a Wildlife Biologist III (Botanist) position

- Participated in a “Venus Flytrap Champions” sward ceremony in Horry County, an award presented to an NGO active in the recovery of this rare species
- Attended the 2022 spring meeting of the Land, Water, and Conservation Division in Columbia
- A new intern, Addison Frazier, is imaging slides for the Botany Program and other LWC programs, and scanning documents, in preparation for the future move of the DNR office and is contributing to our data review efforts.
- Attended The Mark Catesby Centre Public Symposium at the University of South Carolina
- Processed herbarium specimens for deposit at the University of South Carolina A.C. Moore Herbarium and Clemson University Herbarium.

CULTURAL PRESERVES PROGRAM

Below is a list of some of the things the Cultural Preserves Program has been up to this month:

Meg Gaillard

- Attended the North American Heritage at Risk (NAHAR) weekly virtual meetings/lectures each Friday morning at 9am.
- 05/01: Sent out May 2022 Archaeology newsletter (14,387 recipients)
- 05/03: Attended a meeting for the National Estuarine Research Reserve System (NERRS) grant. I am a contributing researcher/collaborator on this three-year grant. Florida archaeology colleagues are serving as the Principal Investigators on this grant.
- 05/04: Attended the SCEMD Recovery Task Force quarterly meeting, represented the Cultural Resources RSF.
- 05/04: SCDNR Archaeology Public Outreach team meeting.
- 05/05: Attended the EEO is the Law workshop.
- 05/12: Attend the Relative Sea Level (RSL) Cooperative Project meeting.
- 05/13: Present at the SC Archival Association annual virtual spring workshop.
- 05/16: Met virtually with graduate student Jacob Hamill about his thesis project focusing on Fort Frederick Heritage Preserve.
- 05/19: Met with a representative from Professional Printers to discuss projects for next fiscal year.
- 05/20: Attended a Disaster Response and Self-Care webinar.
- 05/20: Attended the Society for Historical Archaeology’s Heritage at Risk Committee spring meeting (virtual).
- 05/24: Conducted a monthly shoreline survey of Pockoy Island with Katie Luciano, Gary Sundin and Kiersten Weber.
- 05/26: Attend the webinar “Weathering the Storm, Hurricane Prep”

Lelia Rice

- Inventoried all the SCDNR Archaeology public outreach material
- Cleaned out all the SCDNR Archaeology public outreach material from its old location
- Organized and condensed all the SCDNR Archaeology public outreach material in its new location
- Prepared for interns to arrive
- Edited lesson plans
- Experimented with kids activities that are part of the upcoming Archaeology Summer Series and new lesson plans
- Prepared for Archaeology Summer Series programs

Ella Goulding

- Rearranged and condensed public outreach and experimental archaeology materials at Parker Annex.
- Updated Archaeology Research Library database (LibraryThing).
- Worked on a SC Humanities grant for archaeology writers series.

Gabe Donofrio

- Processed photogrammetry models of a 1781 coin, a 1796 coin, and an artillery shell.
- Working on photogrammetry presentation for 2022 summer interns. (research, working on PowerPoint)
- Working on photogrammetry workflow.

AQUATIC NUISANCE SPECIES PROGRAM

Technical

- Triploid grass carp were stocked in Lake Murray (1700), Lake Greenwood (350), Goose Creek Reservoir (800), Lake Bowen (65), Spartanburg Reservoir #1(25), and Skinface Pond on Crackerneck WMA (50). Grass Carp stockings were coordinated with DNR fisheries staff.
- Invasive aquatic species surveys were conducted across the state, including the Ashepoo and Combahee Rivers, Lake Cunningham in Greer, as well as several State Parks lakes.
- Staff had the contractor treat the Combahee River and a pond on Charlestowne Landing State Park.
- Staff treated lakes on Kings Mountain (2) and Hunting Island State Parks.
- Staff met with herbicide manufacturer representatives.

Outreach

- Staff is participating in the 2020-21 Rules and Regs updates via email.
- Staff answered numerous questions from the public via phone and email.

Training

- Staff attended the national Aquatic Nuisance Species Task Force virtual meeting to learn about the different issues that are occurring across the country.

Other

- Continuing maintenance on all boats and vehicles was performed to keep them in readiness.

CONSERVATION DISTRICTS

Statewide Projects

Staff attended/participated in:

- Dorchester, Saluda, Lexington SWCD Banquets
- LWC Division Spring Staff Meeting
- SC Conservation Districts Foundation Executive Board Meeting
- PLEAF SCDNR Webb Center and Spring Island Trust Sessions
- National Association of State Conservation Agencies (NASCA) Board Meeting in Maine

Staff also:

- Assisted Florence and Lee districts with Farm Bill programs
- Graduated with the first cohort of PLEAF
- Wrapped up the 2022 SC Envirothon Competition and began preparations for the 2022 NCF-Envirothon Competition
- Judged photography submissions for the Association of Conservation Information (ACI) Awards

Watershed:

- Attended Anderson County Joint Watershed Meeting and performed oaths of office
- Performed Dam Checks in Greenville County
- Met with Greenville County district staff to discuss proposals near a watershed dam
- Worked with NRCS staff to share information and discuss SCDNR's role in watershed structures
- Assisted Pickens County regarding landowner concerns
- Worked with Districts regarding information requests by outside individuals and entities
- Shared information regarding Adopt-a-Stream with districts
- Worked with districts to share information on watershed law and implementation
- Collaborated with partners regarding multiple watershed endeavors in their areas to address concerns
- Continued working on easement issues with multiple stakeholders
- Worked with partners from local, state, and federal agencies to address concerns and issues in multiple areas

Conservation Districts

Abbeville District – held our monthly meeting at the local restaurant “Talk of the Town” on May 11, 2022. Our Commissioner Emeritus Stan Keaton and his wife joined us at our annual H.O. Mullinax Scholarship luncheon. Chairman Fred Raines presented two students with a certificate of achievement that represented their \$750.00 scholarship award (each) that was mailed to their colleges. The students that were awarded were Ann Marie Brooks that is attending

Clemson University and Savannah Winn that is attending Piedmont Technical College, eventually transferring to Lander University. SCACD's liaison, Marc Cribb came to Abbeville and met with Commissioner Chairman Fred Raines, Commissioner Eric McCall, and Josh Murdock (FFA/AG teacher) at one of our district's high schools to discuss the Dixie High School's FFA/AG Wrap Recycling Program that needs funding. Our June 8, 2022, monthly meeting will be held at the local restaurant "Two Brews" at 11:30 am and it is located at 101 Court Square, Abbeville, SC 29620.

Aiken District hosted a workshop on "Healthy Soil 101". We had 7 presenters and the participants enjoyed the workshop and learned a lot. We also had the Farm Bureau mobile ag lab at our Greenstep school, Aiken Elementary. If you have not had a chance to do this, I urge you to call them. The kids loved it! We also presented a \$2,500 scholarship to a senior at Wagener Salley High School. He will be attending Clemson University in the fall to major in Agricultural Education. We also were able to do a classroom presentation at Aiken Elementary and make microgreen necklaces.

Anderson District awarded education contest winners/recipients this month. We had photo winners from Crescent High School, scholarship recipients from Belton Honea Path High School and Pendleton High School, and essay winners from St. Joseph Catholic School and Belton Middle School. We also attended 3 Seed Library Pop-ups; the Lake Hartwell Partners for Clean Water meeting; the Ag & Art Showcase at Riverside Middle School (where we shared about conservation and careers in the field); the SC State Explorer Camp planning meeting; an Adopt-a-Stream training; the Anderson County annual watershed meeting; and the SCCDEA grant writing class. Our 4th annual Barrels & Beer event was a success with good participation. Thirty tickets were sold, and we also hosted an activity for the children this year. We have also assisted NRCS with the second round of funding for EQIP applications, attended 5 field checkout visits, and participated in the Soil Health in-field training at Carter Farms in Eastover, SC.

Berkeley District – we are happy to report that many of our program opportunities which were on hold are opening back up. BSWCD nominated Representative Sylleste Davis as Legislator of the Year. Rep. Davis was presented the Golden Eagle Award at a SC House of Representatives session. She will be honored throughout the year and will receive special recognition at the affiliate banquet in November 2022. Nick Yoder, Farm and Land Services Specialist with Berkeley County, plays a very active role in our District. Nick heads up the *berkeleybees* program with monthly meetings and bee activities in the community. On May 24, Foxbank Elementary School held a career day and Nick shared animals from Cypress Gardens and talked with students about Natural Resources and Conservation. He worked with students on the County Watergoat Project at College Park School, installed an interpretive sign, and has students assigned to monitor the project. He is working on potential programs for students to learn during the summer and school year. Roseann Bishop, Earth Team Coordinator, has kept the volunteers busy with monthly meetings, special events; two native plant festivals; Bushy Park monthly cleanup, and an outing to Georgetown, SC for a scenic boat trip and picking up shells at the beach. Our commissioners are working on our annual membership drive, affiliate banquet planning, and several projects which will soon be announced. The *Berkeley Outdoor Life Program* is booming! Anyone who visits the Berkeley Outdoor Life website cannot help but get excited at the many opportunities for great outdoor adventures. Our Summer newsletter will go to printer on June 13, 2022. Our board meetings are exciting, and we have many regular guests attend each month.

Beaufort District we've been busy training our two new educators and providing many outreach programs this month. Together with our senior educator, they gave presentations which included 6 *Enviroscape* programs for the Kids in Kayaks, as well as 15 "Snakes Are Not Scary", 12 "Cargo for Conservation", and 3 "Sharks Don't Always Bite" to local middle and elementary schools. Staff is busy planning our 31st Eco Camp, "Crazy for Conservation", to take place the last week of July. Staff is also scheduling several other summer programs for camps and schools. Staff participated in the Together for Beaufort County Water Quality Coalition and Lowcountry Stormwater Partners quarterly meeting and commissioners are busy getting signatures for their election petitions.

Calhoun District -staff participated in the SC Envirothon. We are also revamping our literature to reach out to old and new affiliate members. We are working with the Calhoun County Library on new education programs for 2022/2023.

Chester District's two no-till seed drills were used as a conservation method on 35 acres. Chairman Beer, along with 3 Rocky Creek Watershed Directors, held a site showing on May 5 for contractors interested in bidding on the mowing of both Rocky Creek Dam #6 and Rocky Creek Dam #8. Bids were opened and contracts awarded on May 17 and the mowing was completed on May 31. The Conservation Essay, Photo, and Poster contest deadlines were May 12. The volunteer judges chose the winners the week of May 16-19. Awards for all contests were presented in person at either the winners' schools or at our district office the week of May 23-26. Photography judge W.L.D. Marion met with the photo winners on May 25 offering constructive criticism about the photos they submitted as well as encouragement to continue with photography. He also took their photo for the local newspaper and discussed cameras and equipment with them. The Allen L. Beer Scholarship deadline was May 26.

Colleton District - Commissioners Rev. Mabry, Gary Herndon, and Cleveland Hiott reported that our booth at the Colleton County Rice Festival was well attended and enjoyed by all. The District's Booth highlighted the importance of Healthy Soil. Educational materials were given out to students and adults. In celebration of Stewardship Week, Rev. Mabry organized a tour of Donnelley WMA with Daniel Barrineau. Daniel provided our group with a wonderful and informative tour of the Donnelley WMA. Eddie Mitchell, NRCS Soil Conservation Technician, retired after serving 18 years in the Walterboro Field Office. We will miss him but wish him a wonderful retirement!

Dorchester District – held a brief board meeting just before our 2022 Affiliate Banquet. The 2022 Affiliate Banquet was held at The First Baptist Church of Harleyville on Thursday May 5th. There were 87 guests in attendance. The banquet program included award presentations to the Scholarship winners, photo contest winners, poster contest winners and conservationist of the year. The 2022 Dorchester SWCD Conservationist of the year award went to JH Westbury & Sons. They have strawberry farms in Harleyville and Summerville while farming other crops as well. Our guest speaker was Master Beekeeper, Jim Strohm. His presentation was on pollinators. Mr. Strohm also brought his observation beehive for viewing and honey for sampling. It was a great event, and we are already thinking about next year's banquet.

Fairfield District – Two graduating seniors were the recipients of the FSWCD Annual Scholarship. Photo Contest dates were extended. *Sammy Soil* Booklets were given to young children. Our No-Till Drill has been in high demand. Commissioners joined the Webinar for Watersheds and Adopt-A Stream. Contacted James Tillman, NRCS S.E. Regional Conservationist, to discuss the length of time the Chester/Fairfield DC position has been vacant. Two commissioners will be running for re-election this year. Continue to assist NRCS re: the Farm Bill Program.

Georgetown District – conducted the annual Poster Contest. Several entries were received, and the winner was Mrs. Cannon's class at Pleasant Hill Elementary School. The class received an ice cream party. The annual Essay Contest winners were awarded certificates and checks for their efforts. In observance of Earth Day students at Brown's Ferry Elementary and Sampit Elementary Schools were given a copy of *The Adventures of Sammy Soil* coloring book to spread the conservation message. The district continues to rent the Great Plains grain drill. Some repairs were made to the drill this month. The board of commissioners met on May 16 and officers were elected for the new year.

Greenville District - sent our quarterly newsletter to 341 subscribers and our bimonthly Greenville Growers newsletter out to 65 subscribers. Our K12 education events included Mauldin Middle School where 265 sixth graders learned about trees; Buena Vista Elementary where 16 second graders learned how to grow sunflowers and how to recycle, Staunton Bridge where 20 students learned about gardening and Freetown Community Center where 25 students learned about recycling and making art. We distributed 37 Poop Fairy signs to Greenville County residents and distributed 8 pet waste stations to county HOAs. We published an infographic in the Greenville Journal teaching that knowing your soil pH can reduce your need for fertilizers. We continued our support of the Reedy River Water Quality Group through social media campaigns and as leadership on the Public Outreach committee. We are also spearheading committee efforts on a new video series, the first of which was completed this month. We continue working with Greenville County's Long Range Planning Division on the ag/food security part of the Comprehensive Plan and staff taught about Soil Health in a weeklong Clemson Extension online educational series about Foodscaping. We also assisted NRCS with a streambank design for a 319-project spearheaded by Save Our Saluda.

The South Tyger Watershed Board created a logo for the Board and had it embroidered on shirts. Additionally, the board came up with two new projects that will make maintenance activities easier. The first has to do with the ongoing problem of residents of the nearby college campus building bridges to the primary spillway ladder out of wooden debris. This included pallets, logs, 2X4's etc. The debris caught smaller debris and would eventually lead to the inlet being plugged. They had to pay a contractor on a regular basis to clean the inlet of this debris. The commission decided to detach the ladder from the inlet side of the spillway. The ladder was extended, re-coated, and is now mounted on the opposite side of the tower. Hopefully this will discourage students from putting debris on the front of the tower (blocking the inlet) as they try to get to the ladder. The second project was to install a water depth gauge on the dam side of the tower. The base of the gauge (i.e., 0.0) is lined up with the bottom of the inlet opening. The depth gauge will give a better ability to quantify and standardize depth observations. This will give us some idea of a baseline for "normal" weather, "light rain", "heavy rain", "plugged inlet", etc. This will help future/new commissioners to be confident in their observations as well. These projects were forwarded to the DNR Watershed Manager to share with other watershed boards in the state.

Hampton District held our monthly meeting. Graci Hiers, the newly hired Regional Beautification Marketing Coordinator with SouthernCarolina Alliance, met with district staff to discuss potential programs and events to collaborate on. The 2022 Conservation Poster Contest winners have been announced. District staff visited the winners' schools and presented them with certificates and gift cards. A press release about the poster contest winners was written

and sent to The Hampton County Guardian. District staff attended a statewide zoom meeting on the feral hog pilot project, as well as a national partnership zoom meeting, where all participating states provided project updates and progress. Since October 2021, 579 feral hogs have been removed from Hampton County properties. The District/Keep Hampton County Beautiful continues to participate in the Community Spring Cleanup event and provides litter pickup supplies to anyone who requests them. Ten cleanup events were held in May, resulting in the removal of over 6,600 pounds of litter/debris; 48 tires, 50 pounds of construction debris, 18 pounds of aluminum cans, and 20 pounds of glass were recycled.

Horry District held our monthly board meeting on May 17th. The Board voted on the Farmer of the Year, Educator of the Year, Conservation Service and Citizenship Awards for FY 2022. Awards will be presented at the annual awards banquet on October 20th. HSWCD Commissioners and staff, FSA representative, Clemson representative, NRCS staff, SC Forestry, and local farmers held its local workgroup meeting to discuss resource concerns. The HSWCD essay recognition ceremony was held on May 24th presenting students with certificates and cash prizes along with their teachers. District staff assisted NRCS with 21 contracts and 6 conservation plans thru the NACD agreement. Promoted the Agricultural Community with 2 different outreach phone reminders. Aynor Blue Jackets represented HSWCD at the Envirothon Competition and came in 1st place at the Current topic station. HSWCD continue to rent their grain drill and Brillion seeder. Nina attended the Grant Writing webinar. HSWCD is still working towards spending the additional funds which must be spent by June 30th on the Phase II Little Pee Dee 319 grant. HSWCD's initial proposal for another 319-water quality grant for the Mitchell Swamp/Grissett Swamp was approved. HSWCD will submit the final proposal by June 3rd.

Lexington District – hosted our Annual Recognition Banquet honoring its affiliates, community, and partners in other agencies. Awarded four scholarships, and awards such as: Teacher of the Year, Friend of Conservation, Conservation & Public Service. Commissioner Emeritus was bestowed to Dwight Davis. Read to students at Gilbert Elementary school for Ag in the Classroom. Commissioners and staff attended Scott Lynch's Blaze presentation to discover opportunities that could be used to improve use of Lexington County's natural resource areas.

Laurens District – sponsored a lifetime fishing & hunting license for one lucky winner at the DNR Fishing Rodeo. This is held at Lake Rabon, one of our watersheds. There was a record number of children participating this year. Our District Coordinator was "locked up" to help the Sheriff's Office raise money for their Christmas for Kids program. They assist us with several projects throughout the year. We also had our very first spring festival at The Adair Outdoor Education Center. We had over 100 people show up for tours of the center. Many community groups set up tables. The FFA brought farm animals. We had ice cream, hot dogs, face painting, and plant sales. The local 4-H leaders set up a rock painting and animal track activity that was a big hit. Our cabin from the 1800's was open for all to see and free family photos were taken there. Most importantly, we dedicated our new pollinator garden in memory of our late Chairman, Calvin Robertson. He was a conservationist his entire life and served on our board for over 17 years. His family joined us & it was quite a special occasion.

McCormick District – is now open to the public but continues to retain social distancing by handling all request via email, voice mail and/or by appointment. The district held its monthly board meeting May 18, 2022. NRCS partner Matt Brown's report was written and discussed by the board. The Chairman attended the 4H/FFA awards banquet at the Governor's School of Agriculture and presented a check for funding of the Scholarships sponsored by the district. McCormick sponsored Farm City Day Clemson Extension held at John de la Howe on May 24th.

Newberry District – hosted "A Bug's Life" at Movie Night on the Farm, with 70+ in attendance, proceeds from concessions to benefit the Girl Scout Troop 990. The weather was fantastic, and everyone enjoyed sitting under the stars. NSWCD partnered with DNR, SCFC, Aphis, Clemson Ext, Quail Forever, NRCS & SC Bobwhite Initiative to host A Field Day for Forest Landowners at Belfast Plantation. Instruction was given on Sequential thinning, winter discing, native species, benefits of habitat, the Feral Hog program, and Prescribed burning. Crista went to Cabela's in Greenville to pick up \$2500 in supplies from the Outdoor Fund Grant. These supplies benefit *Camp Conservation* which happens next month. There is the first meeting for a planned Community Garden in the Newberry Wise St. neighborhood. Crista met with 60 residents at Bethel Church in Prosperity to talk about Recycling and Litter pick up. The SCDOT, Sheriff Foster from Newberry County and Palmetto Pride were also in attendance. There is a Litter Pickup event in downtown Prosperity on Saturday May 28. Crista presented 2 scholarships at Senior night at Mid Carolina HS. An article was submitted for the monthly column in Newberry Observer on Invasive Species in our Water. KNCB has had several meetings with the City and County Council's which approved the Keep Newberry Beautiful Summer Fair to be hosted in August at the Fairgrounds in Newberry. This will be the first annual with amusements, games, food vendors and local community demonstrations.

Oconee District – Community Outreach: The District hosted 2 tables at the Walhalla “Kituwah” Cherokee Gathering and Earth Day Celebration. We distributed flyers about the Oconee Seed Exchange, Spring newsletters, 88 seed packets (mostly pollinator friendly wildflowers); 106 Earth Day bookmarks; 89 Earth Day bracelets; 50 Earth Day related stickers. 61 people planted a wildflower seed to take home. Staff discussed various programs with District and/or USDA-NRCS (no-till drill, educational programs, art/essay contest, scholarship program, CSP, EQIP, etc.). Conservation Stewardship Week: Oconee County Council proclaimed April 24-30 as Conservation Stewardship week. Our “Oconee Seed Exchange” opened. Over a dozen people visited in the 1st week, and 36 packets were distributed. PSAs were sent to 101.7 (WGOG) and 94.1 (Lake) and a news release was sent to *Journal* and was printed in the Lifestyle section. Seed Exchange: In the first month, we have distributed 79 seed packets to community members. Soil Health Stewards Grant: Staff attended a soil health training, as required for the grant, and submitted the soil health action plan. Sent press release to local media regarding the grant. Educational Outreach: Awarded 4 Grobusky Scholarships at high school awards days; honored art contest participants and winners at awards luncheon. Watershed Dams: Continuing to update the EAPs for each structure; inspected two high hazard structures with NRCS State Engineers; inspected all high hazard structures with DHEC Regional Engineer. Administration: Finalizing the 5-year strategic plan; compiled community/stakeholder survey results. Invited to participate in the ACOG regional green infrastructure plan.

Orangeburg District - Commissioners John Cuttino and Harold Donnelly attended the Conservation Districts Day at the State House. Education Coordinator, Diane Curlee worked with the Orangeburg Consolidated District High School for Health Professionals. Diane assisted the students with choosing sites for bird feeders, filling the feeders with the correct feed, and teaching them why some birds need a special feeder and others do not. She also assisted the students in planting four planters with Hosta and Ferns. We participated in a litter clean-up, and 75 large bags were filled with trash. Philip Carnley, Horticulture Agent, Clemson Ext. provided instruction to the maintenance crew and the students on pruning and trimming hedges. Staff has been assisting NRCS in obtaining contract signatures during May. We had two teams participate in the 2022 SC Envirothon Competition. Our No Till has been active this spring. Keep Orangeburg County Beautiful staff partnered with Code Enforcement and had a successful spring clean-up with 711 bags of trash collected, 506 people participated, 15 litter citations were written, with a total of 13,400 lbs. of trash collected.

Pickens District – contributed \$450.00 to the Seed Library for supplies. 1,453 people have used the Seed Library and 7,500 seed packets have been given to the community. Our no-till drill has been in use this Spring. We had a great turn out for the Education Contest: "Healthy Soil, Healthy Life" with a total of 69 entries: 25 posters, 6 essays and 38 photos. 27 students and 8 teachers participated. Total amount awarded to students who placed: \$730.00 and total awarded to teachers was \$125.00.

Richland District recognized twenty student award winners in the 2022 Youth Conservation Poster Contest. In all, 111 students at nine schools participated in the competition. The district presented two *SuperSoil* class presentations for 26 students at A.C. Moore Elementary School and collected two vermicomposting bins from Pendergrass Fairwold School for summer safekeeping. Staff mentored Green Steps environmental projects at Brockman Elementary School and L.W. Conder Arts Integrated Magnet School. The District’s Adopt-A-Stream kit was used by three community volunteers. Richland District Associate Commissioner Dr. Jamie Browder hosted the District’s May board meeting at Heathwood Hall Episcopal School. Commissioners and guests toured the School’s Edible Fruit Forest, which received a Conservation Education Mini-Grant from the District in fall, 2021. We also hosted Pop-Up Seed Sanctuary events at Fox Hideaway Farm, Lake Carolina Elementary School, and Blythewood Middle School. The district co-hosted a Farmer Resource Workshop for 34 participants in cooperation with the Carolina Farm Stewardship Association and several partner agencies and organizations. The district provided support for the South Carolina Forage and Grazing Lands Coalition’s monthly board meeting and strategic planning process. The district also provided support for the Environmental Education Association of South Carolina (EEASC) executive director’s onboarding process, an EEASC landscape analysis implementation grant proposal, 2022 EEASC conference planning, and EEASC’s fundraiser celebration plan. District staff participated in the EEASC Midlands Meetup, the SC Project Learning Tree Facilitator Meetup, and SC Conservation District Employees Association Grant Writing Workshop.

Spartanburg District – May has been busy with the demonstrational garden. We attended Discover Your Watershed, a free family fun event at Lake Cooley where we talked with community members about what we do. We have also just received the 5’ ATV Firminator that we ordered. This smaller unit, which is low till, will save wear and tear on our No-Till drills, make low till an option for residents who do not have a large tractor and can be utilized to install or maintain pollinator borders. We are eager to rent it out.

Sumter District is sponsoring two students to attend Camp Bob Cooper 4H camp. The No-Till Drill has been in high demand this month. The district has a Local work Group Meeting June 16th, and many stakeholders from Sumter County have been invited. The district is finalizing plans for the June teacher workshop. Sumter's new District Conservationist, Marie Faatuela, started on the 22nd, and we are excited to welcome Marie to our office!

Williamsburg District – Three winners were chosen in the District's Poster Contest. The winners received pizza and ice cream parties. The Essay Contest was completed, and the commissioners judged the entries. 65 essays were received and the winners in grades 4-8 received monetary prizes. Mrs. Mercer, the teacher of the county winner Sharon Lian at Williamsburg Academy, will receive funding for a class project. In observance of Earth Day, the district gave a pollinator seed packet to every 4th grade student in the county. Work began on the district's new Beaver Management Project, with the county removing the old pipes and installing new ones at the affected area. Then excluders will be installed to prevent the beaver from damming the pipes. The landowner will maintain the excluders. This is an experimental project to stop the beaver from backing up water on the road. The Williamsburg SWCD will host the Pee Dee Area Meeting this fall. Preparation is underway.

York District – Chasity finished up the Garden Series with harvest day. We always have a good crop of radishes, and we had a decent crop of lettuce. Most kids tried or ate the lettuce, carrots, and radishes. Chasity presented the Envirocape at the Earth Day event, at the end of April, at the recycling center, and it was a good turnout. The kids and parents enjoyed being allowed to be hands on with the Envirocape. Chasity has spent more days at the YC property (Catawba Bend Preserve) planting and working on property beautification.

EARTH SCIENCE GROUP

Earthquake Activity: Nine earthquakes, all in the Elgin area (Kershaw County), **M3.3, M2.1, M2.8 5/9; M2.3, M2.6, M2.2 5/10; M1.2, M1.8 5/19; and M1.9 5/20.** No reports of damage.

Special Mentions: Jacky Steen, Director of Drilling Operations, is recognized for his diligent work in improving the Drilling Program.

South Carolina Geological Survey Geological Information

STATEMAP: Will Doar and Andy Wykel discussed the FY21 drilling program's status. Robby Morrow completed six (6) traverses in north Edgefield and southern Red Hill Quadrangles, Edgefield County. Fieldwork focused on tracing Modoc Zone lithologic contacts across the Edgefield-Red Hill boundary. Robby Morrow and Draven Prior collected samples for geochemistry and geochronology. Signed revisions to the upcoming FY22 project and budget were submitted to USGS; project starts August 1; a plain-language abstract was requested by USGS for Dept of Interior records.

Other Mapping including Outsource Mapping: Scott Howard continued discussions with Jim and Camelia Knapp (former USC Geology professors, now at Oklahoma State) about collecting a seismic line across the Elgin seismogenic zone to investigate the nature of faulting causing the recent earthquakes.

Earth Mapping Resources Initiative: Drilling for FY19 EMRI was completed with 13 holes for a total of 815 feet. We have now completed the field work portion for the Earth MRI project. Zach Zelaya and Andy Wykel have almost completed drafting the Wolfton and Staleys Crossroads maps, and work on North and Swansea maps continued. Andy Wykel and drill crew hand augered a hole in Wolfton Quadrangle to a depth of 16.5 ft that disproved the presence of Pliocene units above the Orangeburg scarp. Andy Wykel and Zach Zelaya visited an F&ME drillhole in Calhoun County and met with Ricky Wessinger. They assisted with his description and interpretation of the units. This site was in Staley's Crossroads Quadrangle and provided us information for our mapping. Taylor Turbyfill, Draven Prior, Mason Payeur, and Robby Morrow continued FY21 Earth MRI geochemical sampling collecting 24 samples in Gilbert, Steedman, Barr Lake, Kitchings Mill, Oakwood, and Foxtown Quadrangles.

General: Scott Howard attended a PhD. Proposal defense for a civil engineering student, UofSC; proposal topic was site response of soils in SC and the nature, seismic properties, and soil response of gravelly soils to seismic events. Staff began reorganizing and moving office furniture and files, preparing for the office renovations.

Staffing

Logan Brodfuehrer was hired as a GIS intern for the summer. Will Newman was hired as drilling helper. Jacky Steen, Director of Drilling Operations, submitted his resignation effective 16 June 2022. Crystal Wilson started as Geologist II effective 2 June. She will focus primarily on Piedmont mapping projects. Andy Wykel studied for the CDL exam. Taylor Turbyfill, Megan James (former SCGS employee), and Robby Morrow attended the USGS Digital Mapping Techniques Conference in Rolla, Missouri. Ms. James and Mr. Morrow gave a talk on digital borehole data collection using Survey123.

Drilling Services and Core Repository

We acquired equipment tags, license plates, and registration cards for the vehicles transferred to us by the Geodetic Survey (Jeep Liberty, Chevy pickup, and a Durango). Field equipment and vehicles were moved from Orangeburg County back to the Repo in Columbia. Drill crew cleaned interior, toolboxes, and truck frame on drill rig. Drill crew repaired auger rods in the field using air-operated die grinder and belt sander tools. Drill crew this month consisted of Liam Hoback, Will Newman, Draven Prior, and Mason Payeur.

Digital Products and the Digital Information Program (DIP).

STATEMAP and Earth MRI: Taylor Turbyfill continued work on the EMRI project, working with the data within ArcGIS Pro and assisting geologists with their GIS work.

Other Mapping including Outsource Mapping: Taylor Turbyfill continued developing a comprehensive set of KML (Keyhole Markup Language) files for both agency use and public distribution of geologic maps. Darby DeBruhl converted all SE regional National Uranium Resource Evaluation data to rasters with IDW interpolation; 55 graphics in total. Draven Prior digitized shorelines for Katie Luciano's shoreline project, and he digitized a gravity map of the Elgin area to use in ongoing earthquake studies.

Data Preservation:

Geologic Map Schema (GeMS): Taylor Turbyfill supervised interns (Jerry Krieger and Logan Brodfuehrer) to complete updating existing GeMS (Geologic Map Schema) map databases. Darby DeBruhl converted map databases for Alvin, Anderson North, and Andrews converted to GeMS Level 2 and continued cataloguing GeMS and NGMDB progress in a database. USGS has agreed to fund a southeast stratigraphic correlation project to resolve interstate stratigraphic issues with VA, NC, SC, GA, and FL. Southeast partner states have agreed to join the project.

General: Will Doar worked with Robert Clark (LWC GIS Manager) on the Horry County borehole database. Mason Payeur converted tables in PDFs to Excel files that could be used in GIS databases.

Coastal Program (Ft. Johnson Satellite Office)

Coastal Vulnerability

Murrells Inlet to Capers Island Coastal Vulnerability Project: Katie Luciano continued work on digitizing 2020 imagery for Yawkey Nature Center (Georgetown County).

Surface Elevation Tables-SET

Katie Luciano and Will Doar finished an Open-File Report (OFR) focused on the SCGS Surface Elevation Table (SET) program that details the history of the program, construction techniques, and measurement methodologies; internal DNR reviews have been begun. The report will be made available online and can be a reference for researchers. Ms. Luciano and Dr. Doar collected hi-resolution GPS data on 4 benchmarks on Edisto Island (Charleston County). Data collected will help confirm interpretations from GPS data collected on the SET network in 2021. Ms. Luciano and Dr. Doar collected GPS data and measured 6 SET stations, and they met with Kiawah Island's Conservation Coordinator, Lee Bundrick, to discuss Kiawah's plans to put in a marsh monitoring network that may include installing SET stations.

NOAA

USACE-South Atlantic Coastal Study (SACS)

Katie Luciano attended a meeting of the Regional Sediment Management (RSM) Working.

Botany Bay and Pockoy Island Projects

Katie Luciano measured the erosion transects at Pockoy Island (Botany Bay Plantation Heritage Preserve).

Relative Sea-Level Rise Project

Project PIs for the Relative Sea-Level Rise Cooperative Project (SCDNR-LWC Geological Survey and Heritage Trust - Archaeology, College of Charleston, and Coastal Carolina University) and interested researchers from SCDHEC-OCRM, University of South Carolina, South Carolina Office of Resiliency, and Palmetto Bluff Conservancy participated in a virtual meeting. Project goals, objectives, methodologies, and criteria for selecting specific study areas were discussed.

BOEM

Will Doar and Katie. Luciano met with Ashley Long to review BOEM's data sets and plans for the Long Bay offshore studies that include new data collection.

General and Outreach

General: General information was provided to 22 customers; 5 meteorite IDs; 3 gold RFI; 1 sinkhole RFI; 1 request for blue granite; 1 request Rock and Mineral kits, ten (10) map and publication orders. Andy Wykel gave a talk on the geology of the Sandhills region for the Longleaf Alliance in Aiken County, SC. Chris Moore requested information about a flake of nickel found at an archaeological site, probably manmade and not an historical artifact. Robby Morrow assisted with a sinkhole RFI in the Upstate near Clemson, Anderson County; the features were determined to be the result of natural erosion. Draven Prior and Robby Morrow identified rocks for a landowner in Abbeville County; they were mostly biotite gneiss, quartz, and silicified breccia. Andy Wykel and Robby Morrow led the

geology portion of a SCDNR Heritage Trust Advisory Committee field trip to Peachtree Rock Heritage Preserve. Will Doar answered additional questions from Hannah Hoover, Ph.D. candidate Archaeology, U. Michigan, about field sites in Sheldon Quadrangle, Jasper County and answered questions from a consultant about the current geological understanding of the sand hills region. Dr. Doar and Katie Luciano were interviewed by a reporter from WCBD TV, Channel 2, about shoreline change on Botany Bay WMA-Pockoy Island. Dr. Doar completed a manuscript review on the updip portion of the Middendorf Formation for the Journal of Sedimentary Research, and he coauthored a geochronological research paper on the late Pleistocene highstand deposits along the SC coast and SEUSA. SC Aggregate Association requested assistance in developing a video on aggregate resources in SC; they want to include a section of SC geology.

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	SC Emergency Management Division

HYDROLOGY

Water Planning

Edisto River Basin Planning: Scott Harder, Joe Gellici, and Andy Wachob attended an Edisto River Basin Council (RBC) meeting on May 18th, while Priyanka More, Brooke Czwartacki and Alex Pellett attended virtually. Mr. Harder periodically coordinated with Planning Team members to prepare for the RBC meeting and set the agenda. The Planning Team includes representatives from Clemson University, CDM Smith, SCDNR, the South Carolina Department of Health and Environmental Control (SCDHEC), and the United States Geological Survey (USGS). Mr. Harder also periodically updated the Hydrology website regarding planning activities.

Mr. Harder also met with CDM Smith, Inc. and several members of the Edisto RBC to discuss flow ecology-relationships, minimum instream flows, and recreational flows, as well as their potential application for developing surface water conditions to help define surface water availability.

Broad River Basin Planning: Mr. Harder, Mr. Gellici, and Ms. More attended a Broad RBC field trip on May 12th to Columbia Water’s canal and water treatment plant. Mr. Harder coordinated with CDM Smith to set the RBC’s summer schedule and coordinated with several future RBC speakers to provide information regarding water resources in the basin. Mr. Harder also periodically updated the Broad basin planning website.

Mr. Harder and Mr. Pellett met with staff from The Nature Conservancy and Clemson University to begin preparing for the application of Clemson’s flow-ecology study to the Broad river basin planning effort. Mr. Pellett began reviewing a final report and several journal articles related to Clemson University’s Flow-Ecology Relationships study in anticipation of using the study to support the development of the Broad River Basin Plan. Mr. Pellett will participate in a working group that includes The Nature Conservancy and Clemson University tasked with developing recommendations on which flow-ecology relationships to apply in the Broad basin.

Pee Dee River Basin Planning: Ms. Czwartacki continued to compile RBC applications and maintain a OneDrive folder for Pee Dee Planning to store applications, resumes, nomination letters, and documents related to planning in the basin. Ms. Czwartacki with support from Mr. Harder prepared an updated summary table and location map of RBC applicants in preparation for a Planning Process Advisory Committee (PPAC) on May 11th. Mr. Harder and Mrs. Czwartacki presented the RBC application summary to the PPAC and received feedback from the PPAC. Mr. Harder and Ms. Czwartacki followed up with several applicants to confirm interest category designations and to ask some applicants to consider serving as alternates. By the end of the month the RBC appointments were finalized.

On May 3rd, Mr. Harder, Ms. Czwartacki, Mr. Gellici, and Mr. Wachob met with Brown and Caldwell, the firm contracted to be the Facilitator for the Pee Dee basin planning effort, to begin preparing for the first RBC meeting tentatively scheduled for late June. Mr. Harder updated the Pee Dee planning page on the Hydrology website and created several new planning pages.

Water-Demand Projections: Mr. Pellett reviewed the remaining 8 out of 16 local water supply plans in the Broad basin of North Carolina and extracted relevant information regarding water demand projections. Mr. Pellett also updated water-demand projections in the South Carolina portion of the Broad basin incorporating 2021 withdrawal data.

Other: Mr. Harder, Mr. Gellici, Mr. Wachob, Ms. More, and Ms. Czwartacki participated in a PPAC meeting on May 11th. In addition to the discussion of Broad RBC applications noted above, Mr. Harder led a discussion regarding the concern from some PPAC members that the river basin planning process duplicates work performed by SCHEC’s Capacity Use Program. Mr. Harder, upon the request of the PPAC, began preparing a river basin planning budget

summary for the Edisto, Broad, and Pee Dee basins.

Surface Water Program

Flood Analyses: Mr. Harder and Ms. More met with Melissa Griffin from the Climatology Office on May 17th to discuss the need for technical assistance to South Carolina counties regarding their Flood Hazard Mitigation Plans. Counties are now required to provide technical information on annual exceedance probabilities for flood events in the mitigation plans. Ms. More and Mr. Harder reviewed several USGS flood reports to provide informed feedback to the Climate Office, and Ms. More used a USGS software program (Peak-FQ) to update flood annual exceedance probabilities for several USGS gages on rivers that flow through Allendale County using the Log Pearson III distribution. Ms. More also generated an R-script to calculate similar flood frequency statistics using the Gumbel extreme value distribution.

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. She also prepared monthly drought status maps and drought summaries for the Climate Office's monthly hydrologic conditions summary product. Ms. More, upon the request of Mr. Harder, computed monthly median percentiles for groundwater levels at seven wells in the SCDNR Groundwater Monitoring Network. Data from these wells are tentatively planned to be added to the groundwater drought monitoring network to improve statewide groundwater drought assessments.

Water Use Analyses: Ms. More continued editing the Pee Dee Water Use Report using the "scwaterwithdrawal" R-package for the data analysis. Ms. More incorporated edits suggested previously by Mr. Harder, Mr. Gellici, and Mr. Wachob. Ms. More also automated parts of the text in the report to increase flexibility and efficiency when generating reports for multiple basins. She is also refining the R-package to incorporate best coding practices regarding R-programming.

Federal Energy Regulatory Commission (FERC) Projects: Mr. Harder, Mr. Pellett, and Ms. More attended a virtual site visit for the Bad Creek hydroelectric facility owned by Duke Energy on May 17th. They also attended a scoping meeting on May 17th hosted by Duke Energy. The purpose of the meeting was to provide an overview of a scoping document for the project and to receive additional requests for various resource studies regarding the operation and potential expansion of the project.

Outreach and Other Work: Mr. Pellett provided peer review for two papers: one regarding irrigation for the Journal of South Carolina Water Resources, and another regarding water withdrawals in South Carolina for the Land Grant University Press.

Mr. Pellett, along with other members of Lake Hartwell Partners for Clean Water, attended a "Business After Hours" event hosted by local Chambers of Commerce at the Duke Energy's World of Energy facility at the Oconee Power Plant.

Ms. More attended a GIS drone seminar hosted by Tanner Arrington, the agency's GIS manager, on May 19th.

Ms. More continued the development of an R-programming training manual for Hydrology Section staff. The training manual will assist staff in learning R-programming skills and in applying R-packages created Ms. More for future projects. Ms. More also hosted an R-training workshop with Mr. Harder on May 27th which included lessons on the R-Studio environment; installing and loading R-packages; using a data retrieval package to download USGS data; and importing excel files in the R-environment. Ms. More also created a script using the USGS's data retrieval package for the workshop.

Mr. Harder used ArcMap to update a map of the USGS surface water monitoring network. Mr. Harder also began work on an updated version of the SCDNR drought monitoring network map and on revisions to the drought monitoring network's webpage.

Groundwater Program

Groundwater Modeling: The USGS completed the groundwater modeling of three additional scenarios proposed during the April Edisto RBC meeting and presented the model results at the May 18th Edisto RBC meeting. The Edisto RBC requested the modeling of two additional scenarios that combine two management strategies—irrigation efficiency improvements of 15% and moving all projected growth in withdrawals from the Crouch Branch aquifer wells in Calhoun County to the McQueen Branch aquifer—for both moderate and high demand scenarios. Mr. Pellett provided the appropriate water-use data for these scenarios to the USGS, who began working on modeling the two new simulations.

Mr. Wachob hosted a meeting of the State Groundwater Technical Advisory Committee on May 20th, during which the USGS presented results of the groundwater modeling done for the Edisto water planning efforts.

Mr. Harder, and Mr. Wachob met with the USGS on May 24th to discuss the possibility recalibrating the Coastal Plain groundwater model and developing smaller-scale groundwater models from the original model.

Ms. More continued her work with the Soil-Water-Balance model by developing land-use category percent-difference maps.

Groundwater Monitoring Network: Sam Jennings downloaded water-level data and made manual measurements from a total of 21 wells in Dillon, Florence, Horry, Lee, Marion, Sumter, and Williamsburg Counties (Regions 2, 3, and 4). Josh Williams downloaded water-level data and made manual measurements from a total of 11 wells in Aiken County (Region

3). Ms. Czwartacki downloaded and processed water-level and conductivity data collected from network wells in Beaufort, Charleston, and Colleton Counties (Region 4).

Mr. Williams continued troubleshooting the telemetry systems. After determining that new FirstNet sim cards were causing connectivity problems, the sim cards will be replaced with new, generic sim cards, and all modems are being upgraded to 4G systems. Mr. Williams has begun testing the new modem configuration and has begun upgrades to field equipment.

As part of a project funded by a National Groundwater Monitoring Network grant, Ms. Czwartacki pumped seven coastal wells and collected water samples which were sent for chemical analysis.

Geophysical Logging: Mr. Williams and Mr. Jennings collected a suite of geophysical logs from a new irrigation well drilled near the Town of Lynchburg (Lee County, Region 2). Several hydrologists from SCDHEC visited the drilling site to observe the logging and learn more about the interpretation of geophysical logs.

Outreach and Other Work: Hydrology staff provided hydrologic and water-well information or other technical assistance to 9 groundwater customers. With the assistance of Robert Clark (SC Geological Survey), Mr. Wachob completed an update of the online Coastal Plain water well database. Ms. Czwartacki submitted comments to Greg Mixon regarding the Catfish Farms Mitigation Bank in Marion County (Region 2). Ms. Czwartacki was named LWCD and SCDNR Employee of the Year.

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 25 technical assistance requests. Heather Brown contacted 6 communities that received their Letter of Final Determination to request their Flood Damage Prevention Ordinance for review (5/3). Heather followed up on 6 CAVs and followed up with the LFD communities on the ordinance requests. She also began an update to the Local Floodplain Managers contact list (5/18). She also attended the Hilton Head Island CAV (5/13). Laura, Jessica, and Maria attended the ASFPM Conference in Orlando, FL (5/14 – 5/20) and the FEMA Risk Rating 2.0 train the trainer for certification to teach Unit 8 of the Managing Floodplains through the NFIP (5/31). Maria and Jessica attended the SCAHM Board Meeting (5/13). Laura conducted 1 CAVs and 5 CAC-Ts. Laura also closed 1 CAV and 3 CAC-Ts. She also followed up on 2 CAC-Ts and 1 CAVs. She also sent out notifications on Gov Delivery: Silver Jackets Monthly Webinar Series and upcoming trainings and handled the registration for upcoming classes. Jessica attended FMA Coordination call (5/5) and the monthly State Mitigation call (5/4). Jessica also Discovery Reports for the Upper Broad and the Lower Savannah Watersheds. Jessica helped regarding the FMA grant program regarding scope of work changes, coordinated RFIs, questions from sub-applicants and fielded questions from potential new applicants. Maria attended Monthly FEMA study status call (5/26), participated in a call with SCOR, Georgetown County and Congressman Rice's office regarding inundation modeling and mapping (5/31), participated in the FEMA Audit redesign (5/31) and presented at the Climate Connections Workshop (5/12). Maria conducted training on the SC Flood IMPACT Website (5/25). Maria is the Co-Chair of the Association of State Floodplain Managers Mapping and Engineering Policy Committee. She attended the ASFPM Co-Chair meeting at the ASFPM Conference (5/15) and facilitated the Mapping and Engineering Policy committee meeting (5/16). She is also serving on the FEMA Technical Mapping Advisory Council.

Handouts and Presentations